Wildlife tourism and the natural sciences: bringing them together

This thesis is presented for the degree of Doctor of Philosophy of Murdoch University

2007

Submitted by

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Division of Science and Engineering
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Perth, Western Australia

The Sustainable Tourism Cooperative Research Centre,
an Australian Government initiative, with Murdoch University, jointly funded this research
DECLARATION

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

________________________
Kate Jane Rodger
Hello

The School of Environmental Science at Murdoch University in cooperation with the CRC for Sustainable Tourism are conducting a study of how scientific research and monitoring are used (or not used) in managing wildlife tourism. This survey is part of this study and has been sent to wildlife tourism operators in WA, NT and Tasmania.

Thank you for taking the time to fill in this survey form. Your feedback is greatly appreciated and will be helpful in managing our natural wildlife to ensure a sustainable future. The survey form should take less than 15 minutes to complete. All completed forms will be placed in a draw for a $100 gift voucher at an Australian Geographic store.

Thank you,

Kate Rodger  
School of Environmental Science  
Murdoch University  
South Street, Murdoch WA 6157  
Phone: (08) 9360 6079; Fax: (08) 9360 6787  
Email: krodger@essun1.murdoch.edu.au

If you want further information on this survey, please contact Dr Sue Moore, Murdoch University, ph. (08) 9360 6484.
PART I
TOUR INFORMATION

1. What is the name of your tour company?

_________________________________________________________________________
_________________________________________________________________________

2. Where do you go on your tours?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

3. Does your tour operate on: (Please mark [✓] appropriate box or boxes if more than one applies)

- Government managed land □
- Private managed land □
- Government managed waters □
- Private managed waters □
- Other (please specify) □________________________________________________

4. Who manages the land/water that you visit?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

5. What is the Name and Address of the Land/Water Manager you deal with most often? (please fill in as applicable)

Organisation: __________________________________________________________
Name of Officer: _________________________________________________________
Address: ________________________________________________________________
Phone Number: ( ) _______________________________________________________

6. Which of the following attractions do you consider important in relation to your tours? (Please mark [✓] appropriate box or boxes if more than one applies)

- Marine animals in the wild □
- Terrestrial animals in the wild □
- River, lake or estuarine wildlife □
- Zoos or aquariums □
- Wildlife sanctuaries □
- Other (please specify) □________________________________________________
7. Which of the following do you consider to be important parts of the tourism experience you offer? (Please mark [✓] appropriate box or boxes if more than one applies)

- Seeing animals in their natural state (i.e., not in enclosures)
- Watching without the need for binoculars
- Watching with binoculars
- Photo opportunities
- Spotlighting at night
- Swimming with marine animals
- Feeding animals
- Touching animals
- Scenery
- Wildflowers
- Associated activities (bushwalking, canoeing)
- Remoteness
- Journey/travel to and from attraction

8. What level of interaction is there between tourists and wildlife? (Please mark [✓] the appropriate box)

- High
- Intermediate
- Low
- None

9. What wildlife, if any, do you actively seek out on your tours? (Please mark [✓] appropriate box or boxes if more than one applies)

**TERRESTRIAL**

- Reptiles
- Kangaroos
- Koalas
- Dingoes
- Brush tailed Possums
- Ring Tailed Possums
- Bilbies
- Bandicoots
- Tammars
- Wallabies
- Rock Wallabies
- Quokkas
- Woylies
- Frogs
- Tasmanian Devil
- Birds – please specify

**MARINE**

- Whales
- Manta Rays
- Whale Sharks
- Stingrays
- Dugongs
- Sea Lions
- Turtles
- Penguins
- Fish
- Crocodiles

Other (please specify):
PART II
MANAGEMENT OF WILDLIFE

10. Are there scientists that you rely on/help you with protecting the wildlife you visit? (Please mark [✓] the appropriate box)

Yes........(Please answer below) ☐
No.........(Please go to Question 12) ☐
Don’t know....(please go to Question 12) ☐

a) If yes, What do they help with?

b) What are their name(s), organisation and phone number?
   Name:
   Organisation:
   Phone Number:

c) How did they come to be helping you?

11. Are the managers of the land involved in this research? (Please mark [✓] the appropriate box)

Yes........(Please answer below) ☐
No.........(Please go to Question 12) ☐
a) If yes, how?

b) What assistance do they provide?
12. Are the wildlife you visit monitored? (Please mark [✓] the appropriate box)

Yes........(Please answer below) □
No.........(Please go to Question 13) □
Don’t know......(Please go to Question 13) □

(a) If yes, by whom?
Scientists □
Land/Water Managers □
Yourself □
Other (please specify) □ ______________________

(b) What does this monitoring involve?
________________________________________
________________________________________
________________________________________

13. Which of the following measures do you use to protect the wildlife? (Please mark [✓] appropriate box or boxes if more than one applies)

Maintaining a minimum distance to avoid disturbance □
Not feeding the wildlife □
Feeding animals only natural food □
Minimal touching □
Not touching the wildlife at all □
Low intensity lighting □
Physical barriers □
Education - including brochures, talks, videos □
Other (please specify) □
14. What would you like to do, but are unable, to address any potential impacts?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

15 (a) What scientific research/monitoring would you like to see done?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

15. (b) What do you think is preventing this research and monitoring from being done?

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

PART III

INFORMATION ABOUT YOUR TOUR

16. How long have you had this business? (Please mark [✓] the appropriate box)

Less than one year
  1 -2 years
  2-4 years
  More than 5 years

17. Approximately how many tourists does your company have per year? (Please mark [✓] the appropriate box)

Less than 1,000
  1,000-4,999
  5,000-9,999
  10,000-14,999
  More than 15,000 (please specify approximately)
18. How would you define your working relationship with the following organisations? (Please mark [✓] the appropriate box)

<table>
<thead>
<tr>
<th>Organisations</th>
<th>Excellent</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Poor</th>
<th>Inadequate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parks/Wildlife officials</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Government scientists</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>NGO scientists</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Universities</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Local businesses</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Local councils</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Volunteers</td>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>

Thank you for your time, your participation is greatly appreciated.

K.J. Rodger

Appendix A
### Appendix B: Responsibilities and funding of Government Organisations

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Responsibility</th>
<th>Scientists and/ Managers</th>
<th>Dedicated research section</th>
<th>Expenditure on conservation/research (2004) (AUD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Antarctic Division (Department of Environment and Heritage) (AAD)</td>
<td>1. Maintain the Antarctic Treaty System and enhancing Australia's influence in it; 2. Protect the Antarctic environment; 3. Understand the role of Antarctica in the global climate system; and 4. Undertake scientific work of practical, economic and national significance.</td>
<td>Both</td>
<td>Yes</td>
<td>75,000,000</td>
</tr>
<tr>
<td>Australian Wildlife Conservancy</td>
<td>AWC acquires land, and works with other landholders, to establish sanctuaries for the conservation of threatened wildlife and ecosystems.</td>
<td>Both</td>
<td>Yes</td>
<td>$2,692,312</td>
</tr>
<tr>
<td>Charles Darwin University</td>
<td>Charles Darwin University offers a fresh approach to training, education, research and knowledge application. It aspires to be recognised internationally as a centre of excellence in Indigenous and cross cultural knowledge, tropical knowledge (relevant to the wet/dry tropics) and desert knowledge</td>
<td>Scientists</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Department of Conservation and Land Management (CALM)</td>
<td>Conserving the State’s rich diversity of native plants, animals and natural ecosystems, and many of its unique landscapes.</td>
<td>Both</td>
<td>Yes</td>
<td>$69,000,000</td>
</tr>
<tr>
<td>Department of Primary Industries, Water and Environment (DPIWE)</td>
<td>To manage the State’s natural resources for the benefit of all Tasmanians</td>
<td>Both</td>
<td>No</td>
<td>$21,000,000</td>
</tr>
<tr>
<td>Department of Infrastructure, Planning and Environment</td>
<td>Working together for the conservation and sustainable development of the Territory.</td>
<td>Both</td>
<td>Yes</td>
<td>$94,000,000</td>
</tr>
<tr>
<td>Murdoch University</td>
<td>Murdoch is a university committed to excellence in teaching and research within an international context.</td>
<td>Scientists</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>Edith Cowan University</td>
<td>ECU is a contemporary university providing quality tertiary education for the students</td>
<td>Scientists</td>
<td>Yes</td>
<td>N/A</td>
</tr>
<tr>
<td>CSIRO – Environmentally Sustainable Australia</td>
<td>The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and one of the largest and most diverse research agencies in the world</td>
<td>Both</td>
<td>Yes</td>
<td>Over $300 million</td>
</tr>
<tr>
<td>Parks Australia North (Department of Environment and Heritage)</td>
<td>To assist in the conservation and appreciation of Australia's biological diversity and associated cultural heritage, through leadership and cooperation in the management of the Australian Government's protected areas.</td>
<td>Both</td>
<td>Yes</td>
<td>49,600,000</td>
</tr>
</tbody>
</table>

Australian Wildlife Conservancy, 2006; Charles Darwin University (2006); CALM (2005); DPIWE (2004); Department of Infrastructure, Planning and Environment (2005); Murdoch University (2006); Edith Cowan University, (2006); CSIRO (2006); Department of Environment and Heritage (2004)
APPENDIX C

Part IV – Interview questions for managers

1. For the land/water that you manage
   - What wildlife is the focus of tourism?
   - What are the types and extent of interaction between tourists and wildlife?

2. Are there noticeable impacts on the wildlife from tourism?
   - Biophysical impacts?
   - Behavioural impacts?

3. How are these impacts managed?

4. Is research being undertaken to investigate the impacts?

5. Is scientific research needed to investigate the impacts of wildlife tourism? If not, why not?

6. What is an example of potentially useful research?

7. Who is conducting the research?

8. Are scientists involved? If so, how did scientists become involved in the research? Are they interested in investigating any impacts?

9. How would you go about getting a wildlife scientist interested in researching impacts of tourism on wildlife?

10. How do scientists share their findings with you?

11. Is scientific monitoring done? If so, who does the monitoring?

12. How long have you been with this organisation?

13. What would be your highest level of study?
APPENDIX D

Part IV - Interview questions for scientists

Background
1. How long have you been with your organisation?
2. Where does the funding for your scientific research come from?
3. Who are the ‘clients’ for whom your research is conducted?
4. Who sets the priorities and defines what you research?

Scientific Research
5. You have been involved in science for quite some time – what does science mean to you?
   a. Has your idea of science changed
   b. Professional rewards
   c. Knowledge advance

Wildlife Tourism Research
6. What is your involvement in wildlife tourism research? How did you get involved?
7. Are there barriers that hinder you from conducting wildlife tourism research?
8. Is your scientific research currently being used to help manage the impacts (both biophysical and behavioural) of tourism on wildlife? Is it needed?
   Can you give a local example of such research?
9. What do you think the future holds for wildlife tourism?
10. Recommend anyone else for me to interview?
### APPENDIX E: Glossary of actor-network terminology

<table>
<thead>
<tr>
<th>Word</th>
<th>Actor-network meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>actor</td>
<td>Actors can be human or non-human and can be an individual through to a large institution. Each actor is part of a network. Any actor can acquire power through the building up of networks.</td>
</tr>
<tr>
<td>actor-network</td>
<td>A heterogeneous network of aligned interests. Networks have the potential to produce knowledge in the form of texts, conference presentations, practices and more. The term actor-network is “intentionally oxymoronic” as tension lies between the terms.</td>
</tr>
<tr>
<td>black-box</td>
<td>When stabilised, actor-networks can be simplified and depicted as black-boxes. This is when the networks and their associated facts have become accepted. Black-boxes can be opened as actor-networks or destabilised at any time.</td>
</tr>
<tr>
<td>enrolment</td>
<td>If the process of interessement has been successful then the outcome is enrolment. Enrolment is the definition and the distribution of roles within an actor-network. These roles are not fixed or pre-established and are not necessarily successfully imposed upon the other actors.</td>
</tr>
<tr>
<td>heterogenous network</td>
<td>A network diverse in character consisting of dissimilar or diverse constituents e.g. human and non-human.</td>
</tr>
<tr>
<td>interessement</td>
<td>This is the action of interesting, enrolling or translating. Interessement is a triangular process. It is a transaction between three actors and involves one actor attracting a second by coming between that actor and a third.</td>
</tr>
<tr>
<td>intermediaries</td>
<td>An actors function is to facilitate the translation between other actors and themselves in order to coordinate or control interactions. The primary actor mobilises intermediaries to successfully stabilise actor-networks. Actors will use whatever intermediaries or means available to them in order to persuade other actors to their view in the pursuit of their goals.</td>
</tr>
<tr>
<td>obligatory passage point (OPP)</td>
<td>This is where the principal actors establish their claims as the essential step all actors must pass through thereby making themselves indispensable to the network.</td>
</tr>
<tr>
<td>mobilisation</td>
<td>The stage at which representation is enacted. If entities are successfully enrolled then mobilisation is achieved. This involves all actors being displaced and then reassembled into a network to achieve the principle’s desired outcome.</td>
</tr>
<tr>
<td>problematisation</td>
<td>This is the first moment of translation. It attempts to define the nature of the problems that are important and specifies how the problem needs to be solved. The success of problematisation depends upon defining an issue so other actors come to accept that definition of the problem.</td>
</tr>
<tr>
<td>representation</td>
<td>To be in a position to speak for others, to represent the network.</td>
</tr>
<tr>
<td>stabilise</td>
<td>Actor-networks can become stabilised when actors’ interests have been translated through relations which have resulted from their enrolment in the network. It is at this stage that actor-networks can become black-boxed.</td>
</tr>
<tr>
<td>translation</td>
<td>The creation of an actor-network. The concept of translation is at the core of actor-network theory and it is where connections are made between actors, networks and intermediaries. It includes the methods used by an actor to enrol others, including how an actor exerts itself upon others. Translation involves power and the process consists of three major stages: problematisation, interessement, and enrolment (Fig. 7.3).</td>
</tr>
</tbody>
</table>

APPENDIX F

Part V - Interview questions for decision-makers

1) What is your current job/position/occupation?
2) What is your involvement with sub Antarctica/Antarctica?
3) How and why did you become involved?
4) Why are you still involved?
5) What research has or does take place on impacts of tourism on penguins?
6) How did this research come about? – Funding?
7) What do you think are the strengths of this research?
8) What are the main weaknesses to this research?
9) How was this research communicated to you?
10) Why do you think these findings were taken up by management?
11) Do you think more scientific research is needed?
APPENDIX G

Part V - Interview questions for scientists

1) What is your position/occupation?
2) What is your involvement with Sub-Antarctic/Antarctica?
3) How and why did you become involved?
4) Why are you still involved?
5) What research has or does take place on impacts of tourism on penguins? Other wildlife?

6) How did this research come about? – Funding?
7) Why do you think research into impacts started up? Who instigated it?
8) Do you think this research was needed?
9) Why was the focus predominantly on penguins and not other species?
10) What do you think are the strengths of this research?
11) What are the main weaknesses to this research?
12) How did you share/communicate your findings – with managers, decision-makers, public
13) Why do you think management took up your findings?
14) Do you think more scientific research is needed? Why has the research finished?