

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA



Ronda J Green and Darryl N Jones

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Disclaimer

The technical reports present data and its analysis, meta-studies and conceptual studies, and are considered to be of value to industry, government or other researchers. Unlike the Sustainable Tourism Cooperative Research Centre's (STCRC's) Monograph series, these reports have not been subjected to an external peer review process. As such, the scientific accuracy and merit of the research reported here is the responsibility of the authors, who should be contacted for clarification of any content. Author contact details are at the back of this report. The views and opinions of the authors expressed in the reports or by the authors if you contact them do not necessarily state or reflect those of the STCRC.

While all reasonable efforts have been made to gather the most current and appropriate information, the STCRC does not give any warranty as to the correctness, completeness or suitability of the information, and disclaims all responsibility for and shall in no event be liable for any errors or for any loss or damage that might be suffered as a consequence of any person acting or refraining from acting or otherwise relying on this information.

We'd love to know what you think of our new research titles. If you have five minutes to spare, please visit our website or click on the link below to complete our online survey.

[**STCRC Tech Report Feedback**](#)

National Library of Australia Cataloguing-in-Publication Entry

Title: Practices, needs and attitudes of bird-watching tourists in Australia / Ronda J. Green, Darryl N. Jones.

ISBN: 9781921658655 (pbk.), 9781921658655 (pdf).

Notes: Bibliography.

Subjects: Bird watching—Australia. Ecotourism—Australia. Tourists—Services for—Australia.

Other Authors/Contributors: Jones, Darryl N. (Darryl Noel). CRC for Sustainable Tourism Pty Ltd.

Dewey Number: 598.0723494

Copyright © CRC for Sustainable Tourism Pty Ltd 2010

All rights reserved. Apart from fair dealing for the purposes of study, research, criticism or review as permitted under the *Copyright Act*, no part of this book may be reproduced by any process without written permission from the publisher. Any enquiries should be directed to:

General Manager, Communications and Industry Extension or Publishing Manager, info@crctourism.com.au

First published in Australia in 2010 by CRC for Sustainable Tourism Pty Ltd

Printed in Australia (Gold Coast, Queensland)

Acknowledgements

The Sustainable Tourism Cooperative Research Centre, established and supported under the Australian Government's Cooperative Research Centres Program, funded this research.

Many thanks to all those bird-watchers who took the time to fill in our questionnaires. Also to all the tour operators, members of bird-watching organisations and others who helped to distribute them. Thanks also to the tour guides who responded to our questionnaire for guides.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

CONTENTS

ABSTRACT	VI
SUMMARY	VII
OBJECTIVES OF STUDY	VII
METHODOLOGY	VII
KEY FINDINGS	VII
FUTURE ACTION	VIII
INTRODUCTION	1
THE GROWTH OF BIRD-WATCHING TOURISM	1
AIMS AND SCOPE OF THE CURRENT STUDY	2
METHODS	4
QUESTIONNAIRES FOR BIRD-WATCHERS	4
QUESTIONNAIRE FOR BIRD-WATCHING GUIDES	5
PERSONAL OBSERVATIONS	5
RESULTS	6
RETURN RATE	6
DEMOGRAPHIC OVERVIEW	6
GROUPINGS OF BIRD-WATCHERS	10
<i>Overview of responses</i>	10
<i>Principal components analysis</i>	12
<i>Dendrogram of bird-watchers</i>	15
<i>What birds do bird-watching tourists want to see?</i>	16
<i>How do bird-watchers decide where to go bird-watching?</i>	20
<i>What do bird-watchers prefer on a bird-walk?</i>	23
<i>Tour and accommodation choices of bird-watchers</i>	26
<i>What equipment to bird-watchers have and where did they buy it?</i>	32
<i>How do bird-watchers feel their experience could be improved in Australia?</i>	32
<i>Respondents' opinions relating to conservation</i>	33
<i>Personal observations of bird-watching tourists with relevance to conservation</i>	35
DISCUSSION	36
BIRD-WATCHER DIVERSITY: DEFYING THE STEREOTYPE	36
WHAT BIRDS DO BIRD-WATCHERS WANT TO SEE?	37
WHAT DO BIRD-WATCHERS WANT ON BIRD-WALKS?	38
HOW DO BIRD-WATCHERS DECIDE ON TRAVEL DESTINATIONS FOR BIRD-WATCHING	38
ACCOMMODATION AND OTHER EXPENDITURE	39
PROBLEMS EXPRESSED BY TOUR GUIDES	39
HOW CAN THE TOURISM INDUSTRY ENHANCE BIRD-WATCHERS' EXPERIENCES IN AUSTRALIA?	40
BIRD-WATCHERS AND CONSERVATION	41
A FINAL NOTE	42
APPENDIX A: QUESTIONNAIRE DISTRIBUTED TO BIRD-WATCHERS	43
APPENDIX B: QUESTIONNAIRE DISTRIBUTED TO BIRD-WATCHERS	49
APPENDIX C: GLOBALLY THREATENED SPECIES IN AUSTRALIA	51
APPENDIX D I.: UNEDITED RESPONSES OF OVERSEAS VISITORS TO AN OPEN-ENDED QUESTION ABOUT BIRD-WATCHING IN AUSTRALIA	52
APPENDIX D. II.: UNEDITED RESPONSES OF BIRD-WATCHERS OF DUAL NATIONALITIES TO AN OPEN-ENDED QUESTION ABOUT BIRD-WATCHING IN AUSTRALIA	54
APPENDIX D. III. UNEDITED RESPONSES OF AUSTRALIAN BIRD-WATCHERS TO AN OPEN-ENDED QUESTION ABOUT BIRD-WATCHING IN AUSTRALIA	55
REFERENCES	58
AUTHORS	60

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

List of Tables

Table 1: Numbers of respondents who have lived in Australia and elsewhere (n=256)	7
Table 2: Nationalities of respondents (n=256)	8
Table 3: Geographical regions respondents had watched birds (n=201)	8
Table 4: Localities for which bird-watching was one of the reasons for visiting (n=190??).	8
Table 5: Regions from which completed forms were sent, as evidenced from postcodes on the envelopes	9
Table 6a: Views expressed by more than 80% of respondents answering the question	11
Table 6b: Views expressed by less than 10% of respondents answering the question	11
Table 6c: Views expressed by approximately half the respondents answering the question	11
Table 7: Opinions and preferences relating to bird-watching which showed a significant ($P < 0.05$) correlation with keeping a life-list [brackets indicate a negative correlation]	12
Table 8: Results of Principle Components Analysis (SPSS) with absolute scores greater than 0.4	12
Table 9: Clustering of respondents by a common fusion dendrogram	15
Table 10: Percentages of respondents agreeing with specific statements (in descending order of preference)	17
Table 11: Importance of seeing birds unique to Australia by respondents who had lived and watched birds in Australia and elsewhere	18
Table 12: Groups of birds mentioned in response to the question about favourite memories of bird-watching in Australia	19
See text for details of passerines	19
Table 13: Groups of birds mentioned in response to the question about birds that respondents would most like to see in future observations in Australia	19
Table 14: How bird-watching tourists decide where to go bird-watching	20
Table 15: Significant (and near-significant) results of regression analyses with decision-making responses as dependent variable [bracketed factors are those showing a negative correlation]	22
Table 16: Preferred places for bird-watching	23
Table 17: Respondents agreeing with various statements about the preferences while on a bird-walk	23
Table 18: Frequency of complaints by bird-watchers as reported by bird-watching guides	25
Table 19: Behaviour of bird-watchers as noted by tour guides	25
Table 20: Numbers of respondents who would go bird-watching alone or with a small group of people in various world regions	28
Table 21: Total number of respondents who said they would always or never go bird-watching by commercial tour	29
Table 22: Significant (and near-significant) results of regression analyses with opinions relating to guided tours as dependent variable: $df = 225$	29
Table 23: Percentage of respondents who said they owned various items used largely for bird-watching	32
Table 24: Responses to the open-ended question about what would improve the bird-watching experience in Australia	33
Table 25: Responses to questions relating to conservation	33
Table 26: Responses of guides to questions on conservation-related behaviour	34

List of Figures

Figure 1: Age groups and sex of respondents	7
Figure 2: Percentage of respondents in different kinds of employment or study. $N = 157$	9
Figure 3: Responses to questions about connections with birds at home and at work 'feed birds' refers to providing food other than food-plants at home)	10
Figure 4: Frequency of respondents with different mean scores for the statements associated with group 1 ('dedicated birders') in Table 7	13
Figure 5: Frequency of respondents with different mean scores for the statements associated with group 2 ('thrill-seekers') in Table 7	14
Figure 6: Relationship between groups 1 and 2 of Table 7. $R^2 = 0.09$	14
Figure 7: Relevant aspects of home-life of those with high (> 0.7) and low (< 0.3) scores for group 1 ('dedicated birder') of Table 7	14
Figure 8: Relevant aspects of home-life of those with high (> 0.7) and low (< 0.3) scores for group 2 ('thrill-seekers') of Table 7	15
Figure 9: Proportion of male and female respondents in each of the five groups identified by the dendrogram	16
Figure 10: Proportion of Australians and other nationalities in each of the five groups recognised by the dendrogram	16

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Figure 11: Responses of the five groups identified by the dendrogram (Table 8) to grouped bird features	17
Figure 12: Features of birds important to those scoring the highest and lowest on the 'dedicated birder' scale	18
Figure 13: Methods by which respondents with the highest (23 respondents) and lowest (30 respondents) scores for 'dedicated birders' decide where to go bird-watching	21
Figure 14: Methods by which respondents with the highest and lowest scores for 'thrill-seekers' decide where to go bird-watching	21
Figure 15: Preferences of those scoring very high (23 respondents) and low (30 respondents) on the 'dedicated birder' score	24
Figure 17: Opinions and preferences of respondents relating to guided tours	26
Figure 18: Grouped responses of men and women to statements about tours	26
Figure 19: Preferences and opinions regarding commercial bird-watching tours by those scoring high and low on the 'dedicated birder' scale	27
Figure 21: Responses to general statements about tours by the five groups recognised by the dendrogram	28
Figure 22: Responses to reasons for joining tours by the five groups recognised by the dendrogram	28
Figure 23: Numbers of respondents choosing to stay in different classes of accommodation	31
Figure 24: Proportions of 'birders' and 'nonbirders' (as defined above) choosing different styles of accommodation during their travels	31
Figure 25: Proportions of 'thrill-seekers' (as defined above) and other respondents choosing different styles of accommodation during their travels	31

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Abstract

The practices and opinions of bird-watching tourists in Australia were investigated, largely through a questionnaire returned by 256 respondents, of whom 164 were Australian by nationality, 55 were non-Australian and 17 were of mixed nationality. A majority of respondents tended to be middle-aged to elderly, which may reflect either the bird-watching population or the relative willingness to fill out questionnaires. A separate questionnaire was sent to 42 nature guides who included bird-watching as at least part of their activities: 11 of these responded. Bird-watching tourists participating in this survey were found to have a diverse range of interests, but opinions held in common included a dislike for hunting, an interest in wildlife other than birds, a disinclination to disturb nesting birds in an attempt to identify them, an expectation of bird-watching during their next travels, an ability to identify most birds near their homes, and a willingness to join a commercial bird tour to reach difficult places. Identifying birds, watching what birds are doing and enjoyment of social contact topped the list of preferences for a bird-walk. Tendency to join a commercial tour was positively correlated with enjoyments of social contact and with bird-watching being the respondent's favourite activity, but negatively correlated with tendency to frequently photograph birds. Camping and hotels were the major kinds of accommodation (over eco-lodges and budget accommodation, 'dedicated birders' being more likely than others to choose camping and lodges rather than hotels. Travel agents were the least preferred sources of information on where to go bird-watching, with travel books not faring much better, and several respondents complained that information centres and tourist outlets (with some exceptions) often do not have much information on where to see birds. Most respondents seemed concerned about conservation issues such as disturbance of nesting birds and feeding in national parks, and guides reported few problems: however there is sufficient potential for problems to suggest the wide dissemination of useful guidelines. One-eighth of the respondents, when asked what would improve their bird-watching experiences in Australia, mentioned action on habitat clearing and other conservation issues.

SUMMARY

Objectives of Study

- Investigate the diversity and common features amongst bird-watching tourists
- Determine what bird-watchers, and sub-groupings of bird-watchers, most wish to see and do in Australia
- Investigate the role of the tourism industry in bird-watching, especially relating to information on birding sites, willingness to join commercial tours and preferred accommodation
- Investigate bird-watchers' opinions and practices in relation to conservation aspects

Methodology

- Questionnaire distributed throughout Australia for bird-watching tourists
- Questionnaire distributed to guides of bird-walks
- Preliminary direct observations of tourists watching birds

Key Findings

- The bird-watching tourist community tended to be dominated by well-educated middle-age to elderly men and women
- Bird-watching tourists as a whole were likely to be pet-owners (but not bird-owners), to grow bird-attracting plants in their gardens (but not provide other feed) and able to identify most birds around their home
- Most bird-watchers were interested in seeing wildlife other than birds and expected to do some bird-watching next time they travel
- Most bird-watchers were against hunting for sport and disturbing nesting birds while trying to identify them
- Slightly less than half kept life-lists of birds seen or named birds as their favourite animals
- Some groupings of bird-watchers and features of bird-watchers were identified, but there was much variation within the groupings
- The major features of birds that bird-watchers desired to see were species they have not previously seen and birds unique to Australia or the part of Australia being visited, followed by rare and vulnerable species: least important (although still selected by between 10 and 20 per cent of respondents) were birds interacting with the observer, birds readily photographed and large birds
- The 'dedicated birders' were more likely than others to want to see endemic or rare birds and birds their friends had not seen, and less likely to regard 'brightly-coloured' or interacting with me' as important features
- There was no apparent difference between Australian and visiting bird-watchers in desire to see birds endemic to Australia
- Travel agents and travel books were the least used of sources of information on where to go bird-watching, respondents being far more likely to do bird-watching in places they were visiting for other reasons or to seek information from books other than travel books or from national parks: 'dedicated bird-watchers were far more likely than others to use books other than travel books or information from natural history organisations (including bird-watching organisations)
- The most common preferences of bird-watching tourists on bird-walks were liking to identify all birds and to see what birds are doing, and enjoyment of social contact
- 'Dedicated birders' and 'thrill-seekers' (those who wanted to see the more spectacular species, such as big and colourful birds) were more likely than others to want to join commercial tours for a variety of reasons, although the 'thrill-seekers' were more inclined to consider bird-watching tours too specialised
- Approximately a quarter of respondents said they would go bird-watching alone or with a small group but not in Africa, Latin America or Asia
- Those most likely to join commercial bird-watching tours tend to enjoy social contact, get information on where to watch birds from natural history organisations, name bird-watching as their favourite activity, like to see birds they have read about but do not often photograph birds
- 'Dedicated birders' were more likely than others to camp or to stay in lodges and less likely to stay in hotels, but frequency of camping generally declined after the age of 65

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

- Many bird-watchers felt their enjoyment of bird-watching in Australia would be most improved by factors beyond the control of the tourism industry (better health, more time and money). The other most common responses were to conserve bird habitat and provide better information on where to see birds
- There was a general concern for conservation issues relating to bird-watching: more than 50% of respondents wanted to see threatened species, and had either belonged to a conservation organisation had attended a meeting on bird conservation in the past ten years: less than 5% had positive attitudes towards hunting for sport or disturbing nesting birds in attempts to identify them, and less than 10% thought it acceptable to disturb any birds while trying to identify them or to feed birds in national parks
- Observations of bird-watching tourists by tour guides and one of the authors of this paper suggest that serious disturbance to birds is generally a rare event but that the potential for harm is there, especially for vulnerable species or fragile habitats

Future Action

- Further investigation of some aspects looked at in this study, but using shorter questionnaires to encourage a much higher return: these would include further comparison of domestic and international bird-watchers, and further delineation of categories of bird-watching tourists and their respective preferences and practices
- Behavioural studies of bird-watchers using direct observation
- Assistance to information centres and tourism bodies to provide good information on where to watch birds in local districts (but not enticing unsupervised crowds to fragile habitats or territories of vulnerable species)
- Encouragement of tourism operators to identify and make known threats to bird habitats which may impact both on bird conservation and bird-watching tourism
- Promotion of better communication between bird-watching tourism operators and bird-watching tourists and the tourism industry

Chapter 1

INTRODUCTION

The growth of bird-watching tourism

Bird-watching tourism has attracted attention in recent years as an apparently environmentally-friendly way of producing income for operators, local communities and whole countries (see references in Jones and Buckley 2001, SATC 2001). Australia would appear to have more potential for bird-watching tourism than is currently being realized (Jones and Buckley 2001, QTTC 1998, SATC 2001). These reports and others show bird-watching to be a potentially lucrative and growing market.

Many travel agents and others in the mainstream tourism industry in Australia tend to see bird-watching as a relatively specialised niche sought after by very few tourists (QTTC 1998, R. Green unpublished data). A study by the Queensland Travel and Tourism Centre (QTTC: now known as Tourism Queensland), found that in Tropical North Queensland a major problem of tour operators was that Regional Tourism Associations (RTAs) frequently gave insufficient recognition to the legitimacy of bird-watching tourism for promotional purposes (QTTC 1998). The study also found, however, that highly-specialised bird-watchers (termed both 'fanatics' and 'twitchers' in the report) comprised only about 5 - 10% of the bird-watching tourism market. Significantly, the reports authors concluded that "the majority of bird-watchers do not ... conform to the stereotypical image of a bird-watcher, and should not be marketed to as such." (QTTC 1998). This 'stereotypical image' is however still alive in some areas, with keen bird-watchers regarded as typically having 'tunnel vision,' wanting only to tick birds off lists with little interest in their behaviour, ecology or beauty, or in other wildlife or natural history, and seen also as of no real consequence to the tourism industry.

There are however many possible ways in which bird-watchers can engage in bird-watching tourism. They may stay at eco-lodges or farmstays, join commercial tours or excursions run by bird-watching organisations, do some bird-watching while travelling for business or family visits, or just 'take off' alone or with friends for a day or a week of bird-watching activities. Similarly, international visitors may also join in commercial activities, contact bird-watching organisations and join in their fieldtrips, or venture out alone with a bird book and a hired vehicle. This wide variety of practices and levels of engagement makes bird-watchers and bird-watching activities difficult to quantify, and probably contributed significantly to why so little reliable information has been available (Jones and Buckley 2000). Our knowledge of the above comes chiefly from many informal interviews with bird-watchers, wildlife tourists, bird club members and tour guides, as well as our extensive knowledge and participation in bird-watching activities over several decades.

Bird-watching tourism world-wide appears to be growing rapidly amongst Western travelers, and numerous studies have confirmed that it can substantially enhance local economies (see references in Jones and Buckley 2000). In an Australian survey of visitors to Green Mountains, Lamington National Park, Queensland, Tisdell and Wilson (2004) found that birds (especially the diversity of birds and calls of birds) constituted a major components of visitor satisfaction, and estimated that visitors (including day-trippers and overnight visitors, both domestic and international) to this one eco-lodge were worth just under \$15million annually to the region.

North Queensland tour operators (QTTC 1998) reported that their largest markets were associated with international travelers, but that interest by Australians seemed to be growing. There are many bird-watchers in Australia, as evidenced by the large numbers of members of bird-watching associations (SATC 2001 and websites such as www.ausbird.com, www.birdsaustralia.com.au and www.birdobservers.org.au). At present, however, virtually nothing is known about the rates of participation or practices of these people.

Despite having an ostensibly 'green' reputation, there is considerable potential for negative environmental impacts by bird-watching tourists, both on the birds being watched and on non-target species (including the less 'interesting' birds and other animals) within the habitats being visited (Green and Higginbottom 2001 and references therein, Green and Giese in press, Mullner *et al* in press). Although these are presumably very mild in comparison to the impacts of many other land uses such as clearing for agriculture or some other kinds of tourism (e.g. Watson and Moss 2002, Laiolo 2003), there is a need to minimize risk, especially where vulnerable species or habitats are concerned (Ream 1979, Burger and Gochfield 1993, Burger *et al* 1995, Fowler 1999, Quan *et al* 2002)).

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

It would seem that bird-watching tourism is not a negligible activity in Australia, and has much potential for growth. For it to be truly sustainable form of nature-based tourism, both economically and environmentally, much more needs to be understood about the practices, requirements and opinions of traveling bird-watchers, both domestic and international, in Australia.

We were also concerned with the conservation ethics and behaviour of bird-watching tourists. Green and Higginbottom (2001) observe for instance: ‘Burger and Gochfeld (1993) observed that tourists often: get closer to nesting birds for identification regardless of their effect on the bird; intentionally flush a rare bird; and occur in large and noisy groups. Burger *et al.* (1995) note that bird-watchers visiting a new area want particularly to see the rare and shy species, which are likely to also be the most vulnerable’.

Aims and scope of the current study

The study aimed to shed some light on the variety of bird-watching tourism in Australia and to gain a better understanding of the practices, needs and attitudes of bird-watching tourists. Rather than target only the most dedicated bird-watchers, we considered the full spectrum of bird-watchers, ranging from the casual to the highly motivated, as this has relevance to how important bird-watchers are to tourism as a whole, and what is needed to make Australian bird-watching regions more appealing to both domestic and international travelers. We sought, therefore, to obtain information from tourists engaged in bird-watching from a wide variety of settings, locations and group sizes. For inclusion in the study, bird-watchers had to be based in natural areas and away from places where the presence of birds had been deliberately manipulated, (such as, for example, through hand-feeding or ‘corralling’). Thus, participation in the feeding of lorikeets at Currumbin Sanctuary or rosellas at Green Mountains was not regarded as bird-watching. Similarly, large-group tours focusing on only one or two species (such as the penguin parade at Phillip Island) were excluded. Night-time walks which include searches for owls, frogmouths, nightjars and other nocturnal birds were, however, accepted.

Since the term ‘bird-watchers’ incorporates a very diverse group of people and ‘bird-watching’ incorporates a very diverse group of activities (Jones and Buckley 2000), it is important to recognise meaningful groupings, within which participation occurs.

The study had four general research domains:

- the bird-watching tourist population generally (to refine and possibly expand targeting of tourism market sectors for regions and individual operations, and generate ideas for the general ‘feel’ of marketing to various sectors)
- what bird-watching tourists want to see and do (to better understand the demand side of both the domestic and the international market, and to generate ideas for improving the quality of experience, again both for regions and for individual operators)
- bird-watching tourists and the tourism industry (to identify opportunities and challenges – e.g. for effective communication and understanding between travel agents, operators and tourists, or promotion of both new and established regions as bird-watching destinations)
- bird-watching tourism and conservation (to explore the level of interest in and concern for conservation amongst both casual and habitual bird-watchers, and whether their behaviour conforms to stated attitudes).

Within these domains we chose to investigate:

1. The bird-watching tourist population by:
 - exploring the demographics of bird-watching tourists
 - identifying any common features of bird-watching tourists’ opinions and practices
 - identifying any meaningful sub-groupings of bird-watching tourists, based on opinions, practices and age group
2. What bird-watching tourists want to see and do by:
 - determining what features of birds (endemism, rarity, appearance etc) are important to them
 - determining their preferences while on a bird-walk (e.g. duration, socializing, watching bird behaviour)
 - determining various other factors relevant to bird-watching (by both specific and open-ended questions)

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

- analysing the above for bird-watchers as a whole and for any subgroups identified,
 - analysing for any differences between domestic and international travellers
3. The role of the tourism industry in bird-watching by:
- determining how bird-watchers decide where to go bird-watching (sources of information etc.)
 - assessing factors influencing bird-watchers' decisions to join commercial tours
 - determining whether they are likely to spend money on bird books, binoculars and other equipment in Australia
 - open-ended questions on how their bird-watching experience could be improved in Australia
 - assessing their perceptions of prime locations for bird-watching in Australia
 - analysing for any differences between domestic and international travellers
4. Attitudes towards conservation by
- asking specific questions (e.g. whether they would prefer to disturb a nesting bird than fail to identify it)
 - exploring responses to open-ended questions for conservation content
 - asking bird-watching tour guides about bird-watching tourist behaviour
 - making preliminary direct observation as opportunity permitted

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Chapter 2

METHODS

Information was obtained primarily via two questionnaires, one designed for bird-watchers and another designed for guides of bird-watching groups. In addition, some information was gained through observations of bird-watchers themselves.

Questionnaires for bird-watchers

Questions asked of bird-watchers and bird-watching guides were based on the aims given above and an attempt to discern the views and attitudes of a broad spectrum of people engaged in bird-watching activities while traveling. We wished to include, for instance, the experienced enthusiast as well as the general tourist who happens to try a bit of bird-watching because friends or family were doing so. Similarly, we sought to include those for whom birds and bird-watching were the prime focus as well as those for whom birds and bird-watching were just another part of wildlife viewing or nature appreciation. Preliminary questions were asked informally in conversations with bird-watchers, wildlife tourists and tour guides. Bird-watching tours from three different tourism operations were accompanied to observe behaviours of guides and tourists in an informal way before formulating the questions. A draft was presented to members of Birds Queensland, which helped to identify some ambiguities and suggest further questions. Later drafts of the questionnaire were reviewed by a social scientist, a professional questionnaire designer, and various bird-watchers and tour operators before the final version was printed.

Lists and details of tourism operations were sought from the Internet and from Ecotourism Australia, and perused for bird-watching content. A selection was then made so as to offer a wide geographical spread and to include specialised birding areas (e.g. observatories operated by Birds Australia) and birding tours and more general nature tourism sites (e.g. eco-lodges near national parks) and operations which included some bird-watching amongst other nature-based activities, as well as birding organisations, the members of which may or may not sometimes participate in commercial bird-watching tours or accommodation. We also tried to get a spread of habitats, from desert through woodlands and forests to coastal and marine habitats, and to include varying distances from major cities. It was thus anticipated that we would cover a broad spectrum of the public, including a spread from those willing to 'rough it' or inclined to generally 'do their own thing' through to more conventional tourists.

Approximately 2,500 questionnaires (Appendix I) were thus distributed across Australia (all states and territories) to: tour operators who include bird-watching as one of their activities; eco-lodges and other accommodation which advertised bird-watching opportunities; bird-watching observatories; and members of bird-watching associations. These questionnaires were distributed both via mail and by hand on numerous occasions between November 2002 and May 2003. Tourism operators and bird-watching organisations were requested to distribute questionnaires or make them available to their guests or members. Reply-paid envelopes were provided.

Most of the survey consisted of statements (e.g. 'Birds are my favourite animals', 'I am very interested in the behaviour of birds') to which respondents answered 'agree', 'neither agree or disagree', 'disagree' or 'don't know'. There were also several questions requiring simple information on age group, profession, nationality, etc., as well as several more open-ended questions about the respondents' bird-watching experiences in Australia and what would enhance their experience.

In summary, respondents were asked to provide information on the following (the questionnaire is reproduced in full in Appendix I.):

- Their nationality (e.g. in what world regions have they lived and where they have been bird-watching), sex and age group (<14 years, 14 – 19, 20 – 35, 35 – 49, 50 – 65 or >65?)
- Whether they work professionally with birds or other animals (and what their profession or study is)

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

- Various questions on home life: (e.g. whether they feed birds in the garden, care for injured birds or keep pets)
- Their preferences while on a bird-walk (e.g. duration of walk, social contact, identifying every bird seen, children joining group)
- Features of birds important to them while bird-watching (e.g. uniqueness to Australia, size, rarity, behaviour, conservation status)
- Various other questions on attitudes to bird-watching (e.g. whether they keep a life list of all species seen, whether they habitually carry binoculars or record what they see)
- Various questions related to an interest in birds (e.g. interest in bird ecology or in seeing other wildlife)
- How they decide where to go for bird-watching (e.g. information from travel agents, natural history organisations, friends/family, destinations initially decided for reasons other than bird-watching)
- Under which circumstances would they join a commercial bird-watching tour (e.g. to reach difficult places, for safety, to learn what books cannot teach)
- Attitudes to various impacts on birds (e.g. disturbing birds at nest, flushing for identification, hunting)
- Equipment they own for bird-watching and whether it was bought in Australia or elsewhere
- Some of their most memorable bird sightings, which birds they would like to see, and what places they would see as some of the best bird-watching areas in Australia
- What might improve the bird-watching experience in Australia
- Other comments

Anticipating reluctance by some participants to spend time answering all questions, we rated the various sets of questions within the survey according to the importance (see Appendix I). Thus those marked with ‘***’ were to be given priority by those not wishing to spend the time completing the entire questionnaire.

Questionnaire for bird-watching guides

A questionnaire was also sent to 42 guides of walks or tours (contacted primarily via Birds Australia and Ecotourism Australia) which either focused on or included bird-watching. These were based in all Australian states and territories, and included eco-lodges, bird observatories and tour companies. The questions were finalised after informal discussions with guides and attendance of bird-watching walks where behaviour of tourists was observed.

This questionnaire (see Appendix II for details) included questions on

- The behaviour of tourists while on bird-walks (e.g. whether tourists occasionally or frequently disturbed birds being observed, dropped out of bird-walks, complained about other participants)
- The kinds of questions they asked (e.g. about identification, behaviour or ecology)
- Various other factors (what percentage of guests—where relevant—join bird-walks, whether the activity tends to be seasonal)

The intention of these questions was to assist in determining the variety amongst bird-watchers, the interests of different kinds of bird-watchers, possible environmental problems and some factors of general interest to the tourism industry (e.g. seasonality of the activity). This survey was supplemented by unstructured interviews with guides.

Personal observations

One of us (Ronda Green) accompanied bird-walks or walks which included birds with five different tourist operations during the course of this study. She joined as a tourist or (in the case of her own tour company) a guide and afterwards took notes on observations of bird-watcher behaviour. There was insufficient time to accompany sufficient groups for any kind of quantitative analysis, so findings are preliminary only.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Chapter 3

RESULTS

Return rate

Of the 2500 bird-watcher questionnaires distributed a total of 256 (10.2%) were returned. This relatively low return rate was not unexpected given the passive nature by which the surveys were accessed by bird-watchers. As researchers were typically not present, invitations to participate were entirely dependent upon the motivation and practices of the establishments, placement of the surveys and many other aspects beyond our control. Had we been able to personally hand them to prospective respondents the return rate would probably have been substantially better, and the 10.2% return does not necessarily represent the %age of return from those who were actually given (or who noticed) the questionnaires, but of all forms, including those which may have lain on shelves or in vehicles not seen by any bird-watchers. Thus the actual response rate may have been higher, but it is impossible to estimate by how much.

The questionnaire was rather lengthy, with the more important sets of questions indicated. Several respondents accordingly left out sets of questions, but others left gaps within sets. The missing values were accounted for in the analysis. It has been reported to us that some respondents were uninterested in filling out a questionnaire of so many pages, despite the option of only filling in the priority sections.

Only 11 of the 42 guides returned completed questionnaires (26.1%), which is a better return rate but a very small overall sample size. Respondents were however spread across almost all states and territories and included a wide range of situations, from permanent employees at large eco-lodges through to small tour operators and volunteer guides for national parks, so their responses provide interesting indications of possible trends across a variety of situations.

Demographic overview

This overview may be indicative of the bird-watching community, or of those most willing to fill in questionnaires. If the latter, it may be to regard the results as being most relevant to the demographic represented by the respondents, and that further research could address demographics not well represented here.

Most of the respondents were over 35, with the highest number in the 50 – 65 age group (Figure 1), and females outnumbered males.

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

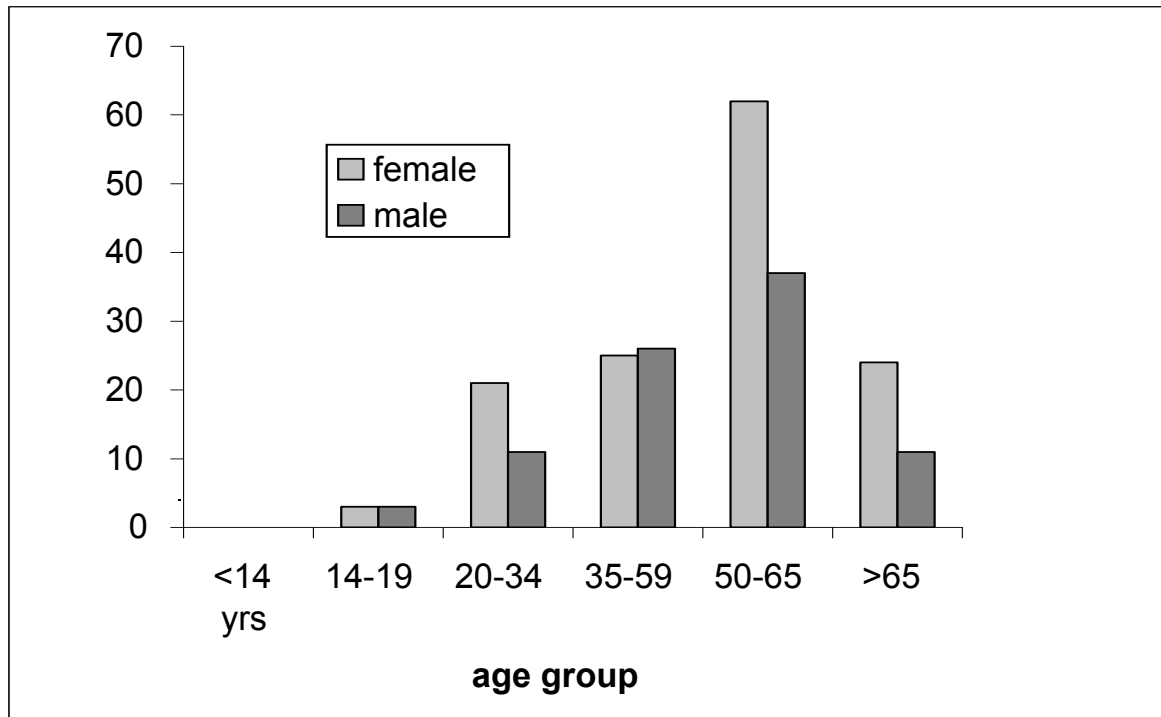


Figure 1: Age groups and sex of respondents

While most respondents had lived in Australia for at least part of their lives, more than half had also lived elsewhere at some time (Table 1). Those of Australian nationality outnumbered non-Australian almost 3:1 (Table 2). Europeans included German, Danish, Finnish, Dutch and Russian nationals. The sole Asian respondent was from Taiwan, and the sole South American respondent from Brazil. North Americans included one from Canada and the remainder from the USA. There were also seventeen respondents with dual nationalities (mostly British, but also Irish, Danish, Lebanese, American, Canadian and Fijian). Thus more than a quarter of respondents had had a nationality other than Australian at some time. Because of the small sample size we do not expect this to truly reflect the proportions of bird-watchers visiting Australia from different countries. Rather, we are using the information to test for differences between domestic and international visitors.

Table 1: Numbers of respondents who have lived in Australia and elsewhere (n=256)

Respondents who have lived:	No.
Only in Australia	104
Australia & elsewhere	102
Never in Australia	35
Unanswered	15

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

Table 2: Nationalities of respondents (n=256)

Nationality	No.
Australian	164
Australian & other	17
New Zealand	4
British & Irish	28
European	9
North American	9
South African	3
South American	1
Asian	1
Unanswered	20
Total non-Australian	55

About a quarter of the respondents responding to the relevant question (201 in total) had watched birds only in Australia (Table 3). Another fifth had watched birds only in western countries. More than a third had watched birds in Asia, Africa or Latin America.

Table 3: Geographical regions respondents had watched birds (n=201)

Have watched birds:	No.
Only in Australia	63
NZ	16
Europe & North America, not NZ or non-western	31
Africa/Latin America/Asia	91

Many respondents said that bird-watching was a major reason for visiting Australia (Table 4). However, as many of these were Australians, we presume they meant particular regions within Australia were visited for bird-watching. It is also unknown whether some of those with dual nationalities really did mean that bird-watching was a major reason for initially visiting Australia (rather than particular destinations in Australia while living here). When considering only non-Australians (i.e. those that had to travel to reach Australia), Australia scored higher than Europe but lower than Asia, Latin America and Africa in being a target for bird-watching.

Table 4: Localities for which bird-watching was one of the reasons for visiting (n=190??).

Bird-watching was a major reason to visit:	No.
Australia (Australians—presumably visiting different part of Australia)	50
Australia (non-Australians—never lived here)	13
Australia (lived here and elsewhere)	17
Many regions (3 or more other than Australia)	16
Europe (other than above)	1
Asia, Africa or Latin America (other than above)	7
North America (other than above)	1
NZ (other than above)	1
Europe (total)	11
Africa or Latin America (total)	17
Asia (total)	17
USA/Canada (total)	17
NZ (total)	7
Other Pacific (total)	10
Other	5

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

More than half the completed forms were posted from somewhere in Queensland, for both domestic bird-watchers and international visitors (Table 5). This indicates a bias towards those living in and visiting Queensland.

Table 5: Regions from which completed forms were sent, as evidenced from postcodes on the envelopes (n=256)

Region	Numbers of completed forms
Southeast Queensland	72
Queensland—other	53
New South Wales	34
Victoria	5
South Australia	6
Western Australia	8
Northern Territory	14
New Zealand	1
Unknown	63

Only 157 respondents answered the question about employment with something other than ‘retired’. The most common responses involved academic, financial or management, medical or school employment (Figure 2).

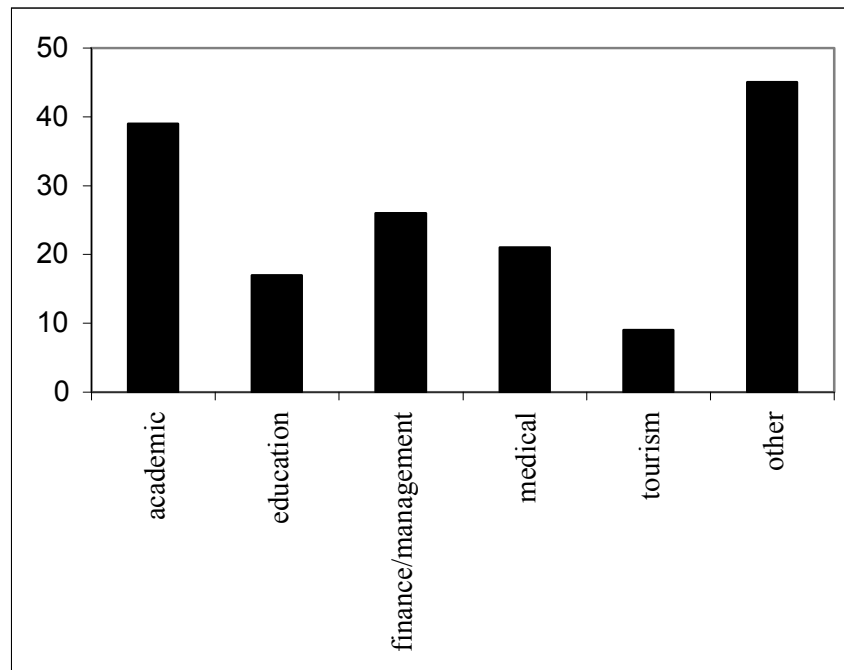


Figure 2: Percentage of respondents in different kinds of employment or study. N =157

The highest positive scores for involvement with birds and other animals at home and work (Figure 3) were: ability to identify local birds (for which 83.6% of respondents answered ‘agree’; growing bird-attracting plants in the garden (80.5%); and keeping pets other than birds (72.7%). About a third kept pet birds, cared for injured birds and fed birds in their garden. About one-fifth commonly worked with birds and about a quarter with other animals.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

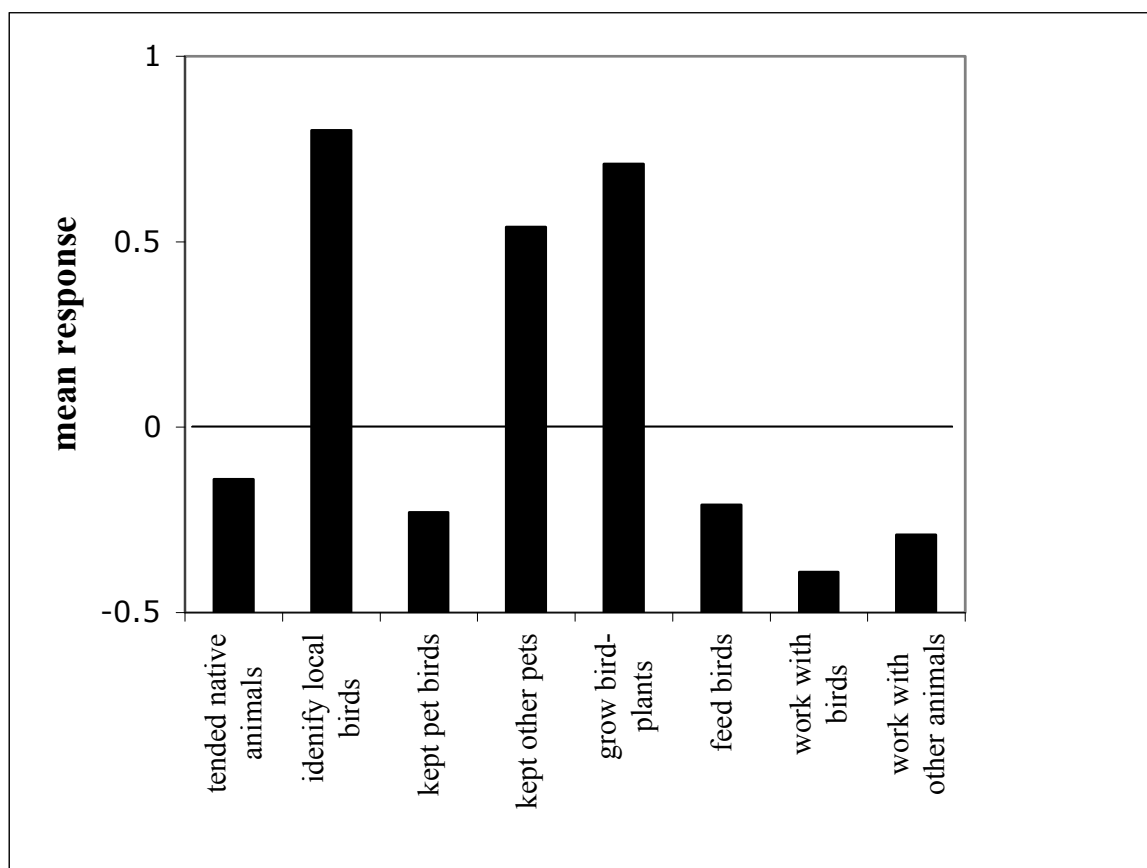


Figure 3: Responses to questions about connections with birds at home and at work
‘feed birds’ refers to providing food other than food-plants at home)
Scores ranged from –1 (disagree) to 1 (agree) to the relevant statements

Groupings of bird-watchers

Overview of responses

Table 6 indicates the majority views, minority views and most equivocal views expressed by those respondents answering the questions (which varied between 202 and 249).

The most strongly-shared views (Table 6a) were: a dislike of hunting for sport; a desire to see wildlife other than birds; a disinclination to disturb birds for identification; and an expectation of watching birds when next travelling. Next most important were: ability to identify most birds near home; and a willingness to join a commercial tour for places otherwise hard to reach. These were followed by: not joining bird-walks mainly for friends or family reasons; not using travel agents to decide where to go bird-watching; planting bird-attracting garden plants; habitually carrying binoculars; and an interest in bird behaviour.

Less than 10% of respondents (Table 6b) said they used travel books to decide where to go bird-watching, that they enjoyed painting or sketching birds, or that putting names to things spoils appreciation of beauty.

Respondents were evenly divided (Table 6c) over whether the behaviour of birds (‘doing something interesting’) was an important factor in which birds they would like to see, whether birds were their favourite animals, whether they choose go bird-watching in places they like for other reasons, whether they would willingly go camping to see a new bird, whether they read about destinations before travelling whether they could identify many female and juvenile Australia birds. Next most equivocal were whether they read about birds of their destinations before travelling, whether guided bird tours were too expensive, whether they get

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

information on where to watch birds from books other than travel books, whether feeding birds gives good opportunities for photography and whether they kept a life-list of birds seen.

Table 6a: Views expressed by more than 80% of respondents answering the question (where negative responses are expressed in brackets, this indicates that the question was asked in a positive way, and the respondents answered 'disagree')

Statement	Percent of respondents
I [do not] enjoy hunting for sport or wish to try it	96.68
I want to see other wildlife as well as birds	95.51
I [would not] rather disturb a bird from its nest than fail to identify it	94.17
I'll probably be bird-watching next time I travel	93.03
I can identify most birds around home	86.12
I would go on a tour to places difficult to reach	85.96
I [do not] mainly join bird-walks because family and friends want me to	81.74
I [do not] decide where to go birding from advice of travel agents	80.59
I plant bird-attracting species in my garden	81.85
I usually carry binoculars in case of something interesting	81.38
I'm very interested in bird behaviour	80.65

Table 6b: Views expressed by less than 10% of respondents answering the question

I use travel books to decide where to go bird-watching	7.98
I like sketching/painting birds	9.01
Putting names to everything spoils appreciation of beauty	9.7

Table 6c: Views expressed by approximately half the respondents answering the question

I particularly like to see birds that are doing something interesting	48.37
I generally go bird-watching in places I like for other reasons	47.33
I read about birds of my destinations	56.33
Birds are my favourite animals	45.30
I would willingly go camping to see a new bird	54.20
I can identify females and juveniles of many Australian birds	54.62
I read about my travel destinations	54.96
Guided bird tours are usually too expensive	44.55
I get info on where to go birding from books (not travel books)	44.31
Feeding birds gives good opportunities for photographs	44.21
I keep a life-list of birds I've seen	44.03

A correlation matrix of general attitudes to bird-watching found the strongest correlations to be between:

- interest in bird behaviour and interest in bird ecology ($r^2=0.636$)
- bird-watching as a favourite activity and often visiting national parks for bird-watching (0.623)
- ability to identify many females and juveniles and reading about birds of a destination (0.590)
- keeping binoculars handy and visiting national parks for bird-watching (0.577)
- bird-watching as a favourite activity and likely to watch birds on next trip (0.576)
- reading about birds of a destination and often visiting national parks for bird-watching (0.575)
- being able to identify many females and wanting to identify all Australian birds (0.562).

Keeping a life-list was positively correlated with a number of factors (Table 7), the strongest being 'bird-watching is my favourite activity', ability to identify many females and juveniles of Australian birds, 'I would like to be able to identify all Australian birds' and reading about birds of an intended travel destination. Other, weaker, positive correlations included items one would associate with the 'typical twitcher' (birds are their favourite animals, often carry binoculars, take notes on what is seen, often visit national parks for bird-watching, and able to identify most local birds) plus others not so obviously predictable from the stereotype (interest in ecology and behaviour, read about destinations) There was a weak negative correlation with the view that putting names to things spoils appreciation of beauty.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Table 7: Opinions and preferences relating to bird-watching which showed a significant ($P < 0.05$) correlation with keeping a life-list
[brackets indicate a negative correlation]

Attitude to bird-watching	
Bird-watching as favourite activity	0.403
Able to identify many females and juveniles of Australian birds	0.338
Would like to be able to identify all Australian birds	0.312
Read about birds in a destinations before visiting	0.301
Birds are my favourite animal	0.293
Often carry binoculars in case of something interesting	0.268
Interested in bird behaviour	0.252
Interested in bird ecology	0.248
Often visit national parks for bird-watching	0.247
Often take notes on birds seen	0.243
Able to identify most local birds	0.195
Likely to be bird-watching during next travel	0.177
Read about destinations before visiting	0.172
[Putting names to things spoils appreciation of beauty]	-0.223

Principal components analysis

A Principal Components Analysis (SPSS) clustered two groups of responses (not respondents) that were reasonably interpretable (Table 8) but collectively these accounted for only 35% of the variance. The first two components seem respectively to represent the dedicated bird enthusiast and the tourist that is most interested in the more 'exciting' birds. The next few are less readily interpretable, except that group 4 could be considered to represent those with very little interest in birding, and group 5 young international travellers with no very great interest in birding.

Table 8: Results of Principle Components Analysis (SPSS) with absolute scores greater than 0.4

Group	Cumulative variance %	Feature	
1	18.903	Bird-watching is my favourite activity	0.772
		I can identify females and juveniles of many Australia birds	0.700
		I often record birds I see	0.674
		I'd like to be able to identify all Australian birds	0.668
		I generally carry binoculars	0.649
		I read about birds of my destination	0.627
		I'm very interested in bird ecology	0.614
		I would willingly camp to see a new bird	0.610
		I keep a life-list of all birds seen	0.556
		I'm very interested in bird behaviour	0.512
		I like to see rare birds	0.501
		I'll probably do some bird-watching on my next travels	0.455
		I like to see birds unique to the part of Australia visited	0.431
		[I mainly go bird-watching because of family or friends]	-0.420
2	35.283	I like to see big birds	0.780
		I like to see predatory birds	0.704
		I like to see brightly-coloured birds	0.701
		I like to see birds interacting with me	0.672
		I like to see birds I've read about	0.655
		I like to see birds that are doing something interesting	0.649
		I like to see birds that are singing	0.630
		I like to see birds my friends have never seen	0.531
		I like to see birds that are readily photographed	0.466
		I like to see vulnerable birds	0.440
		I like to see rare birds	0.429
		I like to see birds I've never seen before	0.401

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Group	Cumulative variance %	Feature	
3	42.075	[I like to see vulnerable birds]	-0.565
		[I like to see rare birds]	-0.562
		[I like to see birds unique to the part of Australia visited]	-0.453
4	47.357	[I will probably do some bird-watching next time I travel]	-0.543
		[I'm very interested in bird behaviour]	-0.469
5	52.049	International visitor	0.694
		[Age]	-0.513
6	56.438	I like to see birds unique to Australia	0.534
		Age	0.447
		[I'm very interested in bird behaviour]	-0.440
		[I'm very interested in bird ecology]	-0.416

Further inspection of the data reveals that these results do not mean bird-watching tourists can be simply divided into 'dedicated birders' (scoring high on group 1 factors), 'thrill-seekers' (group 2 factors) and 'occasional birders' (groups 3 and 4). Each respondent was given a 'dedicated birder' score (sum of their responses to statements highly correlated with component 1) and a 'thrill-seeker' score (sum of their responses to statements highly correlated with component 1). The majority of respondents were high on the 'birder scale' (Figure 4), but most were about mid-way along the spectrum for 'thrill-seekers' (Figure 5), and there was no negative correlation, indeed virtually no correlation of any kind ($r^2 = 0.09$) between the two scores (Figure 6).

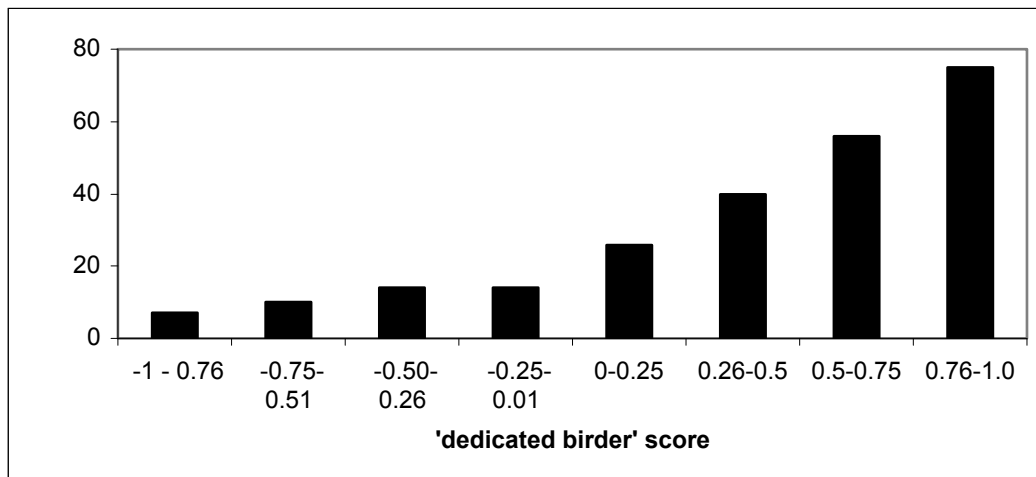


Figure 4: Frequency of respondents with different mean scores for the statements associated with group 1 ('dedicated birders') in Table 7

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

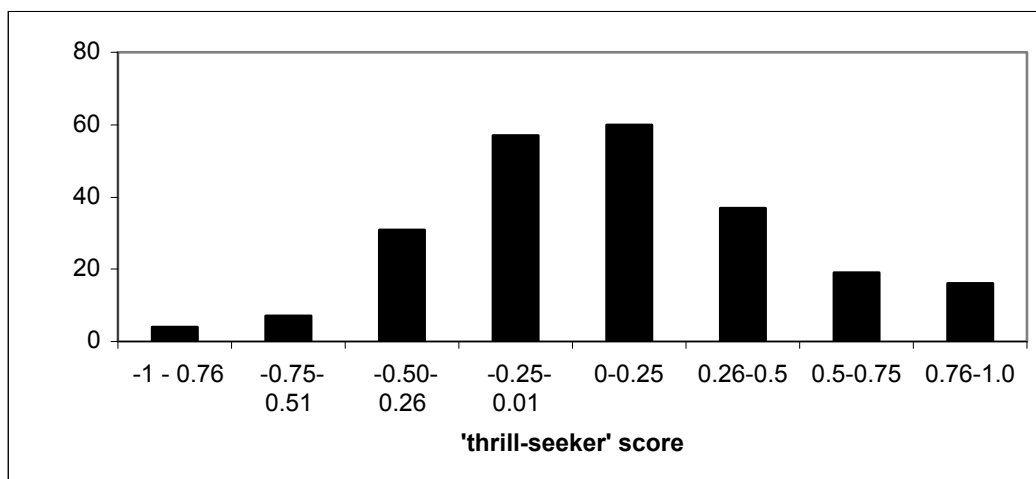


Figure 5: Frequency of respondents with different mean scores for the statements associated with group 2 ('thrill-seekers') in Table 7

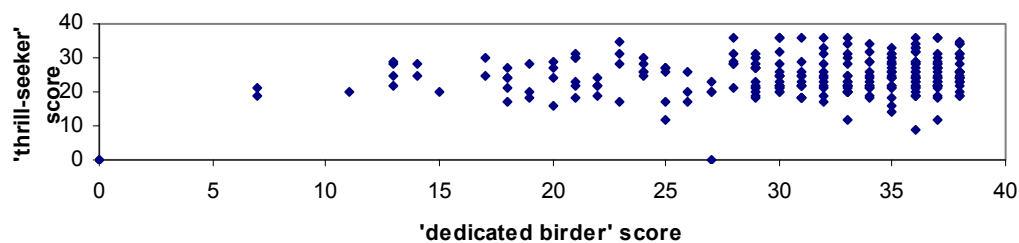


Figure 6: Relationship between groups 1 and 2 of Table 7. R2 = 0.09

There was little difference apparent between those with very high and low 'dedicated birder' scores (Figure 7) in their keeping of pet birds and other animals or tendency to feed birds. Those with high scores however appear to be able to identify birds near home, plant bird-attracting plants and to a lesser extent tend injured wildlife more often than low scorers. Differences between high and low scorers for 'thrill-seeking' (Figure 8) were less pronounced.

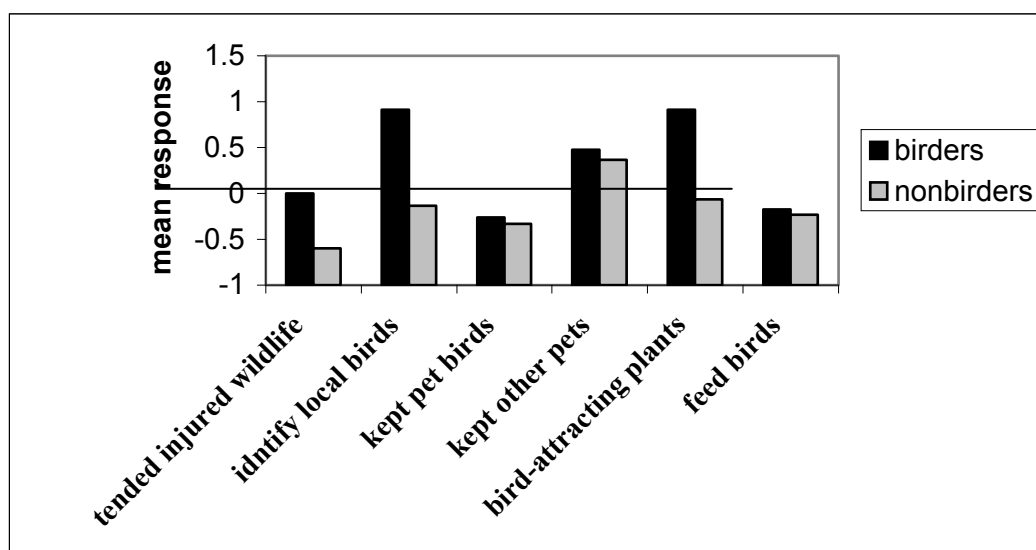


Figure 7: Relevant aspects of home-life of those with high (>0.7) and low (<0.3) scores for group 1 ('dedicated birder') of Table 7

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

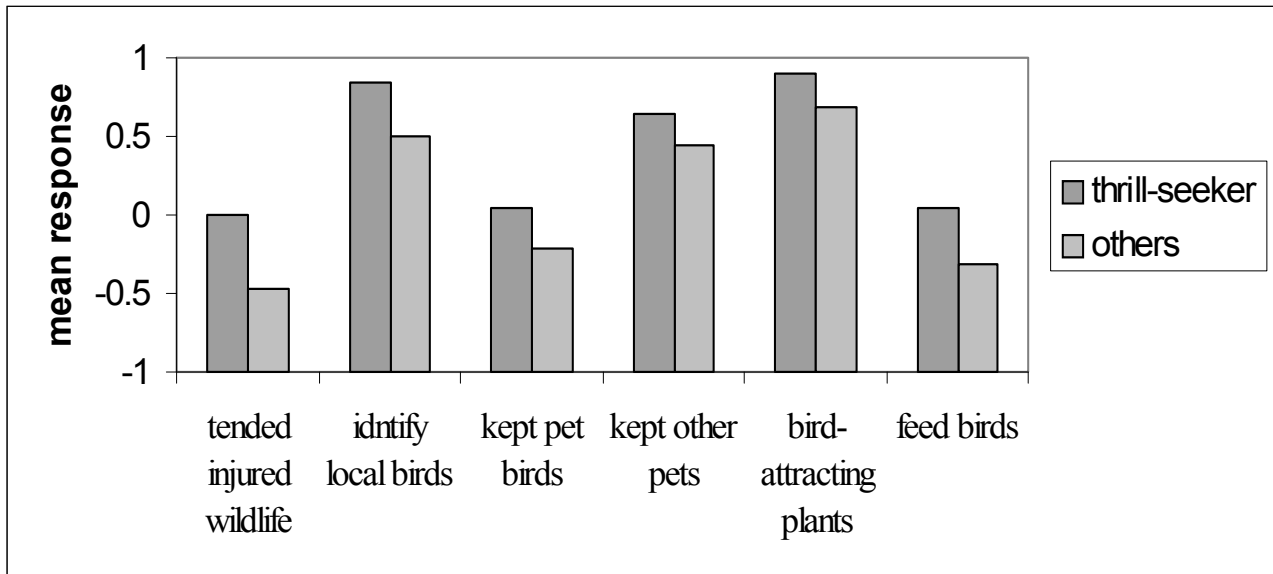


Figure 8: Relevant aspects of home-life of those with high (>0.7) and low (<0.3) scores for group 2 ('thrill-seekers') of Table 7

Dendrogram of bird-watchers

Respondents were clustered by a Common Fusion Dendrogram (stress 0.158) using PATN and five major groups emerged (Table 9). There was however much variation within these groups, cautioning against a too-literal acceptance of them as distinct bird-watching 'types.'

Table 9: Clustering of respondents by a common fusion dendrogram

Group	Features of group
1.	'Least-bird-focused.' (N=46). This group had the lowest score for keeping life-lists, ability to identify many females and juveniles of Australian birds and willingness to camp to see new birds, and was the only group to show mean negative scores for these questions. It also showed the lowest scores for usually carrying binoculars, for wanting to be able to identify all Australian birds, interest in bird ecology and bird-watching being a favourite activity.
2.	'Non-bird-focused' (N=60). This group had the highest score for having kept pets other than birds (but also had the lowest mean score for having kept pet birds). It showed the second-lowest scores for keeping a life-list, bird-watching as a favourite activity, interest in bird ecology, wishing to be able to identify all Australian birds, ability to identify many juveniles and females, willingness to camp to see new bird, and usually carrying binoculars.
3.	'Bird-focused photographers.' (N=44). This group scored much higher than the others for considering feeding of birds good for providing photographic opportunities, and perusal of other factors showed they also scored highest on often taking photos of birds and on having telescopic lenses. It also scored highest on keeping a life-list (but only marginally more than group 5) and usually carrying binoculars (but only marginally more than groups 4 and 5).
4.	'Bird-focused ecologists.' (N=43). This group scored highest for an interest in bird ecology. Most responses were close to those of groups 3 and 5 rather than groups 1 and 2, indicating a strong interest in birds.
5.	'Most bird-focused' (N=59). This group showed many similarities with groups 3 and 4, and had the highest scores for willingness to camp to see new birds, wanting to identify all Australian birds, and bird-watching being their favourite activity. It was the only group with a mean negative score for bird-feeding providing good photographic opportunities, and perusal of other factors showed it to have the lowest mean score for acceptability of feeding in national parks, feeding in their own gardens, and feeding giving opportunities for interaction with birds. This was also, on average, the oldest group.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

There was little difference in proportions of men and women in most groups (Figure 9), but females considerably outnumbered males for Group 1 and Group 5.

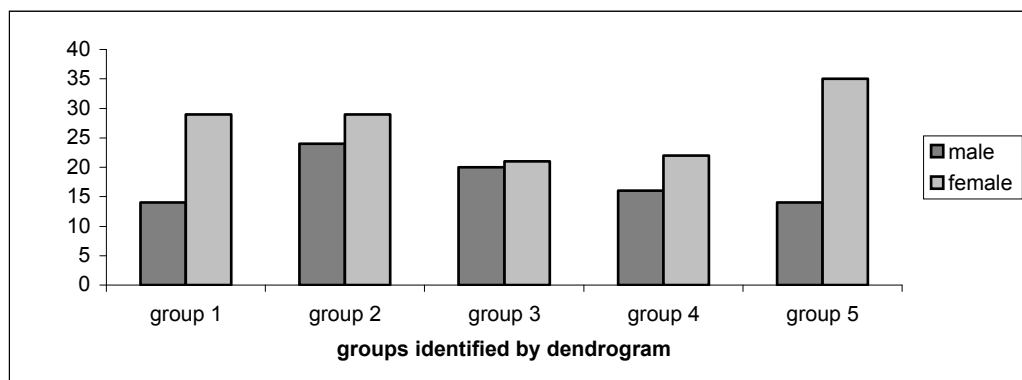


Figure 9: Proportion of male and female respondents in each of the five groups identified by the dendrogram (Table 8). $\chi^2 = 5.65$ (NS)

Australians outnumbered visitors from elsewhere in most groups, but the difference was particularly evident for Group 2 (Figure 10).

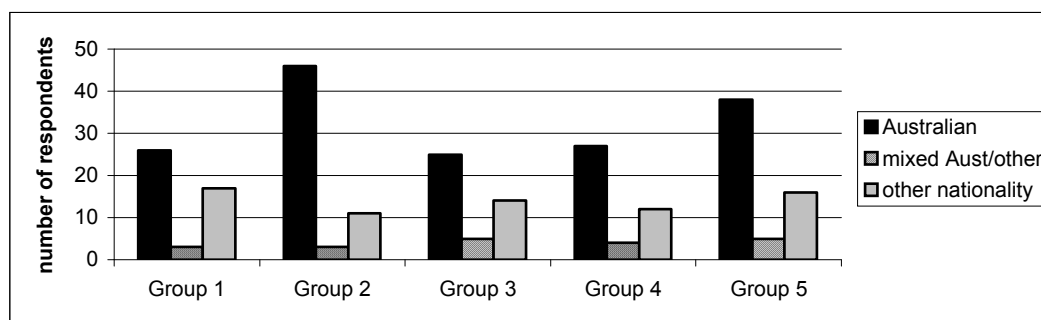


Figure 10: Proportion of Australians and other nationalities in each of the five groups recognised by the dendrogram (Table 8). χ^2 (with 'mixed nationality' and 'other nationality' grouped together) = 6.32 (NS)

What birds do bird-watching tourists want to see?

Bird-watchers as a whole nominated the birds that they most wanted to see (in order of importance; see Table 10) as: (1) species not previously seen: (2) species unique to Australia (or to the part of Australia being visited), and (3) rare or vulnerable species. The least important features were species that were big, readily photographed, or species that could be interacted with. A correlation (similarity) matrix (SPSS **) showed responses to several avian features to be highly correlated with one another. The highest correlations were between rare/vulnerable (0.829), and big/predatory (0.764) followed by interacting/readily-photographed (0.532), unique to Australia/unique to part of Australia (0.529) and big/brightly-coloured (0.524).

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Table 10: Percentages of respondents agreeing with specific statements (in descending order of preference)

When bird-watching in Australia I like to see birds which are:	N	%
Species I've never seen	249	79.12
Unique to the part of Australia visited	248	69.76
Unique to Australia	249	67.47
Vulnerable	247	62.75
Rare	248	58.06
Doing something interesting	246	48.37
Singing/calling	246	33.74
Bright	245	30.61
Species I've read about	246	26.83
Predatory	245	24.49
Species my friends haven't seen	244	22.54
Big	244	18.44
Readily photographed	243	12.35
Interacting with me	243	10.29

Respondents of all groups recognised by the dendrogram (Table 8) showed basically similar responses (Figure 11), but with Group 1 respondents tending to favour birds they have read about, birds interacting with them or filmable, and to a lesser extent wanting to see big and brightly-coloured birds, and Group 5 tending towards birds they have read about, rare and endangered birds and birds they had never previously seen.

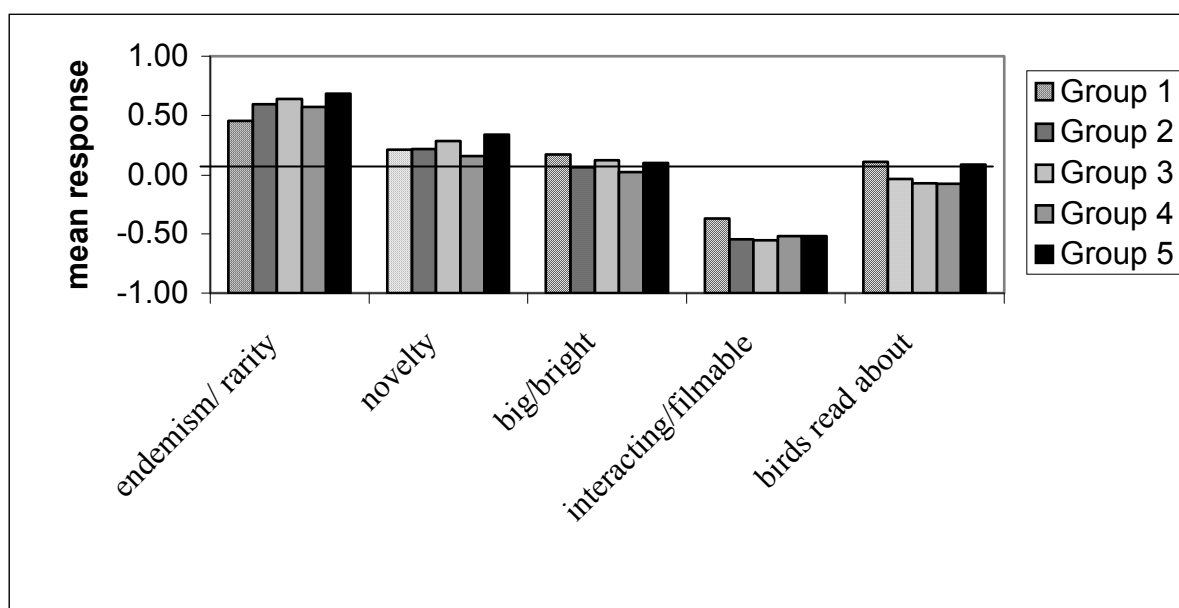


Figure 11: Responses of the five groups identified by the dendrogram (Table 8) to grouped bird features

‘Endemism/rarity’ refers to birds that are unique to Australia, unique to part of Australia, rare or threatened. ‘Novelty’ refers to birds the tourist or their friends have never seen. ‘Big/bright’ refers to birds that are big, brightly coloured, predatory, singing or doing something interesting. ‘Interacting/filmable’ refers to birds that are readily photographed or interacting with the observer. ‘Birds read about’ refers to birds the observer has previously read about.

We compared those respondents who scored highest on the summation of ‘dedicated birders’ features (scoring a mean of 0.7 or higher for the factors related to the first component of the principle components

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

analysis): 23 respondents) and those with the lowest scores (scoring -0.5 or less: 30 respondents) for their preferences in bird features (Figure 12). ‘Brightly-coloured’, ‘big,’ readily photographed’ and ‘interacting with the observer’ were rated relatively higher by non-birders. Birders were relatively more interested in birds friends had not seen, birds unique to Australia or the part of Australia being visited and rare birds, with a similar but less pronounced trend to be relatively more interested in predatory birds, birds they had not seen before, threatened species and birds they had read about. There were more or less equal score for birds ‘doing something interesting’ and ‘singing or give strange, memorable calls’.

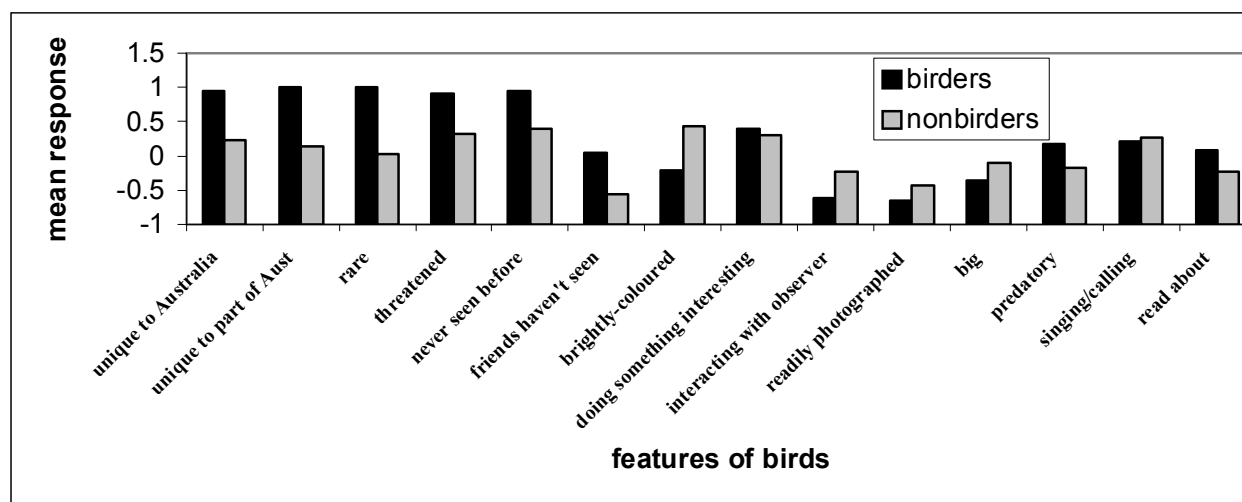


Figure 12: Features of birds important to those scoring the highest and lowest on the ‘dedicated birder’ scale

There were no apparent differences between those who had watched birds only in Australia and those who had never watched birds in Australia (Table 11), nor between those who had lived only in Australia and those who had never lived here. In both cases (probably due to overlap between the two) there was a lower percentage of respondents of respondents who had lived in or watched birds in Australia and elsewhere who said uniqueness to Australia was very important to them, compared to the two extremes.

Table 11: Importance of seeing birds unique to Australia by respondents who had lived and watched birds in Australia and elsewhere

	Number of respondents in group	% responding ‘very important’ to see birds unique to Australia
Lived only in Australia	104	76.34
Lived in Australia & elsewhere	102	66.15
Never lived in Australia	35	71.42
Watched birds only in Australia	43	79.06
Watched birds in Australia & elsewhere	207	69.56
Never watched birds in Australia	5	80.00

Large birds (emus, cassowaries, black-necked storks, bustards, pelicans etc), parrots (including cockatoos) and raptors comprised the most commonly-named nonpasserines birds when respondents were asked to recall some of their favourite bird-watching memories in Australia (Table 12), and large birds and parrots the ‘wish-list’ for future sightings (Table 13). Passerines (‘songbirds’) as a whole scored highly for favourite memories and species respondents wanted to see in the future. Memories of passerines included lyrebirds (32), pittas (24), riflebirds (4), bowerbirds (18), fairy-wrens (14), grasswrens (8), honeyeaters (8), scrub birds (7), finches (6),

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

robins (4), babblers (3) and a few others mentioned by only one or two respondents. Passerines respondents most wanted to see in the future included bowerbirds (11, especially regent), lyrebirds (18), finches (26, especially Gouldian), pittas (16), honeyeaters (14, especially regent), riflebirds (11), scrub-birds (11), fairy-wrens (7), grasswrens (7), robins (6), and bristlebirds (4).

Table 12: Groups of birds mentioned in response to the question about favourite memories of bird-watching in Australia

See text for details of passerines

Birds mentioned as favourite memories of past experiences	No. of mentions
Bird-watching locality, no specific bird mentioned	34
large birds (cassowary, emu, bustard etc.)	91
marine birds	47
nocturnal birds	31
parrots	86
waterbirds	41
raptors	79
nonpasserine—other	64
passerines	191
total	667

Table 13: Groups of birds mentioned in response to the question about birds that respondents would most like to see in future observations in Australia

See text for details of passerines

Birds mentioned as species respondents would especially like to see in the future	No. of mentions
passerines	199
parrots	95
large birds (cassowary, emu, bustard etc.)	84
nonpasserine—other	42
raptors	41
nocturnal birds	31
marine birds	22
waterbirds	16
bird-watching locality	6
	548

Taking the definition from Green, Higginbottom and Northrope (2001) of ‘brightly-coloured’ meaning any bird for which >25% of plumage is neither black, grey, white or brown, 31.45% of the 548 responses referred to brightly-coloured species.

A regression analysis with a score for working or studying with animals (response to ‘my profession/job/study involves birds’ plus ‘my profession/job/study involves other animals’) versus responses to other statements in the questionnaire was non-significant overall ($F=1.453$, $P=1.31$) but individual t-tests within it showed a negative response to wanting to see big birds ($P=0.006$) and a positive response to wanting to see predatory birds (0.041).

Those who had selected ‘unique to Australia’ as ‘very important’ especially wanted to see parrots (64 respondents), raptors (28), finches (21 – 17 of these were Gouldian finch), lyrebirds (15), honeyeaters (14), owls (14); pittas (14), cassowary (13); grasswrens (10); buttonquail (8); kingfishers (7); bowerbirds (7) and waders (6). ‘Lyrebirds’ are the only uniquely Australian family in that list, and only two (bowerbirds and cassowaries) are uniquely Australasian, but many constituent species are endemic, and parrots are an essentially southern

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

hemisphere order. Their favourite memories included raptors (50); parrots (61 – 27 of which were cockatoos), lyrebirds (26), bowerbirds (23), waders (22), fairy-wrens (18), kingfishers (16), marine birds (16); pittas (13); owls (10); cassowary (10); finches (9); frogmouths (9); brolga (8); grass-wren (8); pigeons (8); rainbow bee-eater (6); honeyeaters (6); scrub-birds (6); and black-necked stork (6).

Recorded memories often included specific places in conjunction with the bird species (e.g. ‘three brolgas dancing on bank of Normanton River’, and 34 were memories of birdlife in general at a particular place (e.g. ‘visiting Mt Lewis (Atherton) and seeing half a dozen new species in a day’).

First sightings were recalled by 15 respondents (e.g. ‘crested shriketit—the bird that started it all for me’, ‘tracking down my first chestnut-browed babbler as a kid’, ‘first time I saw a whipbird clearly’, ‘the first bird I identified alone—a black-shouldered kite’, ‘red wattlebird in Brighton, Victoria, during my first walk in Australia’.

Many respondents recorded action of some kind (e.g. ‘emus bathing in surf,’ ‘two baby powerful owls "dancing" in circular unison as they wait to be fed,’ ‘jacana with chicks tucked under wing and a head peering out above’, ‘rainbow bee-eater entering and leaving burrow’, ‘watching partridge pigeons waddle around campsite’, ‘wompooos mating’, ‘magpies “playing” on a trampoline’, ‘restless flycatcher captivated us for 20 minutes with bobbing and strange churring calls’, ‘two white-bellied sea eagles falling downwards, talons gripped,’ ‘white-breasted sea-eagle snatching immature osprey from nest—North Molle Island, Qld’, ‘peregrine falcon stooping at Nimbin Rocks’.

How do bird-watchers decide where to go bird-watching?

Travel agents figured last in means of deciding where to go bird-watching (Table 14). Travel books and the Internet were also rated low. Decisions appear to be determined more commonly on places liked for other reasons, places the respondents are going to anyway, and places read about in books other than travel books, followed by national park literature and advice from friends or family.

A correlation matrix showed high correlations between information from non-travel books and natural history organisations. (0.558), between documentaries and information from national parks (0.503), and between bird-watching in places being visited anyway and places selected for other reasons (0.478. Tendency to use a travel agent was most highly correlated with use of travel books (0.329), the next highest being a very weak correlation with documentaries (0.171).

Table 14: How bird-watching tourists decide where to go bird-watching

How I decide where to watch birds	N	%
I visit places I like for other reasons	243	47.33
books (not travel)	246	44.31
I do it at places I'm going to anyway	244	42.21
national parks info	244	38.11
friends/family	243	37.86
natural history organisations	242	30.99
Internet	235	19.57
documentaries	242	16.12
travel book	238	7.98
travel agent	237	2.11

We compared those respondents who scored highest on the summation of ‘dedicated birders’ features (scoring a mean of 0.7 or higher for the factors related to the first component of the principle components analysis): 23 respondents) and those with the lowest scores (scoring –0.5 or less: 30 respondents) in their preferred ways of deciding where to watch birds (Figure 13). The most striking differences appear to be the tendencies of ‘birders’ to seek information from natural history organisations and books other than travel books, the tendency to seek information from the Internet, national parks and documentaries also being higher for birders. Those scoring high on the ‘thrill-seeker scale also showed a tendency to get their information from documents (Figure 14).

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

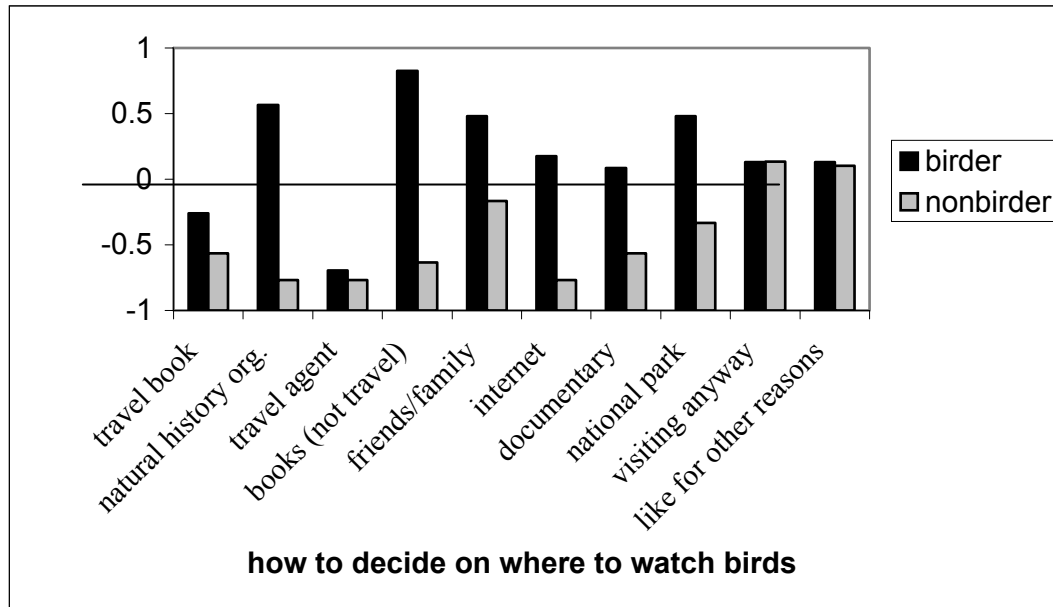


Figure 13: Methods by which respondents with the highest (23 respondents) and lowest (30 respondents) scores for 'dedicated birders' decide where to go bird-watching

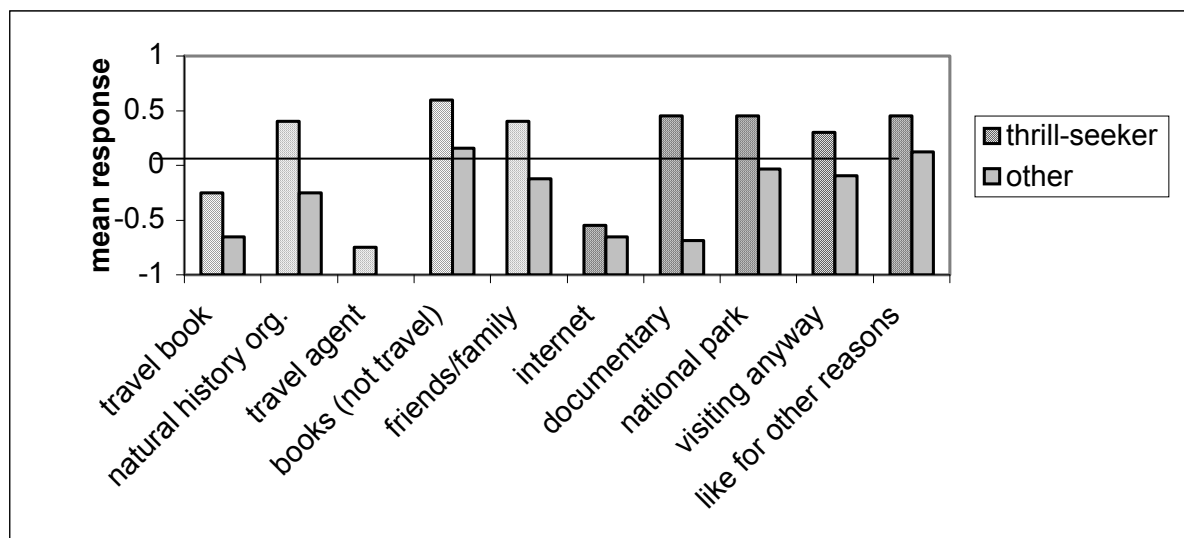


Figure 14: Methods by which respondents with the highest and lowest scores for 'thrill-seekers' decide where to go bird-watching

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

Table 15: Significant (and near-significant) results of regression analyses with decision-making responses as dependent variable [bracketed factors are those showing a negative correlation]

Decisions based on	Overall F(and P)	Independent variable	coefficient	P
<i>Travel book</i>	1.321 (0.119) NS	Like to see birds I've read about	+0.346	0.011
		Would rather disturb a bird than not identify	+0.238	0.046
		Work with birds	+2.389	0.019
		[age]	-0.244	0.038
<i>Natural history organisation</i>	2.403 (0.000)	Like to see birds unique to part of Australia visited	+2.583	0.011
		[Like to see big birds]	-0.296	0.044
		[Can identify many females and juveniles]	-2.027	0.046
		Willingly camp to see new bird	+0.285	0.012
		[Have tended injured native animals]	-0.225	0.027
		Work with birds	+0.317	0.003
<i>Travel agent</i>	0.973 (0.538) NS	[Liked to see children joining bird-walk]	-0.241	0.049
		Like to watch what birds are doing	+0.275	0.025
<i>Books (other than travel)</i>	2.289 (0.000)	Would like to identify all Australian birds	+1.93	(0.057)
		[Like to see other wildlife]	-0.258	0.008
		[Feed birds at home]	-0.227	0.021
<i>Internet</i>	1.568 (0.028)	Okay to flush birds for identification	+0.269	0.019
		[Usually carry binoculars]	-2.719	0.008
		Can identify most birds near home	+0.266	0.052
<i>documentaries</i>	1.562 (0.029)	Like to see predatory birds	+0.309	0.027
		Prefer no talking on bird-walk	+0.224	0.018
		Keep pets (other than birds) at home	+0.218	0.028
<i>National parks</i>	1.056 (0.422) NS			
<i>Do bird-watching in places going to anyway</i>	1.554 (0.030)	[Like to see birds unique to Australia]	-1.951	0.054
		[Like to see brightly-coloured birds]	-0.276	0.031
		Like to watch what birds are doing	+0.301	0.007
		Would like to identify all Australian birds	+0.271	0.040

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Decisions based on	Overall F(and P)	Independent variable	coefficient	P
<i>Do bird-watching in places liked for other reasons</i>	1.606 (0.022)	[Read about birds of destination]	-0.375	0.005
		Would like to identify all Australian birds	+0.292	0.024
		Read about destinations	+0.334	0.006
		[Work with birds]	-0.387	0.025

Analysis of favourite and well-known places for bird-watching in Australia has yet to be analysed

Table 16: Preferred places for bird-watching

Yet to be fully analysed, but some top spots included:
Lamington National Park
Werribee Water Treatment
Far north Queensland
Various observatories (e.g. Broome, Barrington Tops)

What do bird-watchers prefer on a bird-walk?

While actually on a bird-walk, almost three-quarters of the respondents like to identify all birds, about two-thirds watch what the birds are doing, and more than half like to socialise (Table 17). They were somewhat divided over whether they liked children to participate (some explaining on the questionnaire that this depended very much on the actual children involved) and whether they preferred no one to talk. They generally opted not to disturb a bird for identification, with the strongest negative reaction of all being for disturbing a nesting bird for identification. Few wanted bird-walks to last less than an hour, and still fewer said they mostly joined bird-walks because friends and family wanted them to.

Table 17: Respondents agreeing with various statements about the preferences while on a bird-walk

When on a bird-walk I:	N	% respondents
like to identify all birds I see	243	72.43
watch what birds are doing	246	65.85
enjoy the social contact	244	57.38
like to see children joining the group	236	39.41
prefer no talking	240	31.67
prefer to be alone	238	18.49
prefer a short bird-walk (< 1 hour)	239	16.74
would disturb a bird to identify it	240	8.02
join in family/friends	241	7.47
would disturb a nesting bird to identify it	237	1.67

A regression analysis with a score for working or studying with animals (response to ‘my profession/job/study involves birds’ plus ‘my profession/job/study involves other animals’) was significant overall ($F=1.772$, $df\ 176$, $P=0.048$) and individual t-tests within it showed one significant positive response, to preferring to be alone on bird-walks ($P=0.002$).

Those scoring high on the ‘dedicated birder’ scale appeared more likely to want to identify all birds seen and wanting to watch what birds are doing, and less likely to want a bird-walk to be short (Figure 15). Although few respondents in either category wanted to disturb birds while identifying them, there was more of a tendency for the high scorers to do so.

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

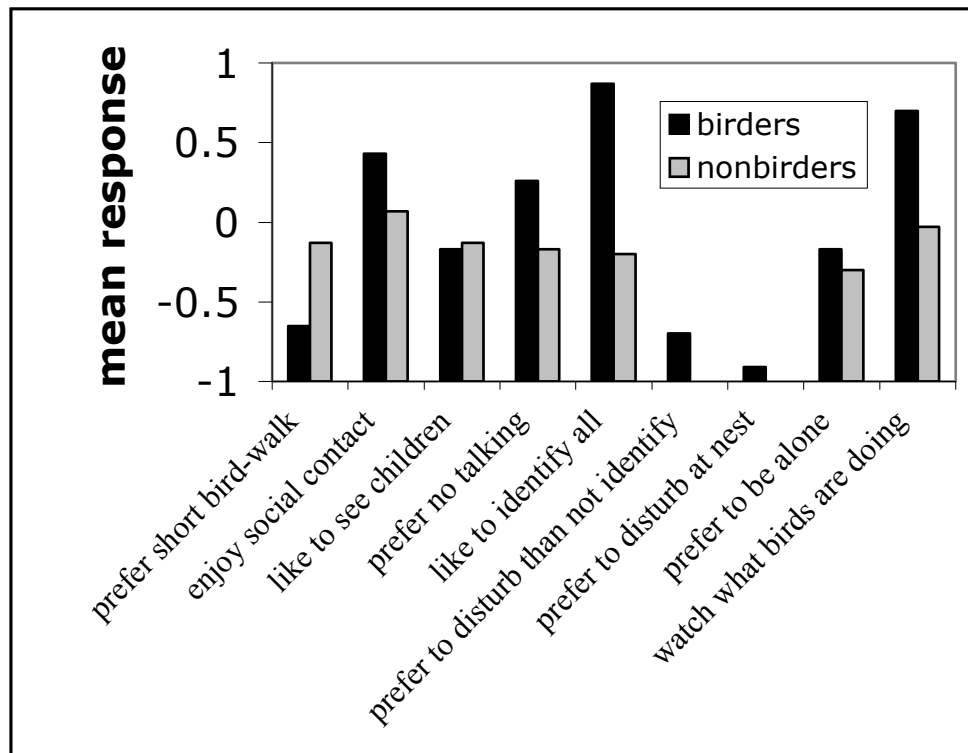


Figure 15: Preferences of those scoring very high (23 respondents) and low (30 respondents) on the ‘dedicated birder’ score (Table 8)

The high scoring ‘thrill seekers’ appeared far more likely than others to prefer to disturb birds rather than fail to identify them (Figure 16).

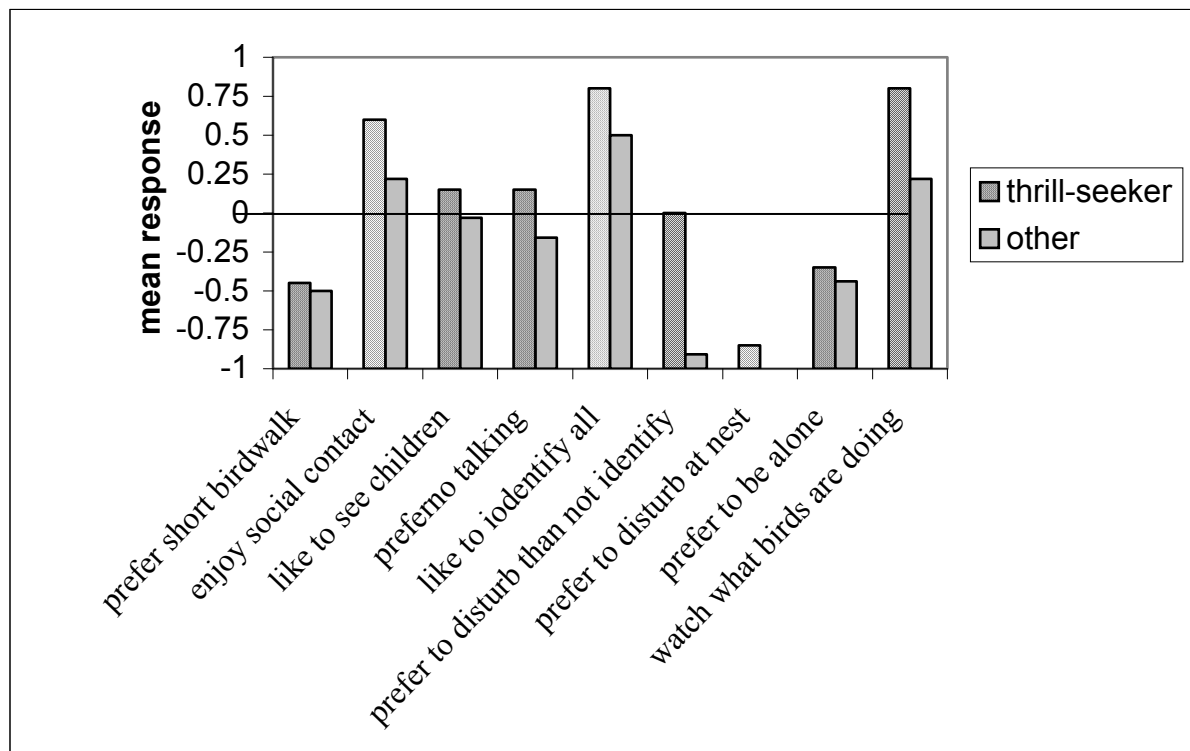


Figure 16: Preferences of those scoring very high and low on the ‘thrill-seeker’ score (Table 8)

A correlation matrix showed no strong correlations, the strongest however being between disturbing birds rather than failing to identify them and disturbing birds at nests rather than failing to identify them.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

In response to the questions on what tourists on bird-walks complain about (Table 18), there were no features complained about ‘often’. It would appear the major dissatisfactions come from discomfort, early rising and noise made by other participants, followed by not seeing enough birds. There were rare complaints about the group size being too large and children attending bird-walks, but it seems no one had complained about other participants wearing bright clothing.

Table 18: Frequency of complaints by bird-watchers as reported by bird-watching guides (total for most questions = 11, but one guide, who only leads groups of 1 to 4 in size, answered, not applicable’ to the first four questions)

How often guests complain about:	never	rarely	Some-times	often
Other participants making too much noise	4	4	2	0
Other participants wearing bright clothing	10	0	0	0
Children attending bird-walks	8	2	0	0
The group size being too large	5	5	0	0
Not enough birds being seen	5	5	1	0
Having to get up too early	6	3	2	0
Being uncomfortable (cold weather, wet grass etc)	6	3	2	0

When asked which guests tend to ask the most questions during a bird-walk, three of the 11 guides responding to the questionnaire said ‘don’t know’, ‘not applicable’ (only takes experienced birders) or ‘not apparent, and one answered ‘all of the above’. Other responses were:

- Children and their parents
- Novice and foreign visitors
- Novice birders and younger children
- Experienced birders
- Experienced, foreign
- Experienced birders re locating birds; novice—lots of general questions
- Those most interested—more to do with the individual than experienced/novice etc.

Most guides reported that bird-watchers on their guided walks often ask questions on bird identification and bird behaviour (Table 19). Questions about bird ecology and ability to identify most birds seen were reasonably common, as was a desire to photograph birds. Dropping out of the group to stop bird-watching was a rare occurrence, with dropping out to do their own bird-watching a little more common.

Table 19: Behaviour of bird-watchers as noted by tour guides

While on a guided bird-walk, guests:	never	rarely	sometimes	often
Drop out of the group to do watch birds on their own	3	4	4	0
Drop out of the group and stop bird-watching	4	6	1	0
Ask questions relating to bird identification	0	0	3	8
Ask questions relating to bird behaviour	0	1	2	8
Ask questions relating to bird ecology	0	2	6	3
Want to photograph the birds seen	2	1	7	1
Are able to identify most birds seen	1	3	6	1
Tell you things you didn’t know about the birds	3	5	3	0

When asked ‘Are there [particular seasons when more bird-watchers tend to visit, one answered ‘no’, one answered ‘yes’ (without specifying), and five did not respond. The others responded:

- Spring
- Spring and summer
- Spring (September to December) and autumn (February to April)
- Spring seems to be the busiest time for visiting birders

Responses to a open-ended question on bird-watching in Australia are reproduced in Appendix Table D.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Tour and accommodation choices of bird-watchers

A proximity matrix (SPSS) showed high correlations between the following reasons for joining commercial guided birding tours:

- learning to identify local birds and learning what books don't teach ($r^2 = 0.691$)
- willingness to join a tour to find difficult birds and for safety (0.673)
- places difficult to reach and safety (0.657)
- reaching difficult places and finding difficult birds (0.645)
- learning interesting things about birds and learning what no books teach (0.645)
- learning interesting things about birds and learning to identify local birds (0.641).

There was a non-significant trend for men to have more negative attitudes towards tours and for women to have a greater tendency to join tours for safety or for what they could learn (Figures 17 and 18).

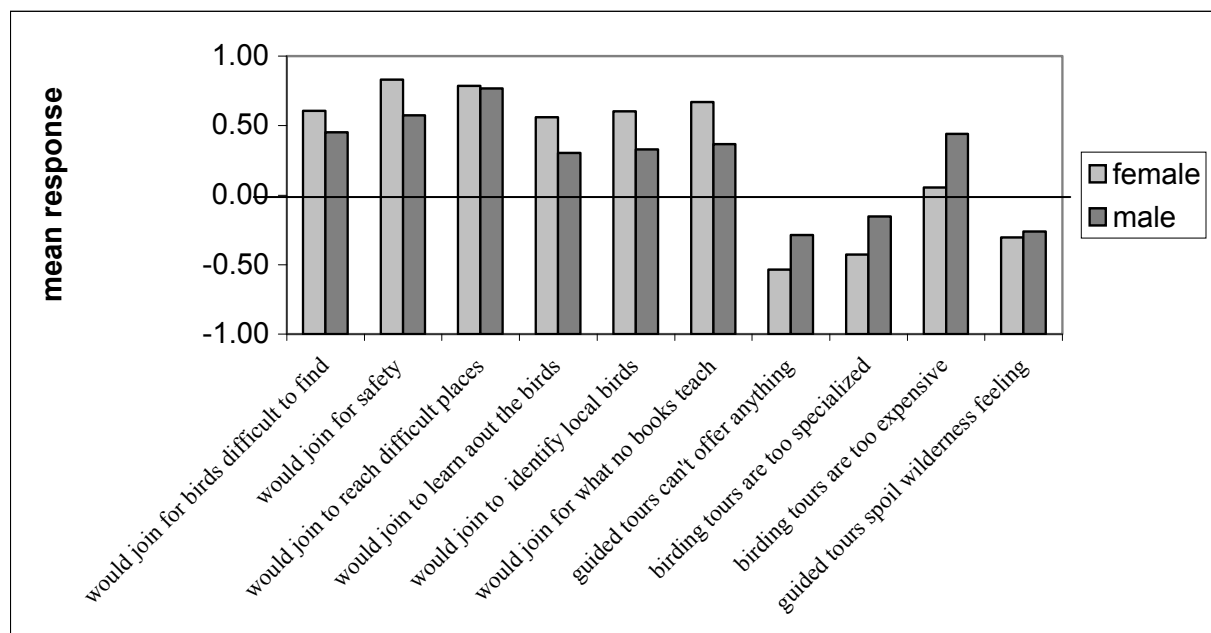


Figure 17: Opinions and preferences of respondents relating to guided tours

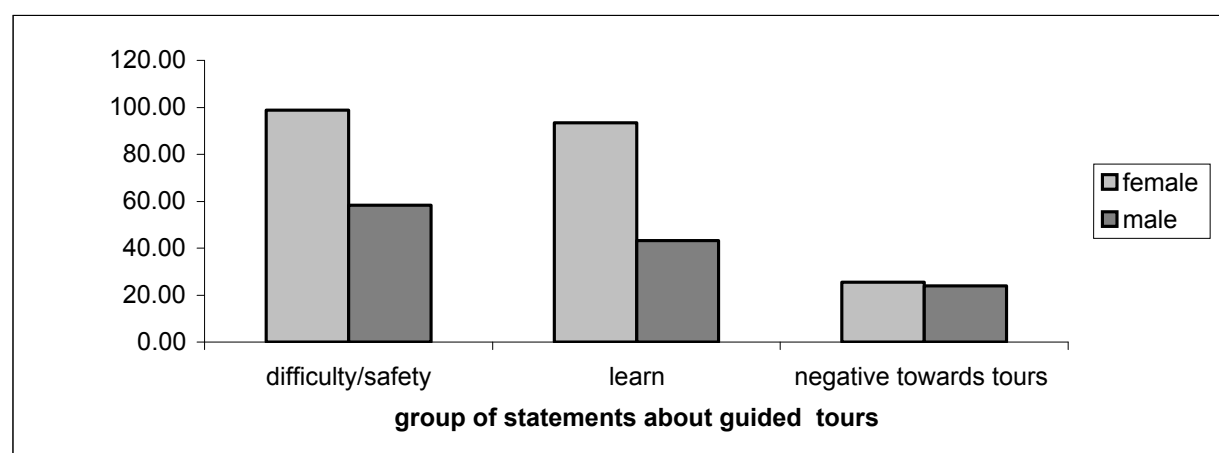


Figure 18: Grouped responses of men and women to statements about tours $\chi^2 = 1.14$, $df = 2$, $p = 0.57$ NS.

We also compared those respondents who scored highest on the summation of 'dedicated birders' features (scoring a mean of 0.7 or higher for the factors related to the first component of the principle components analysis): 23 respondents) and those with the lowest scores (scoring -0.5 or less: 30 respondents) for their preferences and opinions relating to commercial guided tours for bird-watching (Fig 19), 'birders' were

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

relatively more willing to go on guided tours for a variety of reasons. Non-birders had a much higher mean score relating to bird-watching tours being too specialised.

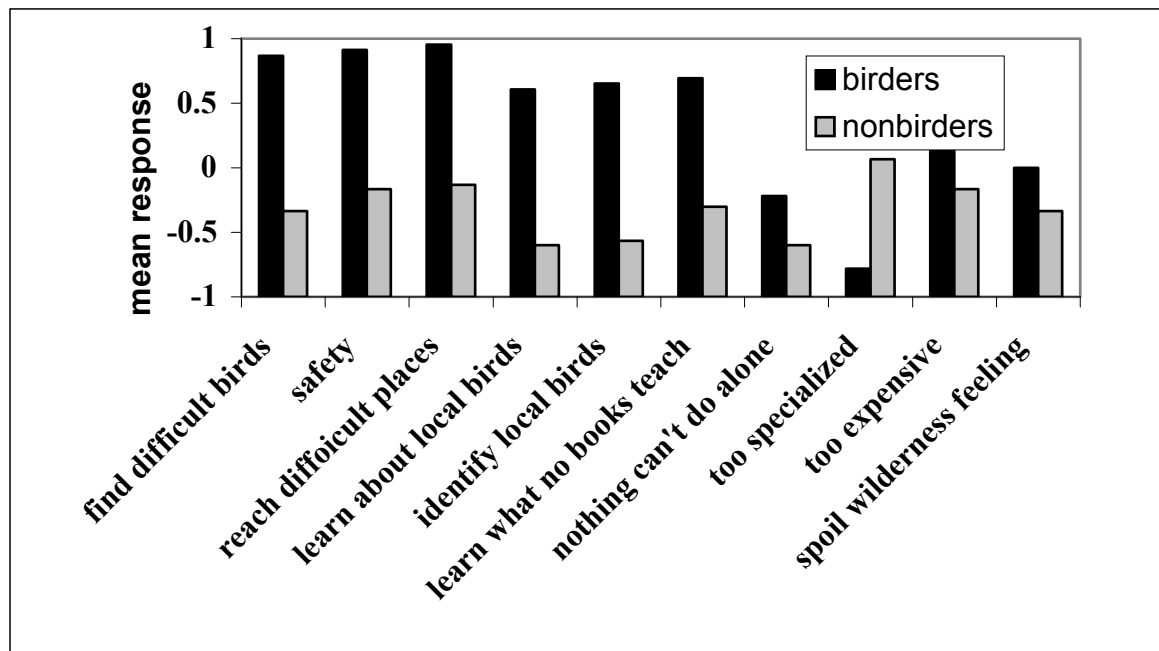


Figure 19: Preferences and opinions regarding commercial bird-watching tours by those scoring high and low on the 'dedicated birder' scale

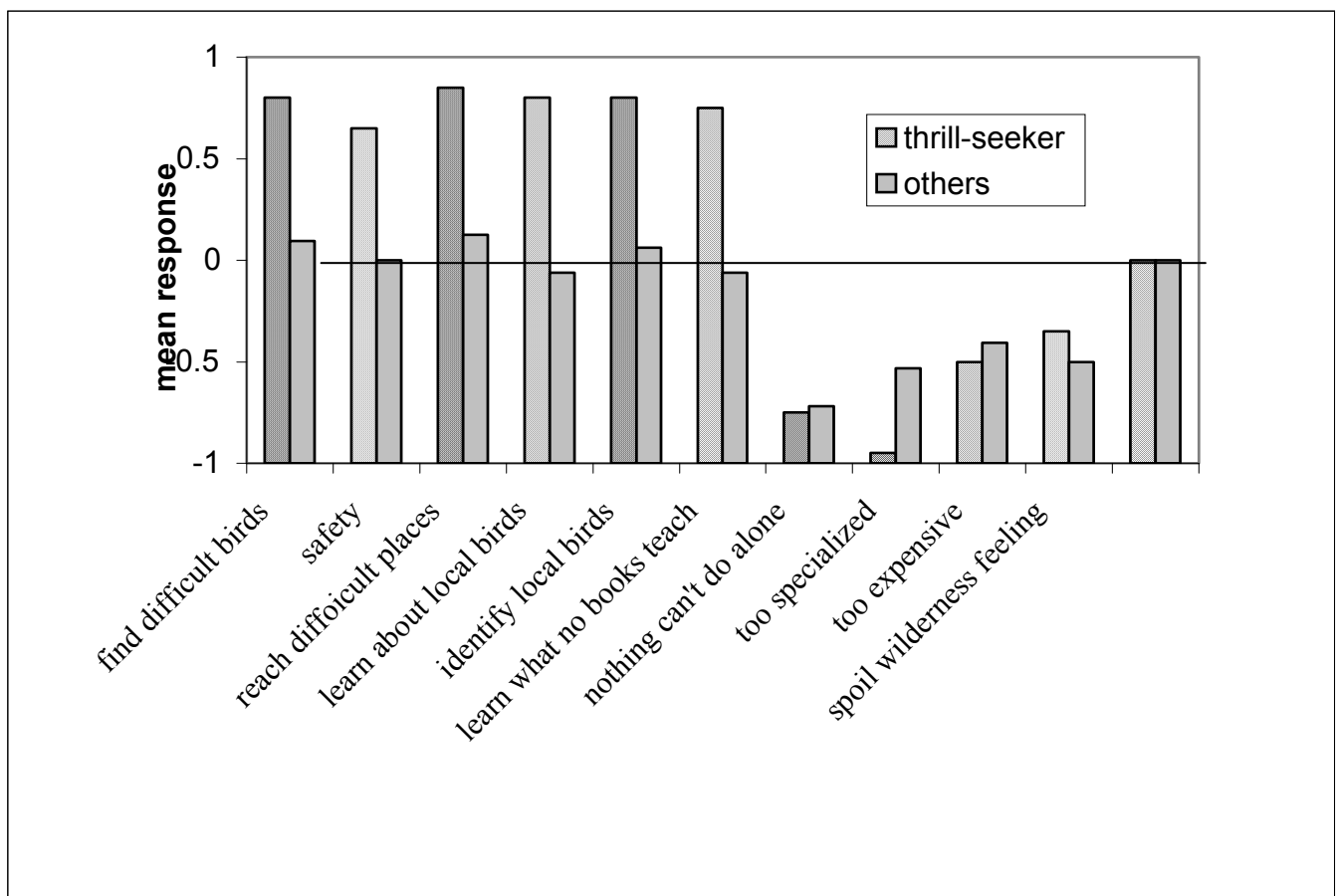


Figure 20: Preferences and opinions regarding commercial bird-watching tours by those scoring high and low on the 'thrill-seeker' scale

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Although groups 1 and 5 (see Table 8) were at opposite ends of the spectrum of bird-focused to non-bird-focused and differed in some opinions (bird tours being too specialised and their willingness to camp to see a new bird), they showed some similarities in their views on other aspects of guided tours. Respondents in both groups appeared less likely than others to think guided tours could not offer anything they could not do by themselves or to feel that guided tours spoil the wilderness feeling (Figure 21). They also appeared to be in agreement that they would join tours to learn things (Figure 22), but group 5 were relatively more inclined to join tours for safety or to find difficult birds (which may partially reflect the greater age of respondents in group 5). Groups 1 and 2 (the least 'bird-focused' were, predictably, more inclined than others to think bird-watching guided tours too specialised, but all groups had at least a slight overall tendency to think them too expensive.

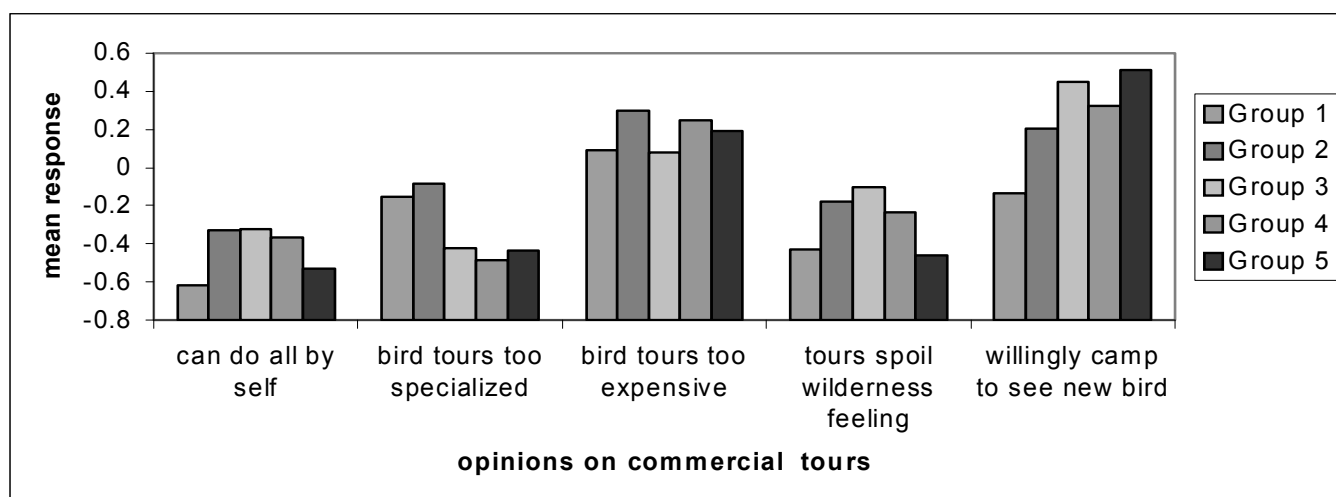


Figure 21: Responses to general statements about tours by the five groups recognised by the dendrogram (Table 8)

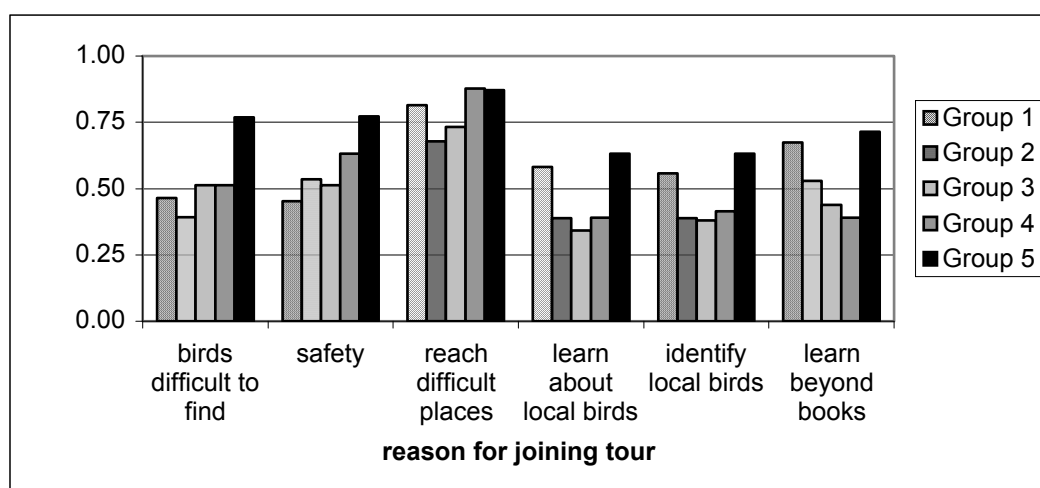


Figure 22: Responses to reasons for joining tours by the five groups recognised by the dendrogram (Table 8)

Most bird-watchers apparently would readily go bird-watching alone or with a small group in Australia (Table 20), and many would do the same in most other world regions. There was also an appreciable number who would travel alone or in small groups in western countries (including Australia) but not Africa or Latin America, and some are also disinclined to do so in Asian countries.

Table 20: Numbers of respondents who would go bird-watching alone or with a small group of people in various world regions

Respondents would go by self or small group in:	number
---	--------

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

all regions	40
most regions (including Australia)	26
most regions (but not Australia)	4
Australia (whether or not elsewhere)	136
western countries and Asia, not Africa or Latin America	62
western countries, not Africa, Latin America or Asia	14
Australia only	22
total who would go by self or small group	172

There were 51 respondents who said they would never go on a guided tour anywhere (Table 21), but would go alone or with a small group in most areas. About half this number said the reverse: that they would go on guided tours in most areas but never by themselves or with a small group.

**Table 21: Total number of respondents who said they would
always or never go bird-watching by commercial tour**

total who would go by self but never tour	51
total who would tour but never go by self	24

Of those respondents who answered 'very important' to the question of whether birds they saw were unique to Australia, 60 said they would join a guided bird-watching tour in Australia and 137 said they would travel alone or in small groups for bird-watching. There was some overlap between these two groups, with some respondents willing to do both.

Multiple regression analysis identified several factors correlated with a tendency to go on guided tours (Table 22). Chief amongst these for a general tendency to join tour groups were enjoyment of social contact, bird-watching being the respondents' favourite activity, and desire to see birds they had read about. Those choosing to go on tours also tended to get their information on where to watch birds from natural history organisations and did not tend to photograph many birds (possibly because tour groups may not wish to wait for serious photographers trying for the perfect shot). Negative attitudes towards joining guided tours were generally negatively correlated with interest in birds and other wildlife.

**Table 22: Significant (and near-significant) results of regression analyses with opinions relating to guided
tours as dependent variable: df=225**

Dependent variable	Overall F(and P)	Independent variable	Direction of correlation	P
Guided tours don't usually offer anything I can't do myself	1.329 (0.115) NS	[Like to see birds never seen before]	-	0.049
		I like hunting for sport or would like to try it	+	0.004
		find most information I need is readily available	+	0.035
Guided bird-ward-watching tours are too specialised for me	1.495 (0.050)	[Bird-ward-watching is my favourite activity]	-	0.019
		[I read about birds of my destinations]	-	(0.057)
		[I like to see other wildlife]	-	0.045
		find most information I need is readily available	+	0.040
Guided bird-ward-watching tours are too expensive	0.813 (0.791) NS			
Guided tours spoil the wilderness feeling	1.810 (0.006)	[I like to see vulnerable species]	-	0.001

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

Dependent variable	Overall F(and P)	Independent variable	Direction of correlation	P
I would join a tour for birds difficult to find	1.773 (0.007)	I like to see rare species	+	0.005
		[I enjoy social contact on bird-walks]	-	0.034
		[I like watching what birds are doing]	-	0.005
		[Bird-watching is my favourite activity]	-	0.004
		I'll probably do some bird-watching on my next trip	+	0.012
		[I'd like to be able to identify all Australian birds]	-	0.002
		[I like to see big birds]	-	(.0.050)
		I like to see birds I've read about	+	0.001
		I enjoy social contact on a bird-ward-walk	+	0.020
		[I would rather disturb a bird than fail to identify it]	-	0.042
I would join a tour for safety	0.943 (0.589) NS	Bird-watching is my favourite activity	+	0.047
		[I like hunting]	-	0.018
		I like to see other wildlife	+	0.031
		[I read about my destinations]	-	0.042
I would join a tour for places difficult to reach	1.339 (0.107) NS	I read about birds of my destinations	+	0.045
I would join guided tours (summation of all reasons for joining a tour)	2.018 (0.018) (for 'birds I like to see')	Like to see birds I've read about	+	0.000
	2.987 (0.002) (for deciding where to go birding))	Natural history organisation	+	0.002
	2.93 (0.002) (for preferences on bird-walk)	Enjoy social contact	+	0.003
	2.540 (0.000) (for various opinions relating to birds)	[Often photograph birds]	-	0.023
		Bird-watching is my favourite activity	+	0.037

When guides were asked what proportion of their guests expressed interest in specialised walks to see particular hard-to-find species, four (of the eleven who returned completed questionnaires) said less than 20%, one said 20 – 40%, one said 40 – 60 %, none said 60 – 80% and five said over 80%. This variation in part probably reflects the kind of tour operation the guide belonged to.

Respondents varied greatly in their choice of accommodation (Figure 23). While 32.13% said they usually camp when on a bird-watching trip, an almost equal number (34.54%) said they usually chose hotels. Another 21.29% said they usually stay at eco-lodges, and 16.47% at budget accommodation. These figures add to slightly more than 100%, as some respondents claimed to 'usually' stay in more than one kind of accommodation (presumably because they did in fact frequently use both kinds). There did not appear to be any consistent

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

differences between men and women. Proportion of respondents using budget accommodation declined predictably with age, and camping appears to make a sharp decline somewhere around the age of 65.

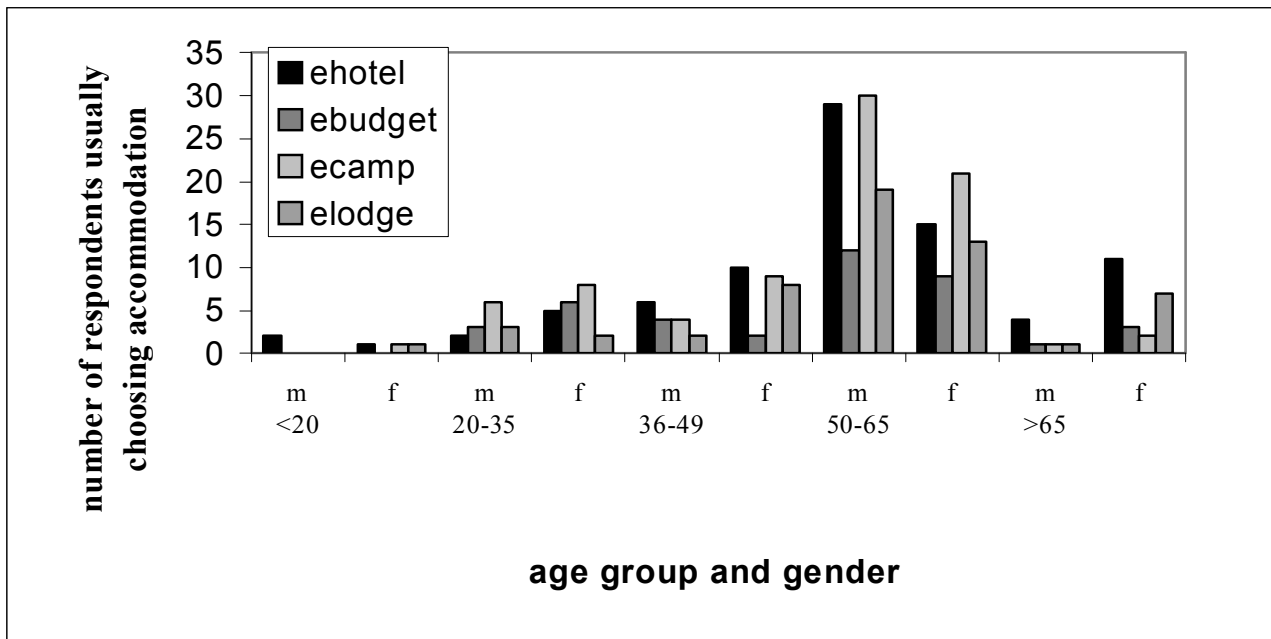


Figure 23: Numbers of respondents choosing to stay in different classes of accommodation

Those scoring high on the ‘dedicated birder’ scale were more likely than others to choose accommodation other than hotels (Figure 24), whereas there was little difference in accommodation choice between those scoring high and low on the thrill-seeker scale (Figure 25).

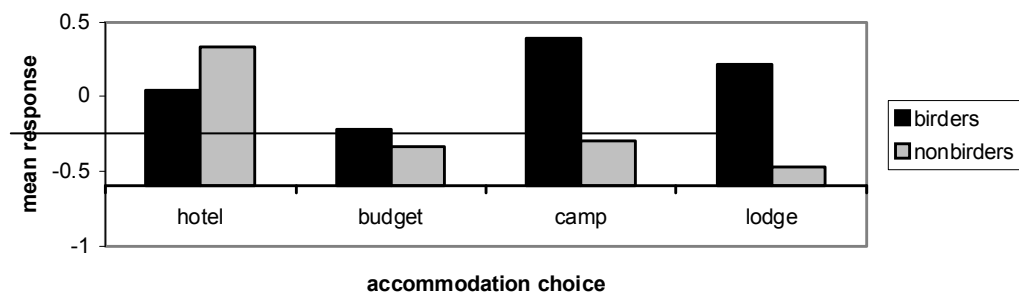


Figure 24: Proportions of ‘birders’ and ‘nonbirders’ (as defined above) choosing different styles of accommodation during their travels

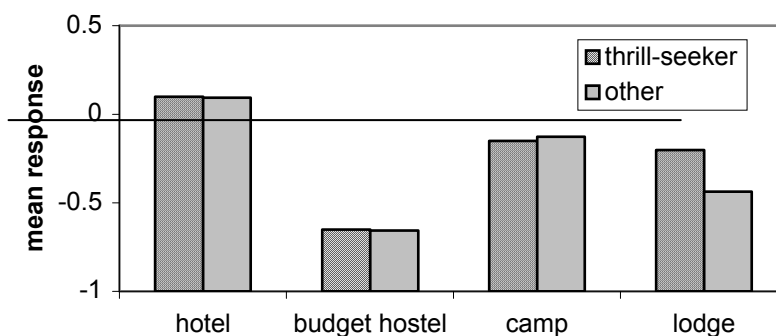


Figure 25: Proportions of ‘thrill-seekers’ (as defined above) and other respondents choosing different styles of accommodation during their travels

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

A regression analysis with a score for working or studying with animals (response to ‘my profession/job/study involves birds’ plus ‘my profession/job/study involves other animals’) as dependent variable and preferences/opinions regarding tours as independent was significant overall ($F=2.084$, $df\ 176$, $P=0.028$). Individual t-tests within it showed a significant positive response to joining tours to find difficult birds ($P=0.001$) and non-significant negative trends to join tours for safety (0.070) or identify local birds (0.056).

What equipment to bird-watchers have and where did they buy it?

In response to the questions of whether they buy or develop film in the country or state they are visiting, 34.54% said they buy film but only 21.29% said they also have it developed while travelling. A number of respondents noted that this question was not applicable to them as they had digital cameras.

Most respondents (Table 23) owned binoculars or bird books (some left this section blank, so the numbers presented here is probably an under-estimate). More than a quarter also owned recorded birdcalls, telescopic lenses for cameras or telescopes which were used for bird-watching. All items were most frequently bought in Australia, with bird books and recorded birdcalls being bought within Australia far more often than elsewhere.

Table 23: Percentage of respondents who said they owned various items used largely for bird-watching

	% bought elsewhere	% bought in Australia
binoculars	15.66	65.46
Australian bird identification book	2.81	79.52
telescopic lenses for camera	11.24	22.09
telescope or spotting scope	6.02	23.29
recorded birdcalls (for identification)	2.01	41.37

How do bird-watchers feel their experience could be improved in Australia?

The most common response to a question of what would improve the bird-watching experience in Australia (Table 24) was more time to indulge in it, followed by action on habitat clearing and other conservation issues.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Table 24: Responses to the open-ended question about what would improve the bird-watching experience in Australia

What would improve the experience	Number of respondents
more time for indulging in the activity	37
action on habitat disappearance and other conservation issues	32
better equipment (good binoculars etc)	26
more information (especially local information on good birding sites)	25
guides and tours (more local guides, national park rangers being given more time for guiding rather than toilet-cleaning etc., budget-priced tours, more tours to difficult-access areas)	24
more money (for travel, equipment etc.)	20
joining a club or other group of bird-watchers	17
better eyesight, hearing or general health	11
aids for identifying calls	10
better access to good birding sites (e.g. a softening of trespassing laws, access for disabled)	9
more hides	4

Respondents' opinions relating to conservation

Nearly two-thirds of the respondents wanted to see rare and endangered birds (Table 25). This was not significantly correlated with the keeping of a life-list (see Table 9), suggesting that the desire to see rare and endangered species was prompted by more than simply a desire to see all possible species. Around half of the respondents had belonged to conservation organisations and/or attended at least one meeting on bird conservation or general conservation issues over the past twelve years. Less than one-tenth of the respondents agreed with the feeding of wild birds in national parks, but approximately twice as many felt it was okay to feed them in less natural areas, and more than a quarter of the respondents thought it generally okay to feed wild birds if appropriate foods were used. Many considered that feeding birds gave good photographic opportunities. Almost all respondents were against hunting and disturbance of nesting birds, but some would prefer to disturb a non-nesting bird than fail to identify it or to flush birds from grass or heathlands for a sighting.

Table 25: Responses to questions relating to conservation

	% respondents
I want to see birds that are vulnerable or endangered species	61.7
During the past 10 years I have belonged to a conservation organisation	54.8
During the past 10 years I have attended a meeting related to bird conservation	51.6
During the past 10 years I have attended a meeting related to conservation generally	50.0
Feeding wild birds gives good opportunities for photography	40.7
I have tended injured or orphaned wildlife	37.5
Feeding wild birds is usually okay if the right foods are used	29.0
Feeding wild birds gives a feeling of interaction with nature	28.2
Feeding wild birds is okay in cleared or non-natural areas	18.1
It's okay to flush birds from grass or heathlands for a sighting	16.5
Feeding wild birds should be allowed in some national parks	9.3
I would rather disturb a bird than fail to identify it	7.7
I enjoy hunting for sport or would like to try it	1.61
I would rather disturb it from a nest than fail to identify it	1.6

There was little difference between 'birder' and 'non-birder' response to feeding birds, most respondents not supporting the feeding of wild birds, with an apparent uncertainty or disagreement within each group as to whether doing so gives good opportunity for interaction and photography (Figure 26).

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

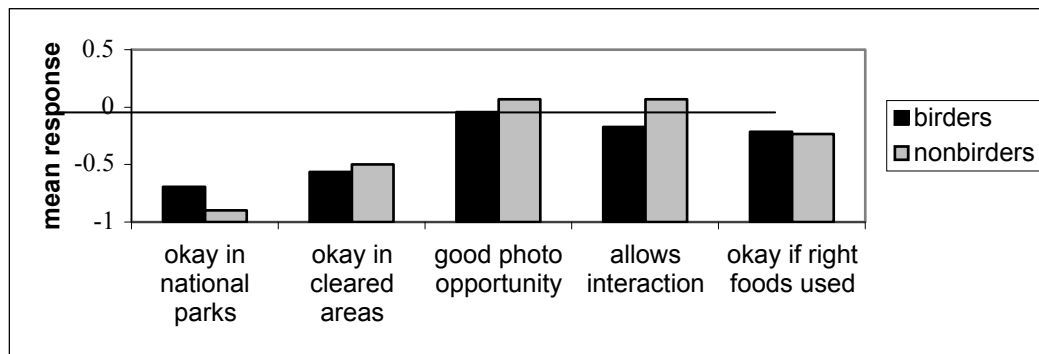


Figure 26: Opinions on feeding birds by respondents scoring high (23 respondents) and low (30 respondents) on the ‘dedicated birder’ scale (Table 8)

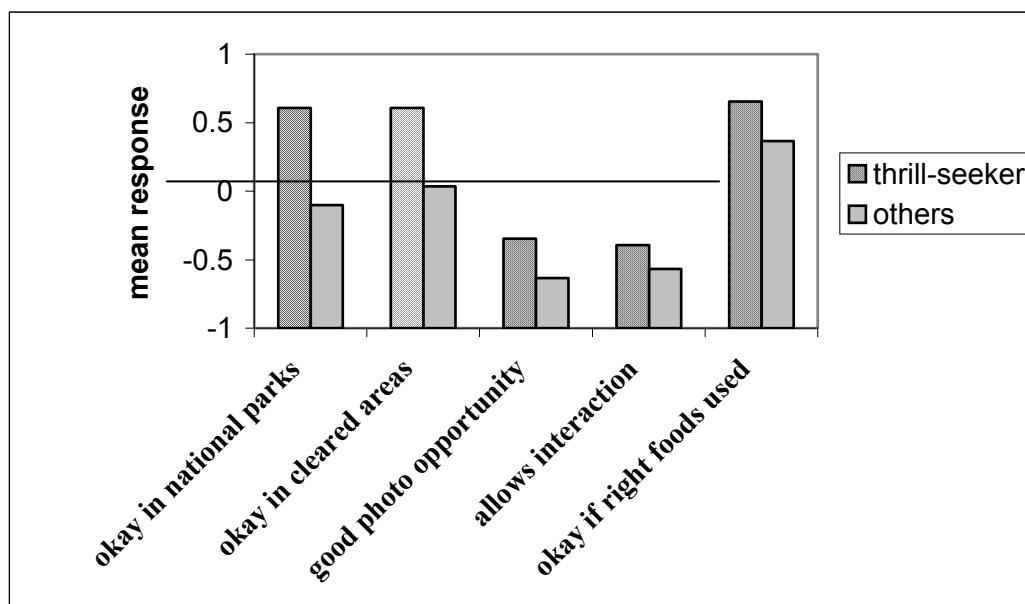


Figure 27: Opinions on feeding birds by respondents scoring high and low on the ‘thrill-seeker’ scale (Table 8)

Only one guide reported frequent cases of bird-watchers disturbing birds or behaving as though they would have if not prevented from doing so (Table 26). Most answered ‘rarely’ or ‘sometimes’ to the three questions relating to disturbance of birds. Although as one guide pointed out, this ‘depends what is meant by disturbance—fly from branch often, more serious very rare’.

Another guide noted the following: ‘Re disturbance: I try to avoid use of tapes, use very rarely and take care not to overdo. Regular local clients happy, but many visitors, especially avid twitchers, seem to expect it. Other guides use them as a matter of course, and very difficult to be competitive without doing the same’.

Table 26: Responses of guides to questions on conservation-related behaviour

Question	No. of responses			
	Never	Rarely	Sometimes	Often
How often do your guests:				
Talk loudly enough to disturb birds?	1	4	4	0
Disturb birds while trying to identify them?	3	4	3	1
[Behave as though they] would have disturbed birds if guide hadn't stopped them?	3	3	4	1

Group size is one factor which could affect not only the quality of the experience but the effect of human presence on birds (although behaviour of participants can certainly modify this, for instance a large group of

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

quiet humans would seem preferable to a small group of noisy ones). In response to a query to guides on their preferred group size, the preferred minimum range from one to four, and the preferred maximum from four to 40 (mean minimum being 2 and mean maximum 14). The wide range in these figures probably reflects the differences in tour type, ranging from small-group wilderness tours to introductory bird-walks at large eco-lodges. Guides' comments on group size included:

- Even ten is too many in some bird habitats
- For seeing bush birds small groups are definitely better—no larger than 12
- More than four is too many
- Specialise in small, personalised tours —don't like more than ten
- Ideally six to eight
- Smaller groups make it easier to handle and pass on information, but larger groups usually have kids which I try to involve
- Prefer one to two

In response to a question on the actual size of groups usually taken, five guides reported usually taking less than five persons, five reported 5 – 10, none reported 11 – 15, one reported 16 – 30 and none reported usually taking more than 30.

One-eighth of the respondents mentioned conservation issues in the open-ended questions on bird-watching in Australia (Table 24, Appendix D).

Personal observations of bird-watching tourists with relevance to conservation

Both authors have a long personal history of involvement with bird-watchers, and of bird-watching while travelling. We have only seldom witnessed bird-watching tourists seriously disturbing birds, and very rarely witnessed any problems with experienced birders. Those incidents we have witnessed however give sufficient cause for concern to suggest that vigilance is needed by tour guides and that tour guides themselves should be advised of potential problems.

One of the authors (Ronda Green) has been present on a number of nocturnal wildlife tours during the course of this study where participants have wanted to take close-up flash photographs of frogmouths and owls. It was always explained to the tourists that these birds may be temporarily blinded and collide with a branch or other obstruction, and that regular use of flashlight photography in any locality may deter the birds from using favoured hunting grounds. Most tourists accepted this without difficulty, but the occasional one was upset at not being allowed to photograph the bird with a close-up flash, suggesting that in another group or travelling alone they might have done so. Some tourists on nocturnal walks were rather slow to respond to the guide's instruction to take flashlights immediately from the direct gaze of owls or frogmouths and either drop the light to a point where the birds were illuminated by the periphery or substitute a lower-intensity or red-filtered light. One tourist on a wildlife tour refused to take the light off a sleeping hawk at night, being determined to identify it as it became increasingly disturbed and eventually (still unidentified). The vast majority of bird-watching and general wildlife tourists observed however were far more sensitive to the needs of the birds and other animals.

Wildlife tourists have been seen to want to approach nests or fledglings because of the obvious appeal of the young birds, and some tour operators have made a point of showing eagle nests to guests. Most tourists seem to understand and respect the need for non-disturbance at nests, but it is not always obvious to the less experienced amongst them until explanation is given. It is possible also that not all tour guides are aware that eagles can be prompted to desert eggs and nestlings at the approach of quite distant humans (e.g. Huxley 1994) reports that golden eagles and divers leave their nests even when 'a walker, perhaps unaware of the vicinity of the birds' is still some distance away, exposing eggs to sometimes chilling temperatures.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Chapter 4

DISCUSSION

This study is the first comprehensive examination of the practices, preferences and perspectives of bird-watching tourists in Australia. Previously, QTTC (1998) assessed the field in North Queensland from a market perspective while Jones and Buckley (2001) provided a useful but generalized overview of bird-watching tourism based on existing surveys. However, detailed information derived from a large sample of bird-watchers themselves had not been previously attempted. Although many of the responses to our survey were mainly limited to one geographical region (south-east Queensland), the bird-watchers originated from a wide range of locations, both nationally and internationally (see Tables 1 and 2). We believe that the information obtained will be of considerable value in attempts to understand this poorly studied segment of the tourism industry.

Bird-watcher diversity: defying the stereotype

In keeping with the QTTC (1998) study, most of the respondents were middle-aged or elderly. However, whether this is because most bird-watchers actually are in this age group or whether people in this age had more time, patience or inclination to fill in questionnaires is unknown. Females outnumbered males, but the same uncertainty applies. QTTC (1998) found bird-watchers equally likely to be male or female. The most common responses to the question about occupation were in accord with the QTTC finding that bird-watching tourists tended to be more educated and more affluent than general tourists, and in professional occupations. This suggests that the 'typical bird-watching tourist', if such exists, might be seen as a middle-aged or elderly well-educated man or (more commonly?) woman, which could well be borne in mind when marketing. Many also grew bird-attracting plants in their gardens, could identify most birds close to their homes, and kept pets (or had in the past) other than birds. However, bird-watchers as a whole appear to be a diverse group, and marketing should not be entirely restricted to this demographic group.

Although there were some features most bird-watchers in the survey shared (e.g. over 95% wanted to see wildlife other than birds and did not wish to ever go hunting for sport) there was also much variation, and the groups identified by the dendrogram (Table 8) were far from clear-cut. The principle components analysis (Table 7) suggests that attributes of bird-watching tourists could be grouped into 'dedicated birders' (scoring high on such items as bird-watching being a favourite activity, ability to identify females and juveniles, habit of carrying binoculars and recording what is seen), 'thrill-seekers' (liking to see birds which for instance are big, predatory, brightly-coloured, interacting with the observer, or doing something interesting), and those who have only a very casual interest in seeing birds. However, there was no evidence that 'thrill-seekers' were more or less likely than others to also be 'dedicated birders' (Figure 6), and the analysis accounted for less than half the variance before identifying groups of features which were not easily interpretable. More extensive studies with many more respondents would probably be needed to effectively ascertain meaningful groupings and their relative proportions in the bird-watching tourism community.

What is obvious is that bird-watching tourists are not simply a group of fanatical 'twitchers' who are interested only in adding new species to their life-lists and taking no further interest in the birds themselves or other wildlife (a popular view in some quarters). A number of respondents in the open-ended questions indicated that they included bird-watching as just a part of other activities such as hiking, while many others named it as their favourite activity. Seeing birds they had never seen before was important to more than three-quarters of respondents, but less than half actually kept a life-list, while over two-thirds of all respondents were 'very interested' in bird ecology and more than three-quarters in bird behaviour. Indeed, the keeping of a life-list was positively correlated with interest in bird behaviour and bird ecology, defying the idea that those who ticked off species on life-lists were necessarily interested only in a 'stamp-collecting approach to bird-watching. More than 70% of respondents said bird-watching was their favourite activity, while just over 40% claimed birds as their favourite animals, suggesting many would enjoy other kinds of wildlife-viewing just as much if it were as easy to find other animals in the wild. This is in keeping with the finding that most (94%) were interested in seeing wildlife other than birds.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Another sign that there was a diversity of people included amongst the bird-watchers was the variety of responses to open-ended questions (Appendix D)k, for example:

- ‘disgusted at conservative birders who, like non-unionists, benefit from work of conservationists, some ecotours and other tours included. GO GREENS and SOCIALIST ALLIANCE’
- ‘a wonderful, relaxing, healthy pastime, giving peace and contentment from the wonders of the detail given by our Creator through nature. Praise be to Him!’
- ‘mainly interested in plants— interest in birds is part of that’
- ‘in a time when life moves at such a fast pace, and one is bombarded with issues and an abundance of information, it would be just too difficult to cope without [bird-watching].’

Thus, although our respondents probably included a high proportion of those which QTTC (1998) would define as ‘fanatics’ or ‘twitchers’ we would agree with their conclusion that “the majority of bird-watchers do not ... conform to the stereotypical image of a bird-watcher, and should not be marketed to as such.” The overlapping of the apparent syndromes of ‘dedicated birders’ and ‘thrill-seekers’ suggests that tour operators would do well to consider what they can offer for each syndrome and for those tourists who belong to both. Tourists who do not belong to either but still at least occasionally watch birds can still be marketed to where appropriate by offering the opportunity to participate in optional short bird-walks, or by mentioning that birds are amongst the wildlife or natural features viewed while on tour or near the accommodation.

What birds do bird-watchers want to see?

There was wide variation in the features deemed important, and tourism operators should not be too narrow in their thinking about the birds that bird-watchers are interested in. There was certainly an interest in seeing rare and vulnerable species, emphasizing the importance of habitat preservation in localities where tourism can be permitted, and the training (including self-training) of guides to locate and show such birds with minimal disturbance. It is also clear however, from the results of the open-ended questions, that more common species are also important to many bird-watchers. The potential is certainly there for quality interpretation of the behaviour and ecology even of common species to expand this interest for both novice and experienced birders. What may appear so common as to be beneath the notice of some tour operators and local bird-watchers may be novel and exciting to tourists from elsewhere. One of the authors (Ronda Green) was on a tour a few years ago when an American guest asked ‘hey what’s that big black and white bird?’ The guide asked where, and kept looking but apparently failing to see it. The American tourist was getting increasingly frustrated, saying ‘right there, on the grass!’ until Ronda Green suggested to the driver that he probably meant the Australian magpie. The driver, an experienced wildlife tour leader, reacted with surprise that the magpie would be seen as something interesting, although it is one of the largest passerines, belongs to a sub-family endemic to Australia and New Guinea and has many interesting aspects to its behaviour.

‘Birds I’ve never seen before’, as might be expected from travellers, achieved one of the highest ratings, and could at first sight be interpreted as a competitive wish to expand their life-lists beyond that of other bird-watchers. The generally low score for ‘birds my friends have never seen’ (although somewhat higher for ‘dedicated birders’) argues against this, and suggests rather that the seeing of a new bird brings the satisfaction of expanding one’s own knowledge or the enjoyment of novelty, rather than a drive to ‘out-do’ others.

Tropical North Queensland operators in the QTTC study (1998) reported that international bird-watchers generally come to Australia to see particular endemic species or as many species as possible in the available time (QTTC 1998). They estimated that 80% of their customers are international, naming wealthy Americans as amongst the most ‘obsessed’ and that information on rare species is more appreciated than general bird lists. A high proportion of visitors in their study came from other parts of Australia, and there was a perception amongst operators that interest amongst Australians is growing. Some operators felt the Asian market had little if any potential, but others disagreed and especially pointed to a growing interest in Japan. One of the respondents in our own study informed us that there are about 350 bird-watching associations in Japan, suggesting a high level of interest. Numbers and diversity of origin of international tourists in our study were too low to comment on these findings.

We anticipated that ‘birds unique to Australia’ would be more important to visitors to Australia or those who had never previously watched birds in Australia. There were however no apparent differences between those who had watched birds only in Australia and those who had never watched birds in Australia (Table 11). Unfortunately our question of whether the respondent had watched birds in Australia did not specifically exclude watching birds during the current visit, so very few responded as not having watched birds here. There were

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

however no apparent differences in interest in endemism between those who had lived only in Australia and those who had never lived here.

Of 36 Australian species listed by Birdlife International (<http://www.birdlife.net/index.html>; see Appendix C) as being globally vulnerable, endangered or critical, 22 were mentioned by respondents either as favourite memories or birds they would like to see, and 18.2 % of the total responses to these questions involved threatened species. Many other memories and wish-lists included rare or hard-to-find species such as marbled frogmouths or bristlebirds. However, many also involved very common and conspicuous birds such as pelicans, galahs, willy wagtails, magpies and red wattlebirds.

Although 'big' was once of the least-selected attributes of birds, the attraction of large size should not be discounted. 14% of the responses to the questions of favourite memories and birds they wished to see collectively involved large birds. It seems likely that tourists more interested in wildlife than in birds as such are likely to see large birds such as cassowaries, eagles and pelicans as wildlife but overlook many smaller species that are highly interesting to more serious birders. The great diversity of favoured memories and 'wish-lists' suggested both are worth catering to and marketing to.

Seeing birds is not the only way of enjoying their presence. Amongst the attributes of bird life at Green Mountains, (Tisdell and Wilson 2004), 'hearing birds' was given the highest rating, followed by 'large variety or diversity of birds', 'seeing lots of birds', and 'presence of rare birds' in that order, with 'close physical contact with birds' and 'brightly coloured birds' ranking much lower. 'Birds that are singing or giving strange, memorable calls' was selected as important by less than a third of our respondents overall, but given one of the highest ratings by 'non-birders' and 'birds that are interacting with me' received one of the lowest scores both overall and by 'non-birders'.

What do bird-watchers want on bird-walks?

Identification of birds seen, watching what birds are doing and social contact emerged as the three most important factors for enjoying a bird-walk. Very few opted for walks of less than half an hour (although some did, and it is unknown whether this was due to lack of interest or perhaps physical infirmity). Guides of commercial tours would probably do well to attempt a balance between these factors.

Low scores were given to preferences for preferring no talking and being alone: presumably those who enjoy solo bird-watching usually do it alone rather than join bird-walks, although it is possible they would still enjoy specialised small-group bird tours.

Slightly less than half agreed that they liked to see children joining the group, and one wrote in the margin that it depends very much on the child involved. Some tour operators do not take children and it may well be worthwhile to mention this in their marketing, for those bird-watchers seeking an experience without children. Conversely, others may find it worth marketing the fact that they welcome children. Others might experiment with ways of striking a balance between the two if they wish to include children but also serious bird-watchers who do not want the disruption of children's voices and hyperactivity.

How do bird-watchers decide on travel destinations for bird-watching

Travel agents were not a popular means of deciding where to go birding (Table (14). This could well lead to a positive feedback system whereby travel agents underestimate the numbers of people interested in birding and therefore do not make an effort to keep information on bird-watching opportunities. Tourists interested in watching birds would therefore soon realise the lack and not seek such information from travel agents. In consulting with Birds Australia and Birds Queensland (at that time known as Queensland Ornithological Society Inc.), QTTC concluded that bird-watching organisations do not like commercial operations trying to market themselves through their newsletters, meetings, Internet chat groups etc. Such organisations however are generally happy to accept paid advertisements or informative articles about birds by tour operators.

Eighty of the respondents said that bird-watching was a major reason for visiting Australia, but 50 of these were Australian. Thus for at least 30 of the 55 non-Australian respondents, birds were at least one of the incentives for visiting Australia.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

We assume the 50 Australians meant that birds were part of their motivation for visiting other parts of Australia, which should be borne in mind by travel agents catering to interstate travel.

QTTC (1998) found the strongest markets for bird-watching tourism destinations to be word of mouth and bird-watching magazines (e.g. 'Wingspan', 'The Bird Observer'). 'Twitchers' in particular appeared to seek information from these, rather than more traditional sources such as travel agents, travel books or tour operators. 'Twitchers' were also more likely to use the Internet for such information, the Americans showing a greater tendency than British for doing so. Our own study supported the importance of word of mouth and information (presumably including publications) from natural history organisations, but suggested the Internet was not well used, either by 'dedicated birders' or by others. It is possible American bird-watchers use the Internet for birding sites more frequently than Australians and other nationalities included in our survey.

A number of respondents in our study complained that information centres and other tourism outlets have insufficient information for bird-watchers. There are some information centres that do have such information, for instance those at Boonah (Queensland), Mudgee, Orange, Dubbo and Murwillumbah (New South Wales) but there is obviously much scope for others to provide quality information on where and when to see a diversity of birds and particular species of birds. One respondent (Appendix D) made the point that the travelling time between sites in Australia makes quality information especially important.

Accommodation and other expenditure

The QTTC (1998) study found that 'twitchers' tended to camp close to good birding spots, while others tended to choose high-quality accommodation. Our own study also showed 'dedicated birders' to be more likely to camp or to (less commonly) stay in lodges rather than hotels. Camping appeared less popular amongst those over 65, but it would seem a mistake for tour leaders and others in the industry to expect it to necessarily decline soon after middle-age, as it was still highly popular in the 50 – 65 age group. Campers may not spend much on camping in some regions, but it would be of interest to know how much they spend on petrol, food and other supplies in places visited compared to expenditure in the cities they typically depart from, and also how frequently foreign visitors buy camping supplies such as tents, sleeping bags and cooking equipment within Australia. Managers of camp grounds close to habitats with a diversity of birds or supporting rare or particularly interesting species might do well to promote this in their advertising (beyond the common inclusion of 'bird-watching' with no further details amongst activities). Tour operators should note that many bird-watching enthusiasts are very willing to camp, and that many said most bird-watching tours are too expensive for them: by including at least some nights of (comfortable) camping in interesting places, the cost of some tours could be reduced.

Although many bird-watching tourists in our study (about one-third) said they usually camp when on bird-watching expeditions, a substantial proportion usually stay in hotels or eco-lodges, while a relatively small proportion stay in budget accommodation. This suggests their expenditure while travelling around Australia could be substantial. Additionally, most owned Australian bird books, the great majority of which were bought within Australia. Over 40% owned recorded birdcalls, most of which were bought in Australia. Binoculars (which most respondents owned), telescopes and telescopic lenses were also bought in Australia more often than elsewhere. These figures mostly include Australians but also some overseas visitors, and suggest a healthy input into the Australian economy.

Tisdell and Wilson (2000) found that on average, day-trippers to Green Mountains spent \$19 per day in the area, patrons of the Guest House \$216 per day and campers at the Queensland Parks and Wildlife Service campground \$23 per day, and those staying overnight elsewhere in the district \$90 per day. One American respondent wrote, in response to one of the open-ended questions: 'We've arranged our entire tour to maximise naturalist hikes, birding and gorgeous scenery, avoided groups > 10 – 12, had some opportunities through friends not available to most tourists. Keep nature tourism small scale!!! Australia will get >\$10,000 US on our ecotourism this year'.

Problems expressed by tour guides

Bureaucracy and the expense of licences is a problem for small businesses generally, and bird-watching tour operations are no exception. One of the guides responding to the questionnaire for bird-watching tour guides

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

commented 'I operate Australia-wide. The amount of permits, accreditation, licences, insurance requirements, etc. I face is enormous. Maybe I'm the only one, or the only one that cares about the paperwork, but it costs much time and money. If it's okay to do things in one state, other states should accept by mutual recognition'.

There is certainly frustration amongst bird-watching tourism operators that tourist agencies do not take bird-watching tourism seriously. One tour guide complained that the tourism industry saw it only as a minor niche market. "At an ATC seminar a couple of years ago," she wrote, 'gay and lesbian tourism was highlighted as an important tourism nice. Yet bird-watching never rated a mention, even though international bird-watchers count Australia as one of the most important countries to visit because of our unique taxa! ... Because the tourism authorities are ignorant they're missing bird-watching tourism' Bird-watching tourism is a niche market, but perhaps not as small as some imagine, perhaps because of the positive feedback cycle mentioned above - travel agents not providing information because they do not get many queries, and bird-watchers not approaching travel agents because they lack information. If information is provided by travel agencies for travelers who express an interest, not just in bird-watching but in wildlife or nature tourism generally, and the availability of such information promoted in tourist literature, perhaps this situation could slowly change.

How can the tourism industry enhance bird-watchers' experiences in Australia?

The provision of quality information is important, especially the kinds of birds to be seen in local areas and when and where to look for particular species or for a good diversity of birds. Enhancement of communication between information centres and bird-watching organisations may help the former to acquire information. In some rural areas it could also provide additional income for experienced bird-watchers to lead excursions for visiting tourists (although increases in public liability premiums in recent years may negate such advantage).

Travel agencies could also provide information on useful books and websites that visitors might seek out, and much more information than is currently available information on camping grounds and accommodation close to good birding areas.

The concern for conservation of birds and their habitats (Table 24, Appendix D and next section of report) suggests that the tourism industry should not only support conservation of bird habitat (and, where appropriate, habitat restoration) but be clearly seen to be doing so.

Although there was praise for good guides, and the authors of this report know of a number of very good and knowledgeable guides of bird-walks, there are some problems. One guide who responded to our questionnaire wrote that because tourism authorities do not take bird-watching seriously enough 'that's resulting in ignorant operators advertising bird-watching and getting away with it'. She cited examples of serious misinformation about birds by untrained guides. Guidelines and training for guides and appropriate accreditation may improve the situation, and raise the credibility of birding and wildlife tours in Australia.

Some respondents, while opposing feeding in national parks, were less inclined to oppose it in less natural areas, and provide food for birds other than bird-attracting plants at their own homes. Many felt it provided good photographic opportunities. One New Zealander wrote 'Before living in Oz I thought feeding wild birds was wrong, but in city backyard feeder gives hours of enjoyment for everyone, is part of Aussie culture with huge numbers of parrots—easy to believe no negative effect'. A paper by Howard and Jones (2004) showed that about one-third of Brisbane residents provide food for wild birds: this surprisingly high proportion suggests it to be a popular and satisfying activity for many people. It is possible that conservation problems may be outweighed in well-regulated feeding stations by the positive bonding that people gain from close contact with birds, although this needs further study (Green and Higginbottom 2001). Any feeding of wild birds for tourists however should be done within guidelines prepared by persons with a knowledge of bird ecology.

Other suggestions include provision of more hides, provisions of more general tours which include bird-watching, and availability of low-cost self-catered birding tours (Table 24, Appendix D).

Bird-watchers and conservation

There appeared to be a general awareness of and concern for conservation. Very few said they would prefer to disturb a bird rather than fail to identify it (although there are many possible interpretations of 'disturb') and preferring to disturb a nesting bird achieved one of the lowest of all ratings.

One-eighth of the respondents mentioned concerns about bird conservation in the open-ended questions (Table 24, Appendix D).

Most respondents did not enjoy hunting for sport or wish to try it. It would be interesting to repeat this questionnaire with more respondents from America and other countries where hunting is practiced by a relatively large %age of the population. The proportion of hunters who are also bird-watchers is unknown. Nor is it known for instance whether those who are both hunters and bird-watchers would show concern for conservation issues in other ways, or prefer solo bird-watching to joining a group. The latter however is suggested by the negative correlations between a liking of hunting and tendency to join a commercial tour.

Attitudes to feeding varied, but most considered it quite inappropriate in national parks. 'Dedicated birders' seemed less inclined than others to feed birds at home, possibly because they are more aware of adverse effects of increasing the populations of some species over others, but more inclined to plant bird-attracting plants.

The feeding of birds at picnic tables and camping grounds is common (pers. obs.), and an obvious temptation to many people who like birds. Interaction with birds did not figure highly in our respondents' answers, but did achieve positive scores with some, and feeding is the most common way of interacting with wild birds. One wildlife tourist from New Zealand expressed annoyance to Ronda Green that national parks forbade feeding: 'Don't they realise we come here to see these creatures?' It was explained to her, as to other tourists, that the regular feeding of one species may cause it to increase to the eventual detriment of others, that they may become dependent on human handouts, and that appropriate foods may not always be offered. She understood this but she and others still felt it would be satisfying to be allowed to feed appropriate food to appropriate species in other, less natural areas where preserving a natural ecosystem was already impossible.

If feeding is to be allowed in some situations, there should be more research on the effects of different foods in different seasons (although we do know some generalities, such as more protein being needed for raising nestlings, and more energy reserves needed before migration). We also need to know the effects on the birds' behaviour, which can be subtle and affect other species. For instance, the provision of fruiting shrubs such as hawthorn and cotoneaster in New England seem to have encouraged pied currawongs to remain in the district during winter, ready to prey on nestlings of other species in early spring (H. Recher, pers. comm.).

Other conservation concerns we know too little about are the effects of various kinds of behaviour on different species while spotlighting, and the effects of regular bird-watching activity in any locality on the more cryptic species such as quail, button-quail and nightjars (see Green and Higginbottom 2001).

There was insufficient time available within this study to conduct research into the actual practices of bird-watching tourists, but some preliminary observations were made. Only very occasional serious disturbances (i.e. activities that resulted in something more than just inducing a diurnal non-nesting bird to fly from a tree during daylight hours) were witnessed, and tour guides reported very few problems. Several guides did indicate that birds would have been disturbed more often if they had not intervened, and this concurs with observations by Ronda Green, and although the rate even of such potential disturbance appears to be low it could well be problematical where threatened species or fragile habitats are involved. The disruption of natural ecological processes in protected areas or wilderness could also be a potential problem, especially with large groups or inexperienced guides and bird-watchers.

Most cases of disturbance to birds (apart from the apparently non-serious event of a non-breeding bird flying from one tree to another while being followed) do appear to be due to lack of understanding rather than lack of caring. This concurs with the finding that most respondents were against disturbing birds, especially at their nests, against hunting and against feeding in national parks. It implies the need for guidelines.

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Guidelines (for both tour operators and individual tourists) should not be so vague and general as to be difficult for the less experienced to apply in real situations. What is ‘too close’ to the nest of one bird for instance may be very different for another. We know eagles will desert at much greater distances than many colonially-breeding birds (Huxley 1994) we know quite a lot about what disturbs penguins, even to the point of deserting their eggs (Fowler 1999, Geise 1996 McClung *et al* 2004). We know far less about the critical distances for many forest and grassland birds, although many experienced birders will have at least some idea for birds they are especially familiar with, and the actual behaviour of observers will influence the distance at which they can safely watch. There is an obvious need to collate and disseminate what is known for provision of useful guidelines, and to recognize what is not known to direct further research.

A final note

We are very aware of the time that has elapsed for various reasons between the conducting of this study and publication of the results. Rather than update the discussion now with recent references, we are presenting it at the state of our knowledge on completion of the study, and future publications will explore this in the light of more recent work.

APPENDIX A: Questionnaire distributed to bird-watchers

Bird-watching Tourism in Australia

Hi!

This questionnaire forms part of a study for the CRC for Sustainable Tourism, based at Griffith University.

We are attempting to find out what people are most interested in when bird-watching. We are also trying to understand the diversity amongst people who watch birds (from keen birders to those who may only occasionally join in a bird-walk because friends want them to). The final results of the study will help us to offer advice to the tourism industry, conservation agencies and interpretive centres.

PLEASE NOTE:

You are a bird-watcher even if you have only been on **one** bird-watching walk!

If you **don't have time** to do all questions, please do the sections marked with ♦♦♦, and then—if time permits—those with ♦. If you can do it all—great!!!

All information is kept strictly confidential (so please do not record your name on this form)

**Many thanks for assisting us with this
survey!**

The **Cooperative Research Centre for Sustainable Tourism** was formed in 1997 as a partnership between universities, governments and the industry to provide reliable knowledge for and of tourism nationally and internationally. This survey is part of research program investigating wildlife tourism.

For more information visit: www.crctourism.com.au

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

◆◆◆The birds I like to see◆◆◆

Score the importance **to you** for each of the following by ticking the appropriate box.

I particularly like to see birds that are:

	Little or no importance to me	Of some importance to me	Very important to me
unique to Australia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
unique to the part of Australia I'm visiting.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
rare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vulnerable or endangered species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
species I've never seen before	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
species my friends/colleagues/family have never seen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
brightly-coloured, elegant or attractive in some other way.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
exhibiting unusual or intriguing behaviour	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
interacting with me (e.g. approaching for hand-feeding).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
readily photographed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
big (eagles, cockatoos, herons etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
predatory (eagles, owls etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
singing or giving strange, memorable calls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
species I've read about or seen on documentaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

◆◆◆How I decide where to see them◆◆◆

My decisions on where to go bird-watching (other than close to home) are based on:

	Rarely/never	Sometimes	Often
travel books.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
natural history (including bird) organisations.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
travel agents or travel agency literature.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bird books or bird journals.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
advice of friends/family.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
documentaries.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Park (or similar) literature.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
places I'm going to anyway to visit friends or relatives etc..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
places I like for other reasons (e.g. seaside, forest).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other.....			

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

◆My attitudes to birds and bird-watching◆

Tick the appropriate box to indicate how much you agree with the following statements:

Generally | Neither | Generally | DON'T
DISAGREE | D nor A | AGREE | KNOW

When I'm bird-watching I: ☐ ☐ ☐ ☐

(please answer even if you've only been bird-watching once) Dis Agr DK

- soon get bored unless there is an entertaining guide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- enjoy socializing with other bird-watchers.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- like to see children joining the group.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- prefer no one to talk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- like to identify every bird I see.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- would rather disturb a bird than fail to identify it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- would rather disturb it from a nest than fail to identify it...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- prefer to be alone.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- spend a lot of time watching what the birds are doing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- join in mainly because family or friends want me to.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to add as many species as possible to my life-list	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>(i.e., a list of all bird species seen during one's lifetime)</i>				
It's okay to flush birds from grass or heathlands for a sighting...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Putting names to everything spoils appreciation of beauty.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bird-watching is one of my favourite activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'll probably do some bird-watching next time I travel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Birds are my favourite animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy sketching or painting birds.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can identify females and juveniles of many Australian birds...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I would like to be able to identify every Australian bird	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am very interested in the ecology of birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am very interested in the behaviour of birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy hunting for sport or would like to try it.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I usually read a lot about any destination before visiting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often read about birds of my destination before visiting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have traveled internationally to re-visit a bird-watching site...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guided tours spoil the wilderness feeling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Generally | Neither | Generally | Don't
DISAGREE | D nor A | AGREE | know

When travelling I: ☐ ☐ ☐ ☐

- often carry binoculars just in case I see an interesting bird ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- often record what birds I see(e.g. in a notebook)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- often take photos of wild birds.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- am keen on seeing wildlife (other than birds).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- often visit national parks or reserves for bird-watching.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

- willingly go camping to see a bird I've never seen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- find most information I need is readily available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>I would join a guided commercial bird tour:</u>				
- to see species which are rare or difficult to find	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- in areas where solo travel may not be safe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- if it took me to places I couldn't normally reach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- to learn interesting things about local birds.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- to help me learn to identify birds of the locality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- to learn things that are not easily gleaned from books.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guided tours don't usually offer anything I can't do myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most bird-watching tours are too specialised for me.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most bird-watching tours are too expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Feeding wild birds:</u>				
- should be allowed in some national parks.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- is okay in cleared or non-natural areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- gives good opportunities for photography.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- gives a feeling of interaction with nature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- is usually okay if the right foods are used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>At home (including any previous home) I:</u>				
- have raised or tended orphaned or injured native birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- can identify most local birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- have kept pet birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- have kept other pets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- grow native plants to attract birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- feed wild birds (other than by growing food plants)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My general involvement with birds and other wildlife

<u>My job / profession / study:</u>	seldom- never	sometimes	often
involves birds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
involves other animals or plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I belong to (or have belonged to in the past 10 years) to at least one:

- ☐ bird-watching organisation
- ☐ other natural history organisation
- ☐ conservation organisation
- ☐ wildlife caring group (i.e. raising orphaned or injured animals)
- ☐ breeding or other captive bird group
- ☐ bush-walking group
- ☐ photography group
- ☐ travel club

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

I have attended (during the past 10 years):

- ☐ travel talks which have included bird-watching advice
- ☐ adult education classes on birds
- ☐ conferences focussing on birds
- ☐ public talks (e.g. at museums) on birds
- ☐ photography classes including advice on bird or wildlife photography
- ☐ meetings relevant to bird conservation
- ☐ meetings relevant to wildlife conservation generally

I possess the following (or regularly use one belonging to my family) largely for bird-watching:

(tick correct box as appropriate) bought in:

Australia | Elsewhere

Binoculars	<input type="checkbox"/>	<input type="checkbox"/>
Australian bird identification book.....	<input type="checkbox"/>	<input type="checkbox"/>
Telescopic lens for camera.....	<input type="checkbox"/>	<input type="checkbox"/>
Telescope or spotting scope.....	<input type="checkbox"/>	<input type="checkbox"/>
Recorded birdcalls (for identification)	<input type="checkbox"/>	<input type="checkbox"/>

World travel

	Australia	UK, Europe	Africa or Latin America	Asia	USA / Canada	New Zealand	Other Pacific	Other
Where I've been :								
I have lived in:								
I have been bird-watching in:								
Bird-watching was one of my major reasons for visiting:								
<u>What I would do IF visiting:</u> (whether or not I've actually been there)								
<u>If</u> I was bird-watching in this region I would probably join at least one bird-watching tour								
<u>If</u> I was bird-watching in this region I would probably do it alone or with a small group:								

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

While travelling:

never occasionally usually

I stay in hotels or motels

☐ ☐ ☐

I stay in hostel/budget accommodation

☐ ☐ ☐

I camp in or near natural areas

☐ ☐ ☐

I stay in lodges or guests houses in / near natural areas

☐ ☐ ☐

I buy film in the country/state I'm visiting

☐ ☐ ☐

I have photos developed in the country/state I'm visiting

☐ ☐ ☐

◆◆◆Other information ◆◆◆

Are you: male ☐ female ☐ ? (tick appropriate box)

☐ <14 years ☐ 14 -19 ☐ 20-35 ☐ 35-49 ☐ 50-65 ☐ >65?

What is your main (not necessarily current) profession/employment/study?.....
(Please be fairly specific—e.g. “industrial biochemist” rather than “biologist”)

What is your nationality?

Please tell us 3 of your most memorable bird sightings in Australia

.....
.....

Name 3 Australian birds you would particularly like to see in the future

.....

Three parts of Australia that are exciting for bird-watching are:

.....

◆ Something that would really improve my bird-watching experiences in Australia would be: ◆

.....

Any other comments on bird-watching in Australia?

.....

.....

Thank you very much once again for taking the time to fill in this survey!

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

APPENDIX B: Questionnaire distributed to bird-watchers

**Questionnaire for tour guides and other nature interpreters who lead bird-
watching activities**

1. What proportion (approximately) of people staying at or visiting your establishment or park join a bird-watching activity or an activity which includes bird-watching?

Day visitors: ☐ <20% ☐ 20-40% ☐ 40-60% ☐ 60-80% ☐ >80%

Staying overnight or longer ☐ <20% ☐ 20-40% ☐ 40-60% ☐ 60-80% ☐ >80%
(if applicable)

Not applicable—I run tours, and am not based at a particular destination ☐

2. What proportion (approximately) do some bird-watching on their own while either visiting or staying at your establishment or park?

☐ <20% ☐ 20-40% ☐ 40-60% ☐ 60-80% ☐ >80%

Not applicable - I run tours, and am not based at a particular destination ☐

3. What proportion of people joining bird-watching activities express interest in a specialised walk to see particular hard-to-find species?

☐ <20% ☐ 20-40% ☐ 40-60% ☐ 60-80% ☐ >80%

4. What size group do you usually lead for bird-watching activities?

☐ <4 ☐ 5-10 ☐ 11-15 ☐ 16-30 ☐ >20

5. What range of group sizes do you lead for bird-watching? From to people in a group.
Any comments on group size?

6.

How often do guests complain about:	Never	Rarely	Sometimes	Often
other members of the group making too much noise:				
other members of the group wearing bright clothes:				
children attending bird-walks				
the group size being too large				
not enough birds being seen				
having to get up too early				
being uncomfortable (cold weather, wet grass etc)				
anything else				

PTO : Just a few more questions on the other side of this page

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

Questionnaire for tour guides other nature interpreters (continued)

7. Who tend to ask the most questions about birds? (e.g. experienced birders, novice bird-watchers, children, foreign visitors?)

.....

8.

<u>How often would people in the bird-watching group you are leading:</u>	Never	Rarely	Sometimes	Often
drop out of the group to look at birds on their own?				
drop out of the group and stop bird-watching				
ask questions relating to bird identification?				
ask questions relating to bird behaviour?				
ask questions relating to bird ecology?				
talk loudly enough to disturb birds?				
want to photograph the birds you see?				
be able to already identify most of the birds you see?				
disturb birds while trying to identify them?				
would have disturbed birds if you hadn't stopped them?				
tell you things you didn't know about the birds?				

9. Are there particular seasons when more bird-watchers tend to visit?

10. Any other comments you'd like to make?:

.....

Many thanks for filling out this questionnaire!

We hope the results of this survey will ultimately be of value to bird-watchers, tour guides and nature interpreters, and indirectly to bird themselves.

Return this form in the reply-paid envelope to Ronda Green, AES, ENS, Griffith University, Nathan Qld 4111

The **Cooperative Research Centre for Sustainable Tourism** was formed in 1997 as a partnership between universities, governments and the industry to provide reliable knowledge for and of tourism nationally and internationally. This survey is part of research program investigating wildlife tourism.

For more information on the CRC visit: www.crctourism.com.au

APPENDIX C: Globally threatened species in Australia

(from Birdlife International (<http://www.birdlife.net/index.html>))

Species	Category
Southern Cassowary (<i>Casuarius casuarius</i>)	vulnerable
Rockhopper Penguin (<i>Eudyptes chrysocome</i>)	vulnerable
Fiordland Crested Penguin (<i>Eudyptes pachyrhynchus</i>)	vulnerable
Snares Crested Penguin (<i>Eudyptes robustus</i>)	vulnerable
Royal Penguin (<i>Eudyptes schlegeli</i>)	vulnerable
Wandering Albatross (<i>Diomedea exulans</i>)	vulnerable
Black-browed Albatross (<i>Thalassarche melanophrys</i>)	endangered
Grey-headed Albatross (<i>Thalassarche chrysostoma</i>)	vulnerable
Southern Giant-petrel (<i>Macronectes giganteus</i>)	vulnerable
Gould's Petrel (<i>Pterodroma leucoptera</i>)	vulnerable
Providence Petrel (<i>Pterodroma solandri</i>)	vulnerable
White-chinned Petrel (<i>Procellaria aequinoctialis</i>)	vulnerable
Australasian Bittern (<i>Botaurus poiciloptilus</i>)	vulnerable
Red Goshawk (<i>Erythrorhynchus radiatus</i>)	vulnerable
Malleefowl (<i>Leipoa ocellata</i>)	vulnerable
Black-breasted Buttonquail (<i>Turnix melanogaster</i>)	vulnerable
Buff-breasted Buttonquail (<i>Turnix olivii</i>)	endangered
Plains-wanderer (<i>Pedionomus torquatus</i>)	endangered
Sarus Crane (<i>Grus antigone</i>)	vulnerable
Lord Howe Woodhen (<i>Gallirallus sylvestris</i>)	endangered
Carnaby's Black-cockatoo (<i>Calyptorhynchus latirostris</i>)	endangered
Superb Parrot (<i>Polytelis swainsonii</i>)	vulnerable
Golden-shouldered Parrot (<i>Psephotus chrysopterygius</i>)	endangered
Orange-bellied Parrot (<i>Neophema chrysogaster</i>)	critical
Swift Parrot (<i>Lathamus discolor</i>)	endangered
Night Parrot (<i>Geopsittacus occidentalis</i>)	critical
Albert's Lyrebird (<i>Menura alberti</i>)	vulnerable
Noisy Scrub-bird (<i>Atrichornis clamosus</i>)	vulnerable
Mallee Emuwren (<i>Stipiturus mallee</i>)	vulnerable
White-throated Grasswren (<i>Amytornis woodwardi</i>)	vulnerable
Western Bristlebird (<i>Dasyornis longirostris</i>)	vulnerable
Eastern Bristlebird (<i>Dasyornis brachypterus</i>)	endangered
Forty-spotted Pardalote (<i>Pardalotus quadragintus</i>)	endangered
Regent Honeyeater (<i>Xanthomyza phrygia</i>)	endangered
Black-eared Miner (<i>Manorina melanotis</i>)	endangered
Gouldian Finch (<i>Erythrura gouldiae</i>)	endangered

APPENDIX D i.: Unedited responses of overseas visitors to an open-ended question about bird-watching in Australia

Response	Nationality
We've arranged our entire tour to maximize naturalist hikes, birding & gorgeous scenery, avoided groups > 10-12, had some opportunities through friends not available to most tourists. Keep nature tourism small scale!!! Australia will get >\$10,000 US on our ecotourism this year	American
Australia is blessed with the most beautiful birds: please look after them all	American
Most information offices in Australia have no idea where to go for birding, and they need checklists of local sightings	American
I would like 2-3 week wildlife (not just bird) tours to different areas with knowledgeable guides	British
At home in England I find unusual/rare birds very interesting, but in Australia. I don't recognise anything (except kookaburras!) so less exciting (still interesting though)	British
Australia has much more colourful & characterful birds than Britain: aristocracy seems to have massacred anything vivid	British
Coming from England I really dislike the lack of access to private land & the way any walking can be considered "trespass"	British
A great place for birds, but can be hard work and it's too big	British
I find professional tours financially out of reach. I would willingly pay local bird-watching people to show me around their area providing the cost was reasonable to pensioners: I would do the same for others	British
It is surprising that so few Australians realise the pleasures of bird-watching: ornithologists at sites often seem to be European	British
Where are the bird-watchers? Even in national parks no one has binoculars	British
Wonderful!	British
Wonderful variety of birds and habitat - great place to visit; people have always been most helpful and kind	British
Tour guide literature doesn't help overseas travellers find & identify birds	Canada
Except in parks, most birds are too shy; I have not seen many in wilderness	German
I would prefer a tour package including a hike, bird-watching and a documentary on birds (endemic, natural, introduced and other general facts)	German
Simply great: what a privilege to live here	German
I believe birding in Australia is still very much in its infancy: the numbers of birders are relatively small This is good in some respects - more chance of having an area to yourself - but species may be overlooked, and there is little political conservation clout with small numbers	Irish
Lots of colourful birds. Bird-watching is still a lot too 'elitist'/snobbish overall, but getting better. Bird-watching organisations should be larger, and attract more people by being less specialised	Irish
Many species, but large area to cover	New Zealand

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

Response	Nationality
Before living in Oz I thought feeding wild birds was wrong, but in city backyard feeder gives hours of enjoyment for everyone, is part of Aussie culture with huge numbers of parrots - easy to believe no negative effect	New Zealand
I'm a writer from South Africa & watch birds whenever it's possible to do so - but I have a long way to go! Commitments with family living here, friends, don't offer enough time for bird-watching	South African
It is great fun and very rewarding	South African

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

**APPENDIX D. ii.: Unedited responses of bird-watchers of dual nationalities
to an open-ended question about bird-watching in Australia**

Response	Nationality
BOCA does a fine job	Two very similar: Australian/Fijian and Australian/ Canadian
Australia is great for bird-watching! Unique species and great variation	Australian/Danish
From an ex-pat Brit's point of view, the opportunities for bird-watching are amazing. Also totally untapped as far as tourism goes. My local catchment area contains >190 spp. Why doesn't Brisbane market itself as the 'city of birds' (rather than 'most liveable', whatever that means!)	Australian/British
Tourist authorities have very little info on bird-watching (exceptions e.g. Barraba, Adelaide) & landowners could make additional income encouraging bird-watching groups on their properties, in converted shearing sheds etc.	Australian/British
Love it!	Australian/ Lebanese

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

APPENDIX D. iii. Unedited responses of Australian bird-watchers to an open-ended question about bird-watching in Australia

Topic	No. of responses	Examples
access	1	please ensure that birding areas are accessible to all people, even semi-disabled people like me!
conservation & public education	13	<p>Greater enforcement of dog restrictions in would considerably contribute to certain shorebird conservation (2 respondents mentioned this)</p> <p>Birds Australia should be actively trying to affiliate all minor clubs for strength, for conservation, insurance etc.</p> <p>bird-watching needs to be promoted in school & younger & older people encouraged to undertake, which will help develop understanding of need to preserve environment</p> <p>disgusted at conservative birders who, like non-unionists, benefit from work of conservationists, some ecotours & other tours included. GO GREENS & SOCIALIST ALLIANCE</p> <p>habitat conservation is the most important issue for bird-watchers - they must be proactive in this field! (several others mentioned habitat clearing, and need for action)</p>
expensive	2	<p>promote it in primary schools - kids love birds and often go camping with school. Run bird ID classes for teachers</p> <p>bird-watching & ecotours way too expensive because of accommodation/food. Those happy to pay a guide but self-contained not catered for</p>
great hobby, great country etc	13	<p>we are so lucky to have so much habitat remaining, great diversity and relatively high abundance of birds than other countries. How many cities have parrots in the suburbs like Melbourne, Sydney etc.?</p> <p>best birds in the world</p> <p>fantastic way to enrich travel</p> <p>a great pastime, hobby, meet loads of interesting people, good exercise</p> <p>a wonderful, relaxing, healthy pastime, giving peace & contentment from the wonders of the detail given by our Creator through nature. Praise be to Him!</p> <p>great focus when travelling and helps to link foliage/habitat, botany, geology & other sciences. Opportunity to meet and make new like-minded friends</p> <p>In a time when life moves at such a fast pace, and one is bombarded with issues and an abundance of info, it would be just too difficult to cope without</p> <p>love it!</p> <p>what a great place for birds! France virtually none in comparison; NZ a few hilarious/amazing one; Canada often v cold; lucky in Aust with variety of habitats & birds</p>
available information (or lack of)	5	<p>Birding-aus list server on Internet is a good source of info on recent interesting sightings; local government has failed to recognise the value of preserving & promoting natural habitat</p> <p>some books should be updated, not just reprinted, e.g. The complete guide to finding birds in Australia 1996 repr1997, Where to find birds in Australia (Bransbury)1987 repr 1992</p> <p>I think it's becoming easier to find many previously difficult species as there's now so much good information readily available</p> <p>info panels in NP's nature trails etc on birds are good. Thrilled that tourist info offices give birdlists for local areas & suggest where to bird-watch in NSW - eg Mudgee, Orange, Dubbo all did this</p>

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

Topic	No. of responses	Examples
		the long distances to cover to get anywhere make specific info on what is where, and when, very important
		we need to spread the message to general population - signs with clear pictures of birds likely to be seen
organisations	2	Easy to do - lots of helpful people, not always easy for new birdos to find bird-watching groups
survey form	4	You should have questions about people's willingness to view caged birds in zoos & bird parks (e.g. S'pore, KL) or even pet shops. A contentious issue for some!
		found the questions difficult to answer - were the questions compiled by a bird-watcher? [author's note: yes it was, but questions were intended also for non-birders (or very occasional birders), and also to include topics of relevance to conservation and tourism]
tourism	10	going by number of bird tours & resorts in bird club magazine, birds are well catered for
		it is great, very rewarding, & if I need help there are superb "expert" guides around the country
		it is impossible to get regional bird guides. Every regional tourist information centre should have lists, guides to local public areas. Australia-wide guides are very good.
		given huge nos of bird-watchers worldwide - especially US & UK, Australia should tap into this market , which would help better awareness education about preserving bird populations
		a clear need for rural landowners in remote central & western Queensland to understand the value of & cater to the very large & lucrative international bird-watching tourism market
		Need more advertising & info about what tours can be taken, especially in areas outside major transit areas, so residents can also enjoy
birds not major focus	6	not enough recognition by local authorities - e.g. sewage works
		I don't visit places specifically for birds - they are part of the whole environment
		I enjoy touring Australia and if birds are in the scenery I am looking I don't take much notice of them being there most of the time
		wherever I go I like to be able to identify any species (bird or animal) that I see
		mainly interested in plants - interest in birds is part of that. Just getting started, haven't absorbed the 'culture', not sure I want to get fanatical, but can spend a day happily bird-watching in an interesting area
		we enjoy looking at birds but not fanatics; usually look wherever we are; camping is a good way to get involved without undue effort
great hobby, great country etc	13	too strenuous
		we are so lucky to have so much habitat remaining, great diversity and relatively high abundance of birds than other countries. How many cities have parrots in the suburbs like Melbourne, Sydney etc.?
		best birds in the world
		great focus when travelling and helps to link foliage/habitat, botany, geology & other sciences. Opportunity to meet and make new like-minded friends
		In a time when life moves at such a fast pace, and one is bombarded with issues and an abundance of information, it would be just too difficult to cope without it
		a wonderful, relaxing, healthy pastime, giving peace & contentment from the wonders of the detail given by our Creator through nature. Praise be to Him!
		fantastic way to enrich travel
		love it!

**PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA**

APPENDIX E: Summary of features showing the strongest differences between the five major clusters of respondents identified by the PATN dendrogram.

Very high scores (over 0.7) are in bold, highest score for each question underlined, and lowest score for each question italicised.

	Group 1	Group 2	Group 3	Group 4	Group 5
<i>Major differences (>0.5 difference between max and min mean responses)</i>					
Have kept pets	0.56	<u>0.78</u>	0.42	0.27	0.60
Feeding birds gives good photographic opportunities	0.29	0.11	<u>0.36</u>	0.26	-0.13
Would willingly camp to see new bird	-0.13	0.21	0.45	0.33	<u>0.51</u>
Usually carry binoculars	0.18	0.62	<u>0.86</u>	0.83	0.82
Can identify many females and juveniles	-0.24	0.17	<u>0.49</u>	0.30	2.40
Would like to be able to identify all Aust birds	0.11	0.37	0.47	0.71	<u>0.83</u>
Interested in bird ecology	0.36	0.5	0.64	<u>0.88</u>	0.79
Bird-watching is favourite activity	0.29	0.52	0.70	0.74	<u>0.79</u>
Keep a life-list of birds seen	-0.34	0.07	<u>0.35</u>	0.27	0.32
Age group	4.48	4.62	4.53	4.67	<u>4.84</u>

PRACTICES, NEEDS AND ATTITUDES OF BIRD-WATCHING TOURISTS IN AUSTRALIA

References

- Burger, J. and Gochfeld, M. 1993. Tourism and short-term behavioural responses of nesting masked, red-footed and blue-footed boobies in the Galapagos. *Environmental Conservation*. 20: 255-259.
- Burger, J., Gochfeld, M. and Niles, L.J. 1995. Ecotourism and birds in coastal New Jersey: contrasting responses of birds, tourists and managers. *Environmental Conservation*. 22: 56-65.
- Edington, J.M. and Edington, M.A. 1986. *Ecology, Recreation, and Tourism*. , Cambridge University Press, Cambridge, MA (1986).
- Fowler, G. S. 1999. Behavioral and hormonal responses of Magellanic penguins (*Spheniscus magellanicus*) to tourism and nest site visitation. *Biological Conservation* 90: 143-149
- Geise, M. 1996. Effects of human activity on Adélie Penguin *Pygoscelis adeliae* breeding success. *Biological Conservation* 75 (1996), pp. 157–164
- Green, R. J. and Giese, M. 2004. The Negative Effects of Wildlife Tourism on Wildlife. In K. Higginbottom (ed.) *Wildlife Tourism, Sustainable Tourism* CRC
- Green, R. J. and Higginbottom, K. 2001. The Negative Effects of Wildlife Tourism on Wildlife. *Wildlife Tourism Research Report Series No. 5, Status Assessment of Wildlife Tourism in Australia Series*, CRC for Sustainable Tourism
- Green, R. J., Higginbottom, K. and Northrope, C. 2001. A Tourism Classification of Australian Wildlife. *Wildlife Tourism Research Report Series No. 7, Status Assessment of Wildlife Tourism in Australia Series*, CRC for Sustainable Tourism
- Huxley, T. 1994. *Where the shoe hurts: the ecological impacts of tourism*. Cultural tourism: papers presented at The Robert Gordon University Heritage Convention, 1994. Donhead Publishing Ltd, London
- Howard, P. and D.N. Jones. 2004. A qualitative study of wildlife feeding in south-east Queensland. In *Urban Wildlife: More than Meets the Eye*. (Eds. D. Lunney and S. Burgin). *Royal Zoological Society of New South Wales, Mosman, NSW*. Pp. 55-62.
- Jones, D. N. and Buckley, R. 2001. Bird-watching tourism in Australia, *Wildlife Tourism Research Report Series No. 7, Status Assessment of Wildlife Tourism in Australia Series*, CRC for Sustainable Tourism
- Laiolo, P. 2004. Diversity and structure of the bird community overwintering in the Himalayan subalpine zone: is conservation compatible with tourism. *Biological Conservation* 115: 251-262
- McClung, M. R., Seddon, P. J., Massaro, M. and Setiawan, A. N. 2004 Nature-based tourism impacts on yellow-eyed penguins *Megadyptes antipodes*: does unregulated visitor access affect fledging weight and juvenile survival? *Biological Conservation*, in press
- Müllner, A., Linsenmair, K. E. and Wikelski, M. In press. Exposure to ecotourism reduces survival and affects stress response in hoatzin chicks (*Opisthocomus hoazin*). *Biological Conservation* 118: 549-558
- Quan, R-C, Wen, X and Yang, X 2002. Effects of human activities on migratory waterbirds at Lashihai Lake, China. *Biological Conservation* 108: 273-279
- Queensland Tourist and Travel Corporation (QTTC). 1998. Tropical North Queensland (TNQ) Bird-watching Market Study: Market Research Report. QTTC (now known as 'Tourism Queensland'), Brisbane
- Ream, C.H. 1979. Human-wildlife conflicts in backcountry: possible solutions. Pp 153-163 in Ittner, R., Potter, D.R., Agee, J.K. and Anschell, S. (eds). 1979. *Recreational impact on wildlands*. Conference proceedings October 27-29, USDA Forest Service, Portland, Oregon, USA.

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

Ream, C.H. 1979. Human-wildlife conflicts in backcountry: possible solutions. Pp 153-163 in Ittner, R., Potter, D.R., Agee, J.K. and Anschell, S. (eds). 1979. *Recreational impact on wildlands*. Conference proceedings October 27-29, USDA Forest Service, Portland, Oregon, USA.

Robertson, C.J.R. 1997. Factors influencing the breeding performance of the Northern Royal Albatross. In: G. Robertson and R. Gales, Editors, *Albatross Biology and Conservation*, Surrey Beatty and Sons, Chipping Norton, NSW (1997), pp. 99–104

South Australian Tourism Commission (SATC). 2001. Bird-watching Opportunities for South Australia. South Australian Tourism Commission Research Unit. South Australian Tourism Commission, Adelaide

Tisdell, C. and Wilson, C. 2004. Economics, Economics, Wildlife tourism and conservation Ecology and the Environment, Working Papers no. 112, School of Economics, The University of Queensland

Tisdell, C. and Wilson, C. 2000. Visitor profiles and environmental attributes, especially of birds, attracting visitors to Lamington National Park: tourist attitudes and economic issues. Economics, Ecology and the Environment, Working Papers no. 76, School of Economics, The University of Queensland

Watson, A. and Moss, R. 2004. Impacts of ski-development on ptarmigan (*Lagopus mutus*) at Cairn Gorm, Scotland. *Biological Conservation* 116: 267-275

***PRACTICES, NEEDS AND ATTITUDES OF
BIRD-WATCHING TOURISTS IN AUSTRALIA***

Authors

Ronda Green

Ronda Green, Bsc (Hons) PhD is a research wildlife ecologist who has mainly worked on frugivory and seed dispersal and on the effects of human modification of habitat. Since 1999 she has also conducted research and written reports for Sustainable Tourism CRC., especially the effects of wildlife tourism on wildlife. She is the founder and director of Araucaria Ecotours, which began in 1997 and specialises in quality interpretation of wildlife and ecosystems, and a vice-president of Wildlife Tourism Australia.

Darryl Jones

Darryl Jones, MNR, PhD, GDEd, is Associate Professor at Griffith University (Nathan) and deputy director of the Environmental Futures Centre. His primary research interests are urban ecology and wildlife management, urbanisation and the way certain species are adapting to this process, megapodes, corvids and the implications of garden bird feeding. He has also been involved with and published reports for the wildlife research program of Sustainable Tourism CRC.



INDUSTRY PARTNERS



UNIVERSITY PARTNERS



COMMERCIALISATION



EC3, a wholly-owned subsidiary company, takes the outcomes from the relevant STCRC research; develops them for market; and delivers them to industry as products and services. EC3 delivers significant benefits to the STCRC through the provision of a wide range of business services both nationally and internationally.



KEY EC3 PRODUCTS



Chairman: Stephen Gregg
Chief Executive: Ian Kean
Director of Research: Prof. David Simmons

CRC for Sustainable Tourism Pty Ltd
Gold Coast Campus Griffith University
Queensland 4222 Australia ABN 53 077 407 286

Telephone: +61 7 5552 8172 Facsimile: +61 7 5552 8171
Website: www.crctourism.com.au
Bookshop: www.crctourism.com.au/bookshop
Email: info@crctourism.com.au



Sustainable Tourism Cooperative Research Centre (STCRC) is established under the Australian Government's Cooperative Research Centres Program.

STCRC is the world's leading scientific institution delivering research to support the sustainability of travel and tourism—one of the world's largest and fastest growing industries.

Introduction

STCRC has grown to be the largest dedicated tourism research organisation in the world, with \$187 million invested in tourism research programs, commercialisation and education since 1997.

STCRC was established in July 2003 under the Commonwealth Government's CRC program and is an extension of the previous Tourism CRC, which operated from 1997 to 2003.

Role and responsibilities

The Commonwealth CRC program aims to turn research outcomes into successful new products, services and technologies. This enables Australian industries to be more efficient, productive and competitive.

The program emphasises collaboration between businesses and researchers to maximise the benefits of research through utilisation, commercialisation and technology transfer.

An education component focuses on producing graduates with skills relevant to industry needs.

STCRC's objectives are to enhance:

- the contribution of long-term scientific and technological research and innovation to Australia's sustainable economic and social development;
- the transfer of research outputs into outcomes of economic, environmental or social benefit to Australia;
- the value of graduate researchers to Australia;
- collaboration among researchers, between researchers and industry or other users; and
- efficiency in the use of intellectual and other research outcomes.