

Perceptions of Conservation
and the Department of
Conservation:
Interim findings from the
2008 Environmental Perceptions
Survey

Report to the Department of
Conservation, Wellington

Kenneth F.D. Hughey
G.N. Kerr
Ross Cullen
Andrew Cook

Report No.1



**Lincoln
University**
Te Whare Wānaka o Aoraki

Reviewed by:

A handwritten signature in black ink, appearing to read 'S. Becken'. The signature is written in a cursive style with a large initial 'S'.

Dr Susanne Becken

©LEaP, Lincoln University, New Zealand 2008

This information may be copied or reproduced electronically and distributed to others without restriction, provided LEaP, Lincoln University is acknowledged as the source of information. Under no circumstances may a charge be made for this information without the express permission of LEaP, Lincoln University, New Zealand.

Series URL: <http://hdl.handle.net/10182/580>

**Perceptions of Conservation
and the Department of
Conservation:
Interim findings from the
2008 Environmental Perceptions
Survey**

Report to the Department of
Conservation, Wellington

Kenneth F.D. Hughey

G.N. Kerr

Ross Cullen

Andrew Cook

Land Environment and People Research Report No. 1

June 2008

ISSN 1172-0859 (Print)

ISSN 1172-0891 (Online)

ISBN 978-0-86476-201-6

Lincoln University, Canterbury, New Zealand

Contents

| | |
|---|-----|
| Contents | i |
| List of Tables | ii |
| List of Figures | ii |
| Acknowledgements..... | iii |
| Executive Summary | iv |
| | |
| Chapter 1 Introduction | 1 |
| 1.1 Background | 1 |
| | |
| Chapter 2 Survey Method | 3 |
| 2.1 The 2008 Questionnaire | 3 |
| 2.2 Pre-testing | 4 |
| 2.3 Methods of Analysis | 4 |
| 2.4 Distribution | 5 |
| 2.5 Response | 5 |
| | |
| Chapter 3 Results | 7 |
| 3.1 Visits to National Parks..... | 7 |
| 3.2 Natural Area Values..... | 7 |
| 3.3 Meanings of Conservation | 12 |
| 3.4 Importance of Conservation for New Zealand..... | 12 |
| 3.5 Overall Importance of Conservation to Respondents | 14 |
| 3.6 Expenditure on Conservation..... | 14 |
| 3.7 Department of Conservation’s Performance..... | 15 |
| 3.8 Ecosystem Services..... | 16 |
| 3.9 Importance of the Work Done by DoC | 17 |
| 3.10 Value of DoC’s Performance | 18 |
| | |
| Chapter 4 Discussion and Conclusions | 19 |
| 4.1 Visits to New Zealand National Parks | 19 |
| 4.2 NAVS..... | 19 |
| 4.3 Meanings and Importance of Conservation | 20 |
| 4.4 Funding for Conservation Management..... | 20 |
| 4.5 Contribution, Importance and Performance of the DoC | 20 |
| 4.6 Comparison with Johnson et al. (2007)..... | 20 |
| | |
| References..... | 21 |
| | |
| Appendix 1 Conservation Questions in the 2008 Environmental Perceptions Survey..... | 23 |

List of Tables

| | | |
|---------|---|----|
| Table 1 | The Natural Area Value Scale and Summary Data (% of respondents)..... | 10 |
|---------|---|----|

List of Figures

| | | |
|-----------|--|----|
| Figure 1 | Distribution of Respondents Who Made at Least One Visit to a New Zealand National Park in 2007 | 7 |
| Figure 2 | Meaning of Conservation to Respondents (N=752) | 12 |
| Figure 3 | Personal Importance of Conservation Outcomes..... | 13 |
| Figure 4 | Comparison of Personal Importance of Conservation Outcomes..... | 13 |
| Figure 5 | Overall Importance of Conservation to Individuals..... | 14 |
| Figure 6 | Support for a Change in Government Expenditure on Conservation | 15 |
| Figure 7 | DoC's Performance ('very good' and 'good' combined)..... | 16 |
| Figure 8 | Contribution of DoC to Management Functions..... | 17 |
| Figure 9 | Importance of Conservation to Individuals..... | 18 |
| Figure 10 | Overall Performance rating of the DoC | 18 |

Acknowledgements

We thank the Department of Conservation for funding this part of the 2008 biennial environmental perceptions survey, and in particular Mariska Wouters who invested considerable energy, time and skill into improving components of this research. Finally, we thank Andrew Cook for his efforts in making sense of the NAVS.

Executive Summary

A conservation case study was included as a component of the 2008 biennial environmental perceptions survey. The survey drew on a random sample of 2000 people aged 18 and over from the electoral roll, and achieved an effective response rate of 40%. The conservation case study had five major themes. First, the study of national park visitation rates indicated that 44% of respondents made at least one visit to a national park in 2007. Second, the Natural Areas Value Scores enabled a clustering of respondents into five groups – these value groups are directly comparable to similar research from Australia, and comparable to more recent New Zealand research. The value group clusters were used to further analyse responses to other conservation questions. Third, respondents recognise a wide range of meanings for the term ‘conservation’ and conservation is very important to them as individuals. Given the above it should not be surprising that respondents, fourthly, were very supportive of additional government expenditure for conservation. Finally, it was surprisingly how low the rates of awareness are of how DoC’s activities contribute to a range of ecosystem services. But, even given this response there is very high overall support for the importance of the work done by DoC, with over half the respondents considering the Department’s performance to be ‘good’ or ‘very good’. The patterns of responses and overall conclusions are similar to those that were drawn from a similar phone-based survey in 2007. Overall, therefore, this postal survey has proven to be both cost-effective and timely in terms of providing the sorts of information required by DoC. Ongoing biennial surveys of this sort would allow the Department to monitor people’s perceptions of its performance and related issues over time.

Chapter 1

Introduction

1.1 Background

Perceptions surveying is an increasingly popular means of determining public views on environmental and conservation issues. The longest running set of standardised environmental perceptions surveys in New Zealand is based on the biennial approach of Hughey et al., (2001, 2002, 2004, 2006 and in prep.) and begun in 2000. Their core survey is constructed around the Pressure-State-Response model (see OECD 1996; MfE 1997), which is used internationally as the basis for environmental reporting.

Each of these surveys incorporates standard questions for comparative monitoring and an individual case study of interest to the researchers and others – in 2008 the Department of Conservation (DoC) commissioned research on a range of conservation related issues. This report presents some interim results from this fifth biennial survey undertaken in 2008, with specific reference to the conservation case study.

It is important to note that DoC has commissioned several pieces of research to trial particular tools for monitoring perceptions of performance and related factors. First, it used Research New Zealand (Johnson et al. 2007) to trial a phone based survey whereas the survey reported here is trialling a postal survey. Because the two approaches required different forms of questioning and achieve different responses from different sub populations the results are not directly comparable. As such DoC is interested in any differences in results, methods and implications for future management – we report on these as appropriate.

Chapter 2

Survey Method

A postal questionnaire based on the Pressure-State-Response model (PSR) was used to gather information on New Zealanders' perceptions of the environment and environmental management. The postal questionnaire was selected as the best method of gathering this information, because the large number of questions deemed it unsuitable for a telephone survey and interviews would have been an expensive and cumbersome method for sampling the New Zealand population. The questions incorporated in the conservation case study had previously been researched using a telephone survey (see Johnson et al. 2007) – the wording of a number of these questions was changed between the surveys to ensure suitability for a self-completed postal survey.

2.1 The 2008 Questionnaire

Questionnaire items were presented in an A5-size booklet with questions on 18 facing pages. A letter of introduction was included stating the purpose of the questionnaire, introducing the topics and inviting voluntary participation. Questions were grouped into related sets. Respondents were instructed to either circle a number or tick a box to indicate their response.

2.1.1 Conservation Questions

The 2008 survey included nine questions concerning conservation (see Appendix 1). These are presented in the same order in the results section of this report:

- Visits to national parks were evaluated by first asking whether or not respondents had visited a national park in 2007, then by the number of times they had visited each of the 14 national parks.
- Natural area values were then explored with respondents asked to evaluate, on a 7-point Likert scale, 20 statements. There are minor wording changes in these statements to those reported in Winter and Lockwood (2004) and Johnson et al. (2007) in order to accommodate the different type of survey.
- Meanings of conservation were explored in a question that contained nine categories plus 'other' and 'don't know' – respondents could tick any number of responses.
- The importance of conservation for New Zealand was examined by asking people to rate on a 5-point scale the importance of 11 activities.
- A separate question on a 5-point Likert scale asked how important overall conservation is to the respondent.
- In terms of conservation expenditure, respondents were given some information about the proportion of government expenditure in 2007 spent on conservation and then asked whether this should be more, less or the same.
- People evaluated DoC's performance on 11 criteria using a 5-point Likert scale.
- Respondents were asked to tick as many of seven ecosystem services they considered DoC contributes to.
- People were asked, using a 5-point Likert scale, to rate the importance of the work done by DoC.

- Finally, people were asked, on a 5-point Likert scale, to rate the value of the job done by DoC.

2.1.2 Demographic Information and Representativeness

Information was sought regarding gender, number of household members over the age of 14, age, country of birth, ethnicity, region, rural or urban residence, education, current employment situation (e.g., student, retired or in paid employment), the industry the person worked in (or had last worked in), and personal income. Where possible these were measured using categories corresponding to data categories reported in the 2001 New Zealand Census. These data have yet to be analysed, but will be reported in the Hughey et al. (in prep.) 2008 survey report. However, there is little reason to think the population will be significantly different to that of Hughey et al. (2006).

To determine representativeness of the sample we compared the 2006 survey demographics with current official statistics where they are available (Statistics NZ 2006). In some cases the most recent data available is from the 2001 Census.

The following key points can be drawn about the survey sample:

- Females are over-represented;
- New Zealand Europeans and ‘others’ are over-represented;
- Those aged over 40 were over-represented;
- Those not in employment were over-represented; and
- Those with a tertiary qualification were over-represented.

2.2 Pre-testing

Pre-testing followed a cognitive interview process described in Dillman (1998). Several individuals were interviewed about each of the questions in the 2000 survey and, about new questions in the subsequent surveys. The conservation questions were discussed on multiple occasions with Department of Conservation staff. Subsequently, some minor adjustments were made to the questionnaire. The survey instrument was approved by the Lincoln University Human Ethics Committee.

2.3 Methods of Analysis

Descriptive data are summarised in the results section. Chi-square tests (χ^2) were used to test for variations between core environmental question responses and key demographics. Data agglomeration was necessary in some areas because there were too few valid responses to enable appropriate testing to be undertaken. Due to the large number of relationships tested, in general only summarised results for significant relationships ($P < 0.05$ or greater) are reported.

Cluster analysis was used for the Natural Area Value Scores question. We used the same method as that described in Winter (2005), and explained in detail in Winter and Lockwood (2003). This is also the same method used by Johnson et al. (2007). In summary, we:

- Used the Ward method to define five market segments (clusters);

- Compared these with those reported in Winter et al. (2003) and Winter (2005), and with those in Johnson et al. (2007);
- Conducted tests using these segments against demographic characteristics and the core conservation case study questions.

It is difficult to draw quantitative comparisons between this survey and that of Johnson et al. (2007). Theirs was a phone survey requiring different cognitive skills than a postal survey. While a degree of qualitative 'pattern matching' is possible great care needs to be taken if attempting quantitative comparisons. For example, whereas Johnson et al. (2007) used post weighting to gain a representative sample, we did not – both approaches are valid.

2.4 Distribution

Two thousand questionnaires were distributed to randomly selected individuals drawn from the most recently available New Zealand electoral roll. The questionnaire and letter of introduction were posted with a freepost return envelope in February 2008. In addition, a follow-up postcard was sent, and a second questionnaire posting to non-respondents was made in March 2008. The closing date was 30th April 2008.

2.5 Response

The survey had an effective response rate of 40%; N = 752. The 2000 survey response rate was 48%; N = 894, the 2002 survey response rate was 45%; N = 836; the 2004 survey response rate was 43%; N = 820; the 2006 survey response rate was 46%; N = 880. Why the 2008 survey had a lower response rate than any of the others is unknown. All surveys had maximum margins of error of 3% at the 95% confidence level.

Chapter 3 Results

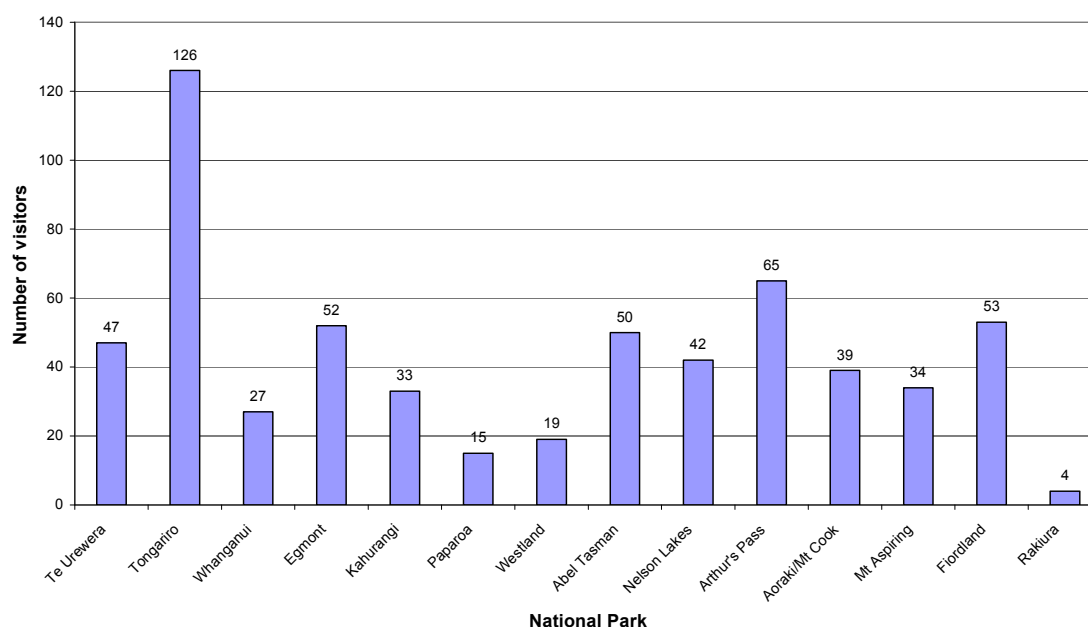
3.1 Visits to National Parks

Of 731 valid responses 44% (N=322) had visited national parks in 2007. The following demographic results were significant:

- Those with a higher education were much more likely to visit ($P < 0.001$);
- More than half those with an income of $> \$50,000$ visited a national park and were much more likely to do so than those with a lower income ($P = 0.001$); and
- Over half of the Southern region respondents compared to less than a third of those from Northern had visited national parks ($P < 0.001$).
- Comparing the value group clusters (see section 3.2) we found:
- A significant difference ($P < 0.001$) between the value clusters and whether they visited national parks in 2007. Those categorised as ‘traditional’, ‘moderate’ and ‘pro intrinsic’ were more likely to visit parks than others.

Figure 1 shows the distribution of respondents who indicated they had made at least one visit to a national park: Tongariro was visited by almost twice the number of respondents than any other national park, followed by Arthur’s Pass and Fiordland.

Figure 1
Distribution of Respondents Who Made at Least One Visit to Any New Zealand National Park in 2007 (N=261 respondents)



3.2 Natural Area Values

Summary data for the Natural Area Value Scale (NAVS) are presented in the same categories as used by Winter (2003: 546)(Table 1). Note that ‘intrinsic value items’ from this table are

reverse coded in the following factor analysis. The five clusters, their names, factor characteristics and scores are shown below:

| Value group names | n (555) | % | Intrinsic | Non-use | Use(non-recreation) | Recreation |
|-------------------|---------|-------|---------------------------------------|---------------------------|--------------------------|---------------------------------|
| Green non-use | 244 | 43.96 | Positive (0.401) | Positive (0.681) | Negative (-0.451) | Neutral to positive (0.285) |
| Pro-intrinsic | 30 | 5.41 | Very positive (1.841) | Negative (-0.695) | Negative (-0.910) | Very negative (-1.106) |
| Moderate | 160 | 28.83 | Neutral to negative (-0.383) | Negative (-0.494) | Neutral (0.176) | Neutral to negative (-0.372) |
| Moderate pro-use | 70 | 12.61 | Negative (-0.612) | Neutral (0.057) | Very positive (1.019) | Very negative (1.264) |
| Pro-use | 51 | 9.19 | Negative to very negative (-0.960) | Very negative (-1.376) | Positive (0.741) | Very negative (-1.283) |

We have compared these findings with those of Winter et al. (2003) and Winter (2005) with the table below indicating a high level of agreement between the two sets of findings (Note that the names of our groups, while sometimes different, are not inconsistent with their results).

| Value group names (their names) | Intrinsic | Non-use | Use (non-recreation) | Recreation |
|-------------------------------------|-----------|---------|----------------------|------------|
| Green non-use (Green recreationist) | 0.57 | 0.46 | -0.54 | 0.70 |
| Pro-intrinsic (Pro-intrinsic) | 0.65 | 0.34 | -0.70 | -0.85 |
| Moderate (Moderate) | -0.07 | 0.39 | 0.53 | 0.55 |
| Moderate pro-use (Traditional) | -1.93 | -0.01 | 1.01 | 0.72 |
| Pro-use (Pro-use) | -0.58 | -0.97 | 0.50 | -0.35 |

Key:

| | |
|--|--------------|
| | Very similar |
| | Similar |
| | Not similar |

We have also compared our results to Johnson et al. (2007) and found them to be similar. Our results are complementary to Johnson and Kasakov (2007) who undertook scale reliability testing – their NAVS findings are supported here.

| Value group names | Intrinsic | Non-use | Use (non-recreation) | Recreation |
|--|-----------|---------|----------------------|------------|
| Green non-use (Green recreationist) | -0.546 | 0.503 | -0.758 | 0.633 |
| Pro-intrinsic (Pro-intrinsic) | -0.525 | 0.085 | -0.185 | -0.195 |
| Moderate (Moderate) | 0.111 | -0.755 | 0.341 | -0.925 |
| Moderate pro-use (Traditionalist) | 1.079 | 0.196 | 0.814 | 0.326 |
| Pro-use (Pro-use individuals) | 1.233 | -2.451 | 1.356 | -1.675 |

Key:

| | |
|--|--------------|
| | Very similar |
| | Similar |
| | Not similar |

Table 1
The Natural Area Value Scale and Summary Data
(% of respondents)

| | Very strongly agree | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree | Very strongly disagree | Don't know | Total (N) |
|---|---------------------|----------------|-------|----------------------------|----------|-------------------|------------------------|------------|-----------|
| Intrinsic value items | | | | | | | | | |
| Only humans have intrinsic value-that is, value for their own sake | 3.1 | 3.2 | 15.5 | 11.7 | 31.1 | 14.4 | 15.9 | 5.1 | 710 |
| The value of an ecosystem only depends on what it does for humans | 1.5 | 2.2 | 8.6 | 8.4 | 34.6 | 21.2 | 19.9 | 3.5 | 713 |
| Ugliness in nature indicates that an area has no value | 1.1 | 1.9 | 3.9 | 8.3 | 43.8 | 19.6 | 19.3 | 1.9 | 719 |
| Places like swamps have no value and should be cleaned up | 1.7 | 2.1 | 6.4 | 8.4 | 37.5 | 20.5 | 21.9 | 1.7 | 723 |
| The only value that a natural place has is what humans can make from it | 1.5 | 2.1 | 6.9 | 5.2 | 33.8 | 21.3 | 28.3 | 0.8 | 724 |
| The value of nature exists only in the human mind. Without people nature has no value. | 1.7 | 2.4 | 6.5 | 6.5 | 30.7 | 21.0 | 29.2 | 2.1 | 723 |
| Non-use value items | | | | | | | | | |
| There are plenty of natural places that are not very nice to visit but I'm glad they exist | 12.9 | 15.8 | 50.8 | 10.0 | 3.7 | 1.5 | 1.9 | 3.3 | 727 |
| Even if I don't go to natural areas, I can enjoy them by looking at books or seeing films | 13.3 | 20.1 | 54.5 | 6.0 | 2.6 | 1.4 | 0.4 | 1.6 | 728 |
| We have to protect the environment for humans in the future, even if it means reducing our standard of living today | 14.9 | 17.5 | 42.2 | 14.0 | 9.1 | 0.8 | 1.0 | 0.6 | 716 |
| I'm seeing natural areas the next generation of children may not see, and that concerns me | 21.8 | 22.9 | 44.0 | 6.6 | 4.0 | 0.1 | 0.1 | 0.4 | 725 |
| I need to know that untouched, natural places exist | 24.0 | 24.2 | 40.5 | 7.3 | 3.0 | 0.1 | 0.1 | 0.7 | 724 |
| Natural areas are valuable to keep for future generations of humans | 31.0 | 27.6 | 36.0 | 2.8 | 1.4 | 0.3 | 0.1 | 0.8 | 725 |

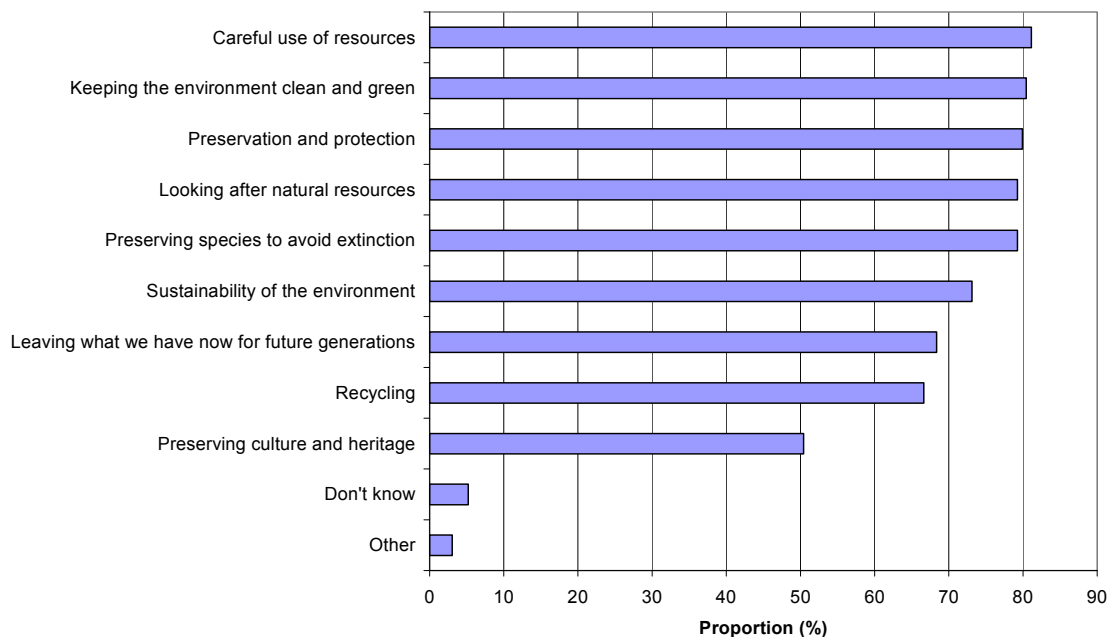
Table 1 continued

| | Very strongly agree | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree | Very strongly disagree | Don't know | Total (N) |
|---|---------------------|----------------|-------|----------------------------|----------|-------------------|------------------------|------------|-----------|
| Use (non-recreation value items) | | | | | | | | | |
| I don't like industries such as mining destroying parts of nature, but it is necessary for human survival | 4.3 | 5.1 | 43.2 | 23.0 | 16.9 | 3.9 | 1.9 | 1.7 | 722 |
| It is better to test new drugs on animals than on humans | 6.6 | 6.0 | 35.4 | 21.8 | 13.6 | 4.8 | 7.8 | 4.1 | 715 |
| Our children will be better off if we spend money on industry rather than on the natural environment | 1.1 | 1.7 | 7.0 | 21.4 | 39.2 | 15.7 | 12.0 | 1.9 | 719 |
| All plants' and animals' lives are precious and worth preserving but human needs are more important than all other things | 3.3 | 4.3 | 23.9 | 20.2 | 31.9 | 7.3 | 8.0 | 1.1 | 724 |
| To say that natural areas have value just for themselves is a nice idea but we just cannot afford to think that way: the welfare of people just has to come first | 2.4 | 3.6 | 22.3 | 22.4 | 30.8 | 9.4 | 7.5 | 1.7 | 723 |
| Forests are valuable because they produce wood products, jobs and income for people | 7.6 | 9.6 | 49.2 | 15.2 | 12.7 | 2.8 | 1.9 | 1.0 | 722 |
| Recreation value items | | | | | | | | | |
| Natural areas must be protected because I might want to use them for recreation in the future | 10.9 | 19.2 | 38.6 | 18.5 | 9.8 | 1.0 | 1.1 | 0.8 | 713 |
| Natural areas are important to me because I use them for recreation | 10.9 | 15.0 | 39.7 | 20.8 | 10.5 | 0.7 | 0.8 | 1.5 | 715 |

3.3 Meanings of Conservation

Respondents were given 11 choices, including ‘other’ and ‘don’t know’ and could tick as many as they liked (Figure 2). Five categories recorded around 80% response rates with only ‘Preserving culture and heritage’ receiving a 50% response. This result is vastly different to that recorded by Johnson et al. (2007: 22) where ‘preservation and protection’ recorded 59% and all other items were less than 25%. They used an open-ended unprompted approach to elicit their responses, whereas for methodological and trial reasons we used a closed choice list.

Figure 2
Meaning of Conservation to Respondents (N=752)



3.4 Importance of Conservation for New Zealand

Nine of 11 activities were of relatively high importance for 90% to almost 100% of respondents. The two exceptions were allowing commercial activities (which nevertheless achieved 59% support) and protecting customary rights (44%) – see Figure 3. Although methodological differences preclude direct comparisons, these findings are very similar to those reported in Johnson et al. (2007) (see Figure 4).

Figure 3
Personal Importance of Conservation Outcomes
(‘quite important’ to ‘very important’ combined)

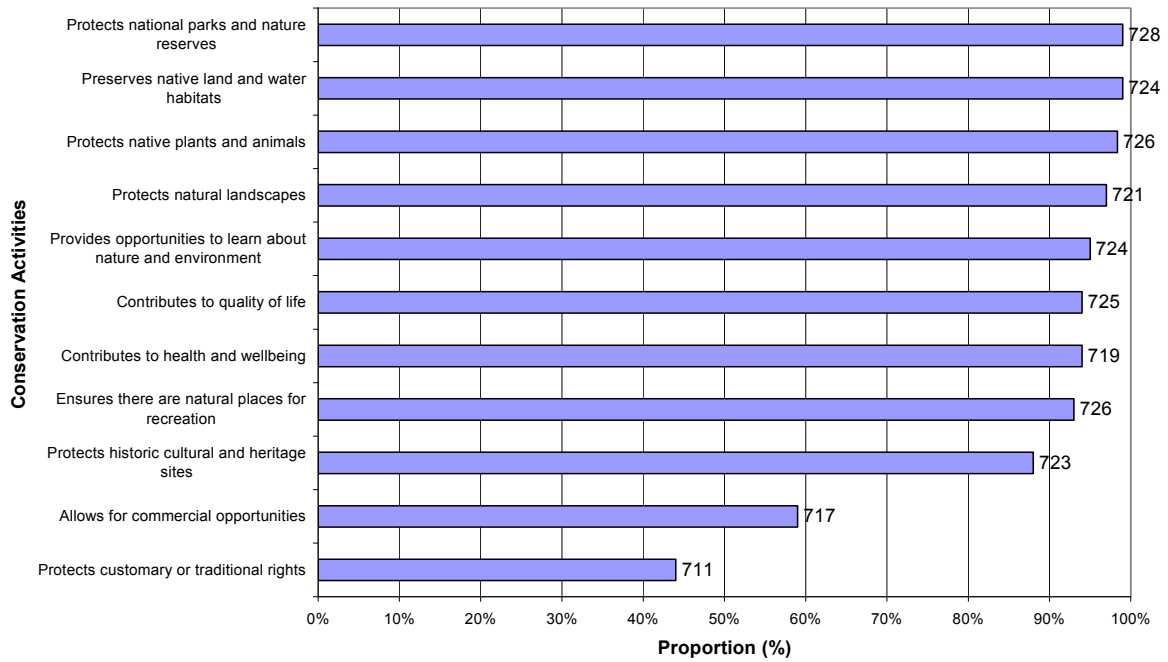
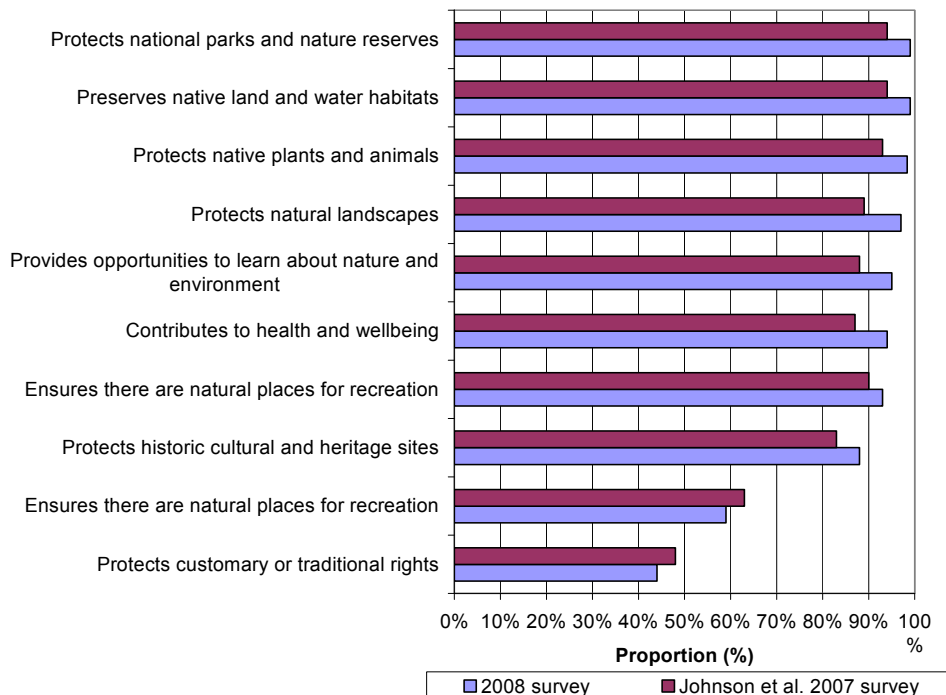


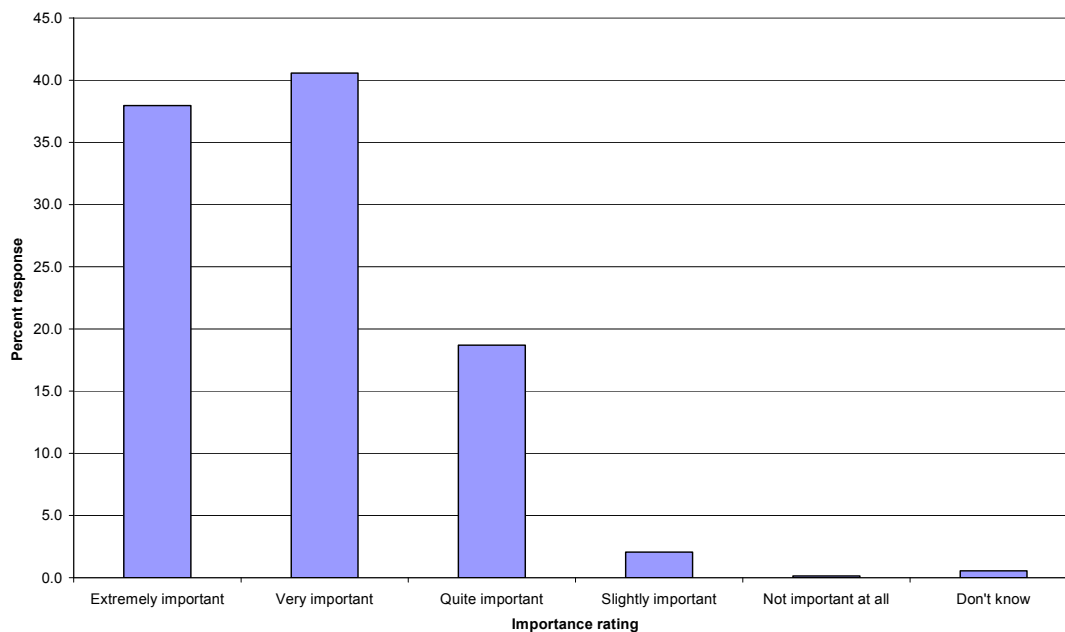
Figure 4
Comparison of Personal Importance of Conservation Outcomes
(‘quite important’ to ‘very important’ combined) in this Survey Compared for Johnson et al. (2007)



3.5 Overall Importance of Conservation to Respondents

Around 79% of respondents considered conservation to be ‘extremely important’ or ‘very important’ to them (Figure 5). We changed the terminology used by Johnson et al. (2007: 41) slightly to ensure the question was better suited to a postal survey approach. The combination of ‘very important’ and ‘above average’ in their results yields an 80% response to this question. The very low number of negative responses precluded analysis of demographic issues.

Figure 5
Overall Importance of Conservation to Individuals (N=727)



We compared the NAVS-based value group clusters (see section 3.2) with those who thought conservation was ‘extremely important’ to them, versus those who thought it was important (‘very important’, ‘quite important’ and ‘slightly important’ combined). The ‘pro-intrinsic’ cluster was much more likely (85.7% c.f. 14.7%) to rate conservation as ‘extremely important’ compared to ‘important’, than either ‘green pro-use’ (19.7% c.f. 80.3%) or ‘moderate pro-use’ (39.1% c.f. 60.9%)($P < 0.001$).

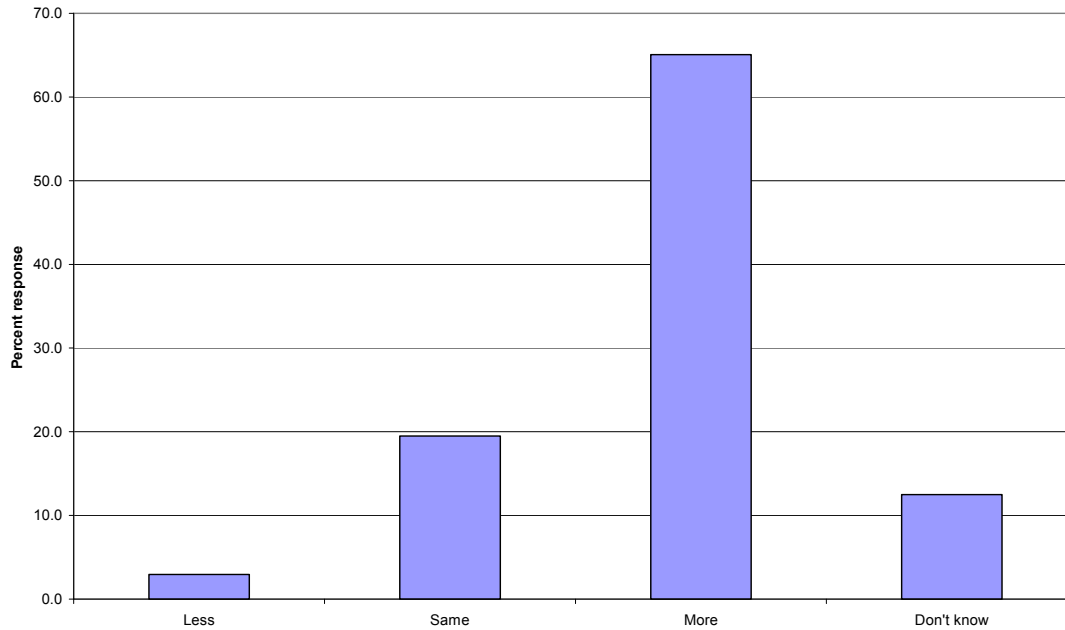
3.6 Expenditure on Conservation

Considerable additional work was undertaken to design an appropriate question for exploring government spending on conservation. Emphasis on question neutrality resulted in a question that is directly comparable with Johnson et al. (2007: 46). As shown in Figure 6, 65% of respondents support more expenditure on conservation. It is worth noting that Johnson et al. (2007) found 78% of respondents would support increased expenditure, although the questions are not directly comparable.

Some demographic differences were detected. Maori and Asian respondents were significantly less likely to support more expenditure than were NZ Europeans or people of other ethnicities ($P < 0.01$). Those with a higher education (bachelors degree or higher) were

much more likely to support an increase in expenditure than those with a lower education ($P=0.03$). Finally, in terms of occupation, ‘farmers’ were far less likely to support an increase in expenditure than any other occupational grouping ($P<0.001$).

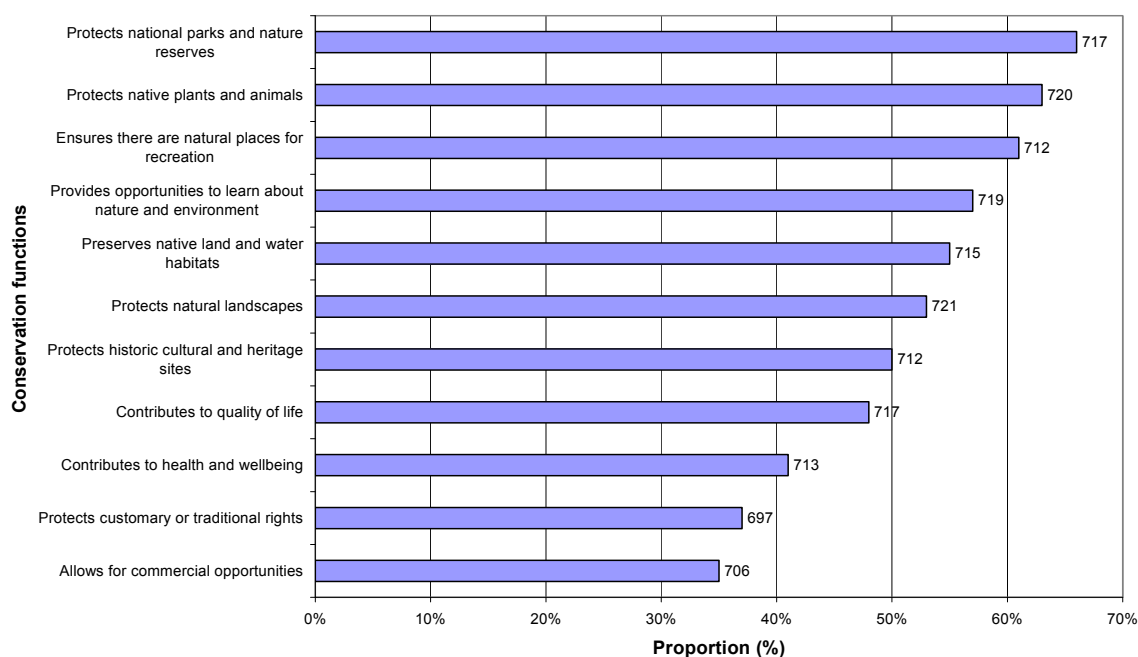
Figure 6
Support for a Change in Government Expenditure on Conservation
(N=713)



3.7 Department of Conservation’s Performance

Respondents evaluated the Department of Conservation’s performance on 11 criteria using a 5-point Likert scale, anchored by ‘very good’ and ‘very poor’. While most of the combined ‘very good’ and ‘good’ responses exceeded 50% (see Figure 7), they are routinely around 20 percentage points below the ratings recorded in Johnson et al. (2007: 77).

Figure 7
DoC's Performance
(‘very good’ and ‘good’ combined)

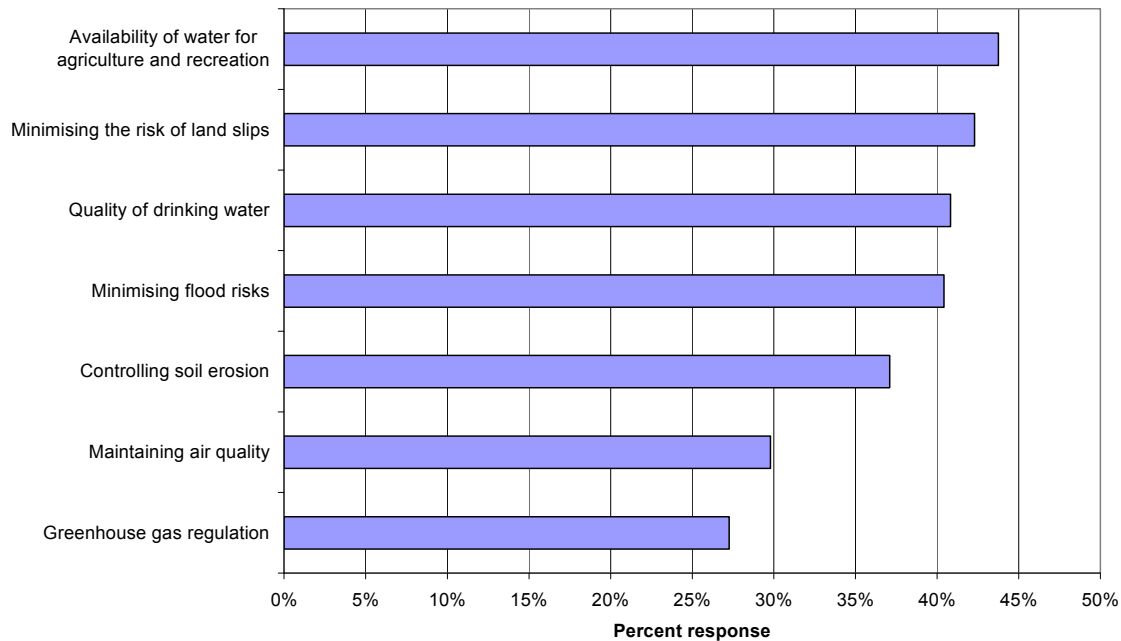


‘Poor’ and ‘Very poor’ rankings were also combined – no set of responses in these categories exceeded 7.5%.

3.8 Ecosystem Services

Respondents were asked to tick as many ‘management’ functions as they considered the DoC contributes to. These functions are probably more appropriately referred to as ecosystem services. Functions identified most frequently are shown in Figure 8. These results can be compared to Johnson et al. (2007: 75) and once again are substantially lower+, e.g., Johnson et al. (2007) recorded 59% for ‘availability of water for agriculture and recreation’, whereas we recorded 44% for the same function.

Figure 8
Contribution of DoC to Management Functions (N=752)

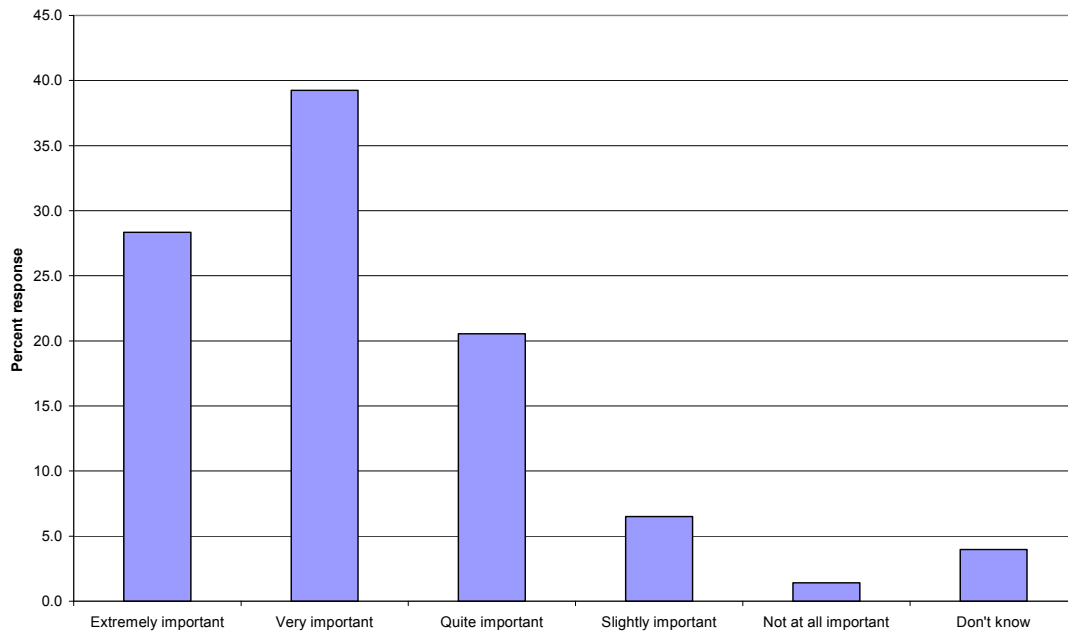


3.9 Importance of Conservation

People were asked to rate, using a 5-point Likert scale, the overall importance of conservation to them as individuals (Figure 9). Sixty six percent of respondents chose ‘extremely important’ or ‘very important’, compared to the 76% (combined ‘very important’ and ‘above average’) reported by Johnson et al. (2007: 80).

We compared the NAVS-based value group clusters (see section 3.2) with those who thought the work done by DoC was ‘extremely important’ to them, versus those who thought it was important (‘very important’, ‘quite important’ and ‘slightly important’ combined). Three groups stood out – the ‘green pro-use’ (15.3% c.f. 84.7%), the ‘moderate’ (36.2% c.f. 63.8%) and the ‘moderate pro-use’ (27.7% c.f. 72.3%) were all much more likely to rate the work as ‘important’ rather than ‘extremely important’ ($P < 0.001$).

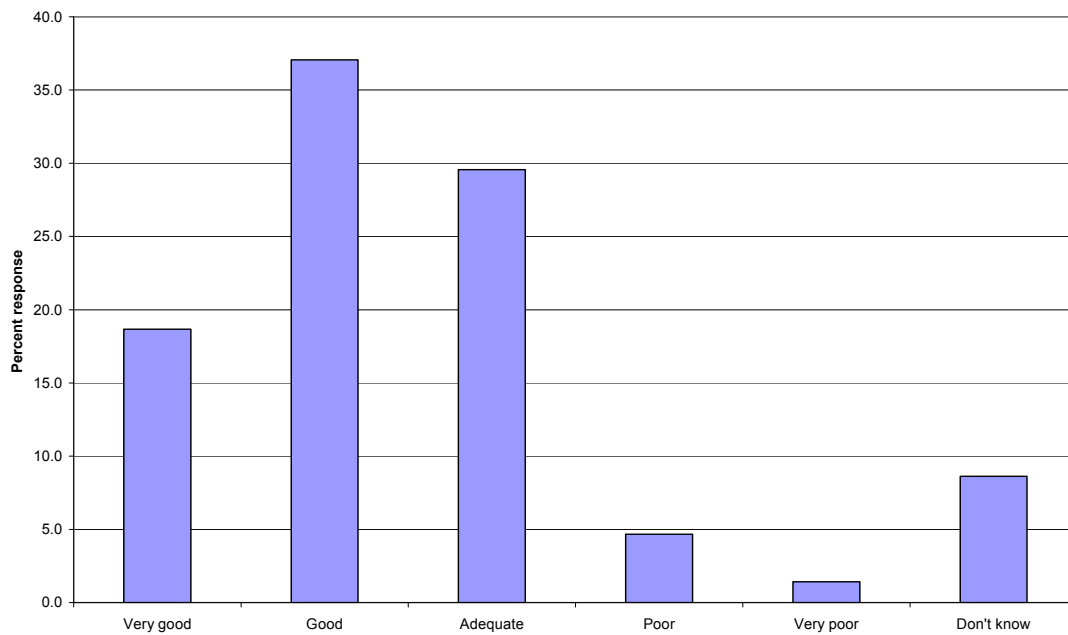
Figure 9
Importance of DoC's Work to Individuals (N=706)



3.10 Value of DoC's Performance

Over 50% of respondents rated the Department of Conservation's performance as 'very good' or 'good', with only 6.1% considering it to be 'poor' or 'very poor' (Figure 10).

Figure 10
Overall Performance Rating of the DoC (N=707)



Chapter 4

Discussion and Conclusions

This survey explored five main aspects of conservation and its management in New Zealand, namely:

- visits to New Zealand national parks;
- Natural Area Value scores and use of these to identify specific clusters of survey respondents;
- meanings and importance of conservation;
- funding for conservation management; and
- contribution, importance and performance of the DoC.

Each of these aspects is explored, in brief, below, and, where relevant, comparisons drawn with the findings of Johnson et al. (2007).

4.1 Visits to New Zealand National Parks

That 44% of respondents had visited a national park in 2007 surprised us. We suspect, but don't know, that this may be an overestimate. This suggestion is made because places like South Auckland (with a large and ethnically diverse population characterised by low(er) socio-economic status) had a very low response rate to the survey. Given demographic influences on responses to this question (e.g., those with a high income and high education are more likely to visit national parks), it seems likely that the non-respondents would have a much lower rate of park visitation. Further work, including possible weighting, will need to be explored.

We have yet to fully analyse the visit rates to individual national parks, due in part to the need to undertake some recoding to accommodate unanticipated responses to this question. After recording we will be in a position to estimate the total number of domestic visitors to national parks in New Zealand in 2007.

4.2 NAVS

Analysis of the Natural Area Value Scores led to the identification of five value group clusters, similar in makeup to those reported by Winter (2005), and explained in detail in Winter and Lockwood (2003). The biggest difference between these studies has resulted from the sampling method used by Winter (2005) – she combined data sets representing the general public and specifically targeted environmentalists and farmers. As a result of her approach there is a relatively even distribution of numbers between all five groups. We found two of the groups to have very low numbers which reduced our ability to undertake more than a limited number of analyses against other conservation questions. Our findings are similar to those of Johnson et al. (2007).

Irrespective of the differences it is clear the value group clusters identified in this study can be used to explain some differences in behaviour and perceptions. Much more analysis is required in this area of the research project.

4.3 Meanings and Importance of Conservation

In the order of 80% of respondents think conservation is about careful resource use, being clean and green, preserving and protecting the environment, and looking after natural resources. Almost two thirds think it is also about sustainability, future generations and recycling, and 50% include culture and heritage. These high levels are more than matched by perceptions of the importance of conservation, i.e., it is very important to respondents, even in terms of managing for appropriate commercial opportunities. Only customary rights received a less than 50% rating of importance for respondents – further research will be undertaken to explore which demographic groups appear most ‘opposed’ to this conservation responsibility.

4.4 Funding for Conservation Management

This is an area that requires further research. However, from the responses to this question it is clear the vast majority of respondents are very supportive of some additional resourcing for conservation expenditure.

4.5 Contribution, Importance and Performance of the DoC

Respondents were only reasonably aware of the range of ecosystem services that DoC contributes to. This seems surprising. For example, given that most South Island national parks are in mountain environments it should have been obvious that DoC contributes to the provision of water for agriculture and recreation. But, even given this response there is very high overall support for the importance of the work done by DoC, with over half the respondents considering the department’s performance to be ‘good’ or ‘very good’.

4.6 Comparison with Johnson et al. (2007)

Due to methodological differences it is inappropriate to quantitatively compare the findings from this survey with that of Johnson et al. (2007). Having said this, it is appropriate to compare the general nature of findings. In this sense it is clear that the general patterns of findings are very similar between the two surveys and this should provide confidence to policy agencies in terms of drawing conclusions and designing policy directions. Overall, therefore, this postal survey has proven to be both cost-effective and timely in terms of providing the sorts of information required by DoC. Ongoing biennial surveys of this sort would allow the Department to monitor people’s perceptions of its performance and related issues over time.

References

- Dillman, D.A. 1998. *Mail and telephone surveys: the total design method*. Wiley, New York.
- Hughey, K.F.D., Cullen, R., Kerr, G.N., Cook, A. 2001. *Perceptions of the State of New Zealand's Environment: Findings from the first biennial survey undertaken in 2000*. Lincoln University.
- Hughey, K.F.D., Kerr, G.N., Cullen, R. 2002. *Perceptions of the state of the environment: The 2002 survey of public attitudes, preferences and perceptions of the New Zealand environment*. Education Solutions, Lincoln.
- Hughey, K.F.D., Kerr, G.N. Cullen, R. 2004. *Public Perceptions of New Zealand's Environment: 2004*. EOS Ecology, Christchurch.
- Hughey, K.F.D., Kerr, G.N., Cullen, R. 2006. *Public perceptions of New Zealand's Environment: 2006*. EOS Ecology: Christchurch.
- Johnson, M., Kasakov, D. 2007. *Scale Reliability Testing*. Memorandum for Department of Conservation, Research NZ, Wellington.
- Johnson, M., Kasakov, D., Lynch, C. 2007. *Final Report: Public and Staff Conservation Values*. Confidential Report for Department of Conservation, Research NZ, Wellington.
- Ministry for the Environment. 1997. *The State of New Zealand's Environment*. MfE & GP Publications, Wellington.
- Organisation for Economic Co-Operation and Development (OECD). 1996. *Environmental Performance Reviews. New Zealand*. OECD, Paris.
- Winter, C. 2005. Preferences and Values for Forests and Wetlands: A Comparison of Farmers, Environmentalists, and the General Public in Australia. *Society and Natural Resources*, 18: 541-555.
- Winter, C., Lockwood, M. 2004. The Natural Area Value Scale: A New Instrument for Measuring Natural Area Values. *Australasian Journal of Environmental Management*, 11: 11-20.

Appendix 1

Conservation Questions in the 2008 Environmental Perceptions Survey

National Park Visits

II During 2007, did you visit a **National Park**?

Yes No

If **yes**, fill in the boxes beside the map below to show **how many times** you visited each national park in 2007. (Visits to national parks do not include driving through or beside a park to get somewhere else.)

time(s)
 Te Urewera National Park

 Tongariro National Park

 Whanganui National Park

 Egmont National Park

 Kahurangi National Park

 Paparoa National Park

 Westland/Tai Poutini National Park

 Abel Tasman National Park
 Nelson Lakes National Park
 Arthur's Pass National Park
 Aoraki/Mt Cook National Park
 Mt Aspiring National Park
 Fiordland National Park
 Rakiura National Park

Conservation in New Zealand

The next questions are about conservation in New Zealand, and activities and effectiveness of the Department of Conservation.

12

The following statements reflect a range of different attitudes people have towards the environment. Please indicate how much you agree or disagree with the statements below.

| | Very strongly agree | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree | Very strongly disagree | Don't know |
|--|---------------------|----------------|-------|----------------------------|----------|-------------------|------------------------|------------|
| Only humans have intrinsic value—that is, value for their own sake | | | | | | | | |
| The value of an ecosystem only depends on what it does for humans | | | | | | | | |
| Ugliness in nature indicates that an area has no value | | | | | | | | |
| Places like swamps have no value and should be cleaned up | | | | | | | | |
| The only value that a natural place has is what humans can make from it | | | | | | | | |
| The value of nature exists only in the human mind. Without people nature has no value | | | | | | | | → |
| There are plenty of natural places that are not very nice to visit but I'm glad they exist | | | | | | | | |
| Even if I don't go to natural areas, I can enjoy them by looking at books or seeing films | | | | | | | | |

| | | | | | | | | |
|--|--|--|--|--|--|--|--|---|
| We have to protect the environment for humans in the future, even if it means reducing our standard of living today | | | | | | | | |
| I'm seeing natural areas the next generation of children may not see, and that concerns me | | | | | | | | |
| I need to know that untouched, natural places exist | | | | | | | | |
| Natural areas are valuable to keep for future generations of humans | | | | | | | | |
| Natural areas must be protected because I might want to use them for recreation in the future | | | | | | | | |
| Natural areas are important to me because I use them for recreation | | | | | | | | |
| I don't like industries such as mining destroying parts of nature, but it is necessary for human survival | | | | | | | | |
| It is better to test new drugs on animals than on humans | | | | | | | | |
| Our children will be better off if we spend money on industry rather than on the natural environment | | | | | | | | → |
| All plants' and animals' lives are precious and worth preserving but human needs are more important than all other beings | | | | | | | | |
| To say that natural areas have value just for themselves is a nice idea but we just cannot afford to think that way: the welfare of people has to come first | | | | | | | | |
| Forests are valuable because they produce wood products, jobs and income for people | | | | | | | | |

13

The term 'conservation' covers many things and can mean different things to different people. When you think about the term 'conservation' what does it mainly mean to you?

Conservation means: (tick as many as apply)

- Careful use of resources
- Keeping the environment clean and green
- Leaving what we have now for future generations
- Looking after natural resources
- Preservation and protection
- Preserving culture and heritage
- Preserving species to avoid extinction
- Recycling
- Sustainability of the environment
- Other (please specify)
- Don't know/not sure

14

The conservation activities listed below have different importance for different people. How important is it to you that New Zealand...?

| <i>How important is it to you that New Zealand...</i> | Extremely important | Very important | Quite important | Slightly important | Not at all important | Don't know |
|---|---------------------|----------------|-----------------|--------------------|----------------------|------------|
| Protects native plants and animals | | | | | | |
| Preserves natural land and water habitats | | | | | | |
| Protects natural landscapes | | | | | | |
| Protects national parks and nature reserves | | | | | | |
| Ensures there are natural places for outdoor recreation | | | | | | |
| Allows some commercial opportunities in parks, reserves and other natural areas for New Zealand businesses such as tourism, mining, agriculture and fishing | | | | | | |
| Protects the customary or traditional fishing and harvest rights of Maori (such as shellfish and mutton birds) | | | | | | |
| Contributes to people's general health and wellbeing | | | | | | |
| Protects historic cultural and heritage sites | | | | | | |
| Provides people with opportunities to learn about nature and the environment | | | | | | |
| Contributes to people's quality of life through conservation | | | | | | |

| 15 Overall, how important is conservation to you? | | | | | | |
|---|---------------------|----------------|-----------------|--------------------|----------------------|------------|
| | Extremely important | Very important | Quite important | Slightly important | Not at all important | Don't know |
| Conservation in New Zealand is... | 1 | | | | | |

16 In 2007, the New Zealand Government allocated **0.5 percent** of its expenditure to conservation. Do you think the Government should spend **less, more, or the same percentage** on conservation activities?

Less Same percentage More Don't know

17 How well do you rate the **Department of Conservation's (DoC's)** performance of the following functions?

| | Very good | Good | Adequate | Poor | Very poor | Didn't know DoC did this | Don't know |
|---|-----------|------|----------|------|-----------|--------------------------|------------|
| Protecting native plants and animals | | | | | | | |
| Preserving natural land and water habitats | | | | | | | |
| Protecting natural landscapes | | | | | | | |
| Protecting national parks and nature reserves | | | | | | | |
| Ensuring there are natural places for outdoor recreation | | | | | | | |
| Allowing some commercial opportunities for New Zealand businesses such as tourism, mining, agriculture, fishing, etc in parks, reserves and other natural areas | | | | | | | |
| Protecting the customary or traditional fishing and harvest rights of Maori (such as shellfish and mutton birds) | | | | | | | |
| Contributing to people's general health and wellbeing | | | | | | | |
| Protecting historic cultural and heritage sites | | | | | | | |
| Providing people with opportunities to learn about nature and the environment | | | | | | | |
| Contributing to people's quality of life | | | | | | | |



18 Tick the boxes beside those management functions that the **Department of Conservation** contributes to.

The Department of Conservation contributes to: (tick as many as apply)

- Controlling soil erosion
- Maintaining air quality
- The availability of water for agriculture and recreation
- Greenhouse gas regulation
- Minimising flood risks
- The quality of drinking water
- Minimising the risk of landslips

19 Overall, how important to you personally is the work done by the **Department of Conservation**?

| | Extremely important | Very important | Quite important | Slightly important | Not at all important | Don't know |
|---|---------------------|----------------|-----------------|--------------------|----------------------|------------|
| Overall, the work done by the Department of Conservation is ... | | | | | | |

20 Overall, how good is the job done by the Department of Conservation?

| | Very good | Good | Adequate | Poor | Very poor | Don't know |
|--|-----------|------|----------|------|-----------|------------|
| Overall, the performance the Department of Conservation is ... | | | | | | |