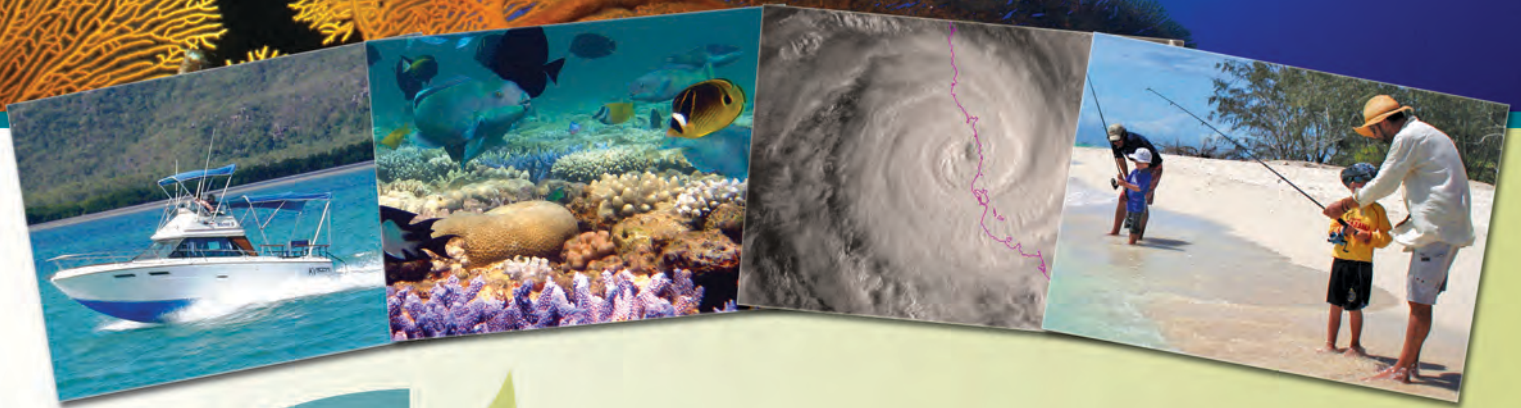




Marine and Tropical Sciences Research Facility

A Community Survey of Climate Change and the Great Barrier Reef



J. A. Nilsson, S. G. Sutton and R. C. Tobin



Australian Government
Department of the Environment,
Water, Heritage and the Arts



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Australian Government
Great Barrier Reef
Marine Park Authority



A Community Survey of Climate Change and the Great Barrier Reef

Jessica A. Nilsson, Stephen G. Sutton and Renae C. Tobin

School of Earth and Environmental Sciences
James Cook University, Townsville



Australian Government

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**Department of the Environment,
Water, Heritage and the Arts**

Supported by the Australian Government's
Marine and Tropical Sciences Research Facility
Project 4.8.5 Incorporating stakeholders and their values, knowledge and
aspirations in the care and development of the Great Barrier Reef Marine Park

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National Library of Australia Cataloguing-in-Publication entry:

Author: Nilsson, Jessica.
Title: A community survey of climate change and the Great Barrier Reef [electronic resource] / Jessica A. Nilsson, Stephen G. Sutton, Renae C. Tobin
ISBN: 9781921359408 (pdf)
Notes: Bibliography
Subjects: Climatic changes—Queensland—Great Barrier Reef.
Global environmental change.
Great Barrier Reef (Qld.)—Climate.

Other Authors/Contributors:
Sutton, Stephen G.
Tobin, Renae Carolyn, 1976-
Reef and Rainforest Research Centre.
Dewey Number: 551.69943

This report should be cited as:

Nilsson, J. A., Sutton, S. G. and Tobin, R. C. (2009) *A Community Survey of Climate Change and the Great Barrier Reef*. Marine and Tropical Sciences Research Facility (MTSRF) Research Report Series. Reef and Rainforest Research Centre Limited, Cairns (85pp.).

Published by the Reef and Rainforest Research Centre on behalf of the Australian Government's Marine and Tropical Sciences Research Facility.

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Report completed in May 2009
Report cover, layout and editing by Shannon Hogan

Cover images courtesy of Suzanne Long, Shannon Hogan and David Souter.

Published January 2010

Executive Summary

This report provides an understanding of the Australian community's awareness, concern and participation regarding climate change and the Great Barrier Reef. It was designed to be used as a tool for developing effective engagement strategies and future climate change human dimensions research.

A telephone survey was used to collect information about Australian residents' climate change perceptions, beliefs and behaviours and motivations to reduce the impact of climate change on the Great Barrier Reef. In total, 1,609 interviews were completed in communities adjacent to the Great Barrier Reef ('Reef area') and in the capital cities of Brisbane, Melbourne and Sydney ('City area') in November 2008.

The results presented in this report are primarily descriptive in nature, with the aim of providing a broad overview of the social characteristics of climate change and the Great Barrier Reef. Further work using the data collected here could explore managerially useful ways of segmenting the population with the aim of gaining a better understanding of how to communicate and manage climate change impacts on the Great Barrier Reef.

Climate change: Awareness and concerns

- The majority of the respondents (65.2%) believed that human activity has a large effect on the earth's climate, and half of all respondents said they were very concerned about climate change in general.
- Significantly more respondents in the City area believed that human activities have a large effect on the earth's climate, compared with respondents living adjacent to the Great Barrier Reef.
- Respondents who had visited the Great Barrier Reef in the preceding twelve months were more likely to report being very concerned about climate change than were respondents who had not visited the Great Barrier Reef over that time.
- The majority of all respondents said they were at least moderately concerned about the potential effects of climate change on the Great Barrier Reef.
- Nearly twenty-seven percent of respondents (26.6%) believed that climate change will have a major impact on the Great Barrier Reef in the next twelve months; 49% believed climate change will have a major impact in the next five years; and 81.9% believed climate change will have a major impact in the next 25 years.

Climate change: Reducing human impacts

- A majority (72.6%) of respondents said they believed it is very necessary to take steps to reduce human activities that are thought to cause climate change.
- The 18-29 year age group had the highest percentage of respondents who believed it is very necessary to reduce human activities causing climate change (70%), whereas the 60+ year age group had the lowest (52%) percentage.
- Seventy percent of all female respondents believed it is very necessary to take steps to reduce human impacts thought to cause climate change, compared to 56% of all male respondents.
- Forty-six percent of respondents were moderately interested in taking steps to reduce the impact of climate change on the Great Barrier Reef; 39% were very interested; and 15% were not at all interested in doing so.

- The 40-49 year age group had the highest percentage of respondents (44%) who were very interested in taking steps to reduce the impact of climate change on the Great Barrier Reef, whereas the 60+ year age group had the lowest (30%).
- Seventy-nine percent of respondents said they had taken action over the previous twelve months to help reduce the impact of climate change (in general).
- Of those respondents who said they had taken action towards decreasing their impact on the earth's climate, the most frequently cited activities were recycling (42%), turning off lights or appliances when not in use (35%), using energy-efficient products (33%), minimising travel (19%), walking or cycling rather than using the car (17%) and reducing water usage (14%).
- Thirty percent of those respondents who had visited the Great Barrier Reef in the previous twelve months said they were very likely to undertake action in the next twelve months to reduce impacts of climate change on the Great Barrier Reef, compared with 16% of those who had not visited the reef.

Threats to the Great Barrier Reef

- Climate change/global warming was listed as the major threat to the Great Barrier Reef by 71% of respondents, followed by commercial fishing (61%), declining water quality from land runoff into the Great Barrier Reef Marine Park (61%), shipping in the Great Barrier Marine Reef Marine Park (58%) and coastal development adjacent to the Great Barrier Marine Reef Marine Park (56%).

Climate change: Taking action and constraints

- Seventy-two percent of respondents said they do not do as much as they would like to do to reduce the impact of climate change on the Great Barrier Reef. The main reasons included not knowing what else to do (74%), having other priorities (54%), and time constraints (49%).
- Twenty-eight percent of respondents said they do not want to do more than they currently do to reduce the impacts of climate change on the Great Barrier Reef. The main reasons included having other priorities (67%), belief that things people can do will have no impact (53%), and belief that human activities do not cause climate change (43%).
- A majority of respondents (86%) agreed that if everyone takes action, the impacts of climate change on the Great Barrier Reef can be reduced, but fewer people (61%) agreed that they alone have the ability to help reduce the impacts of climate change on the Great Barrier Reef.
- A majority of respondents (75%) agreed that people should do everything they can to reduce the impacts of climate change and that reducing the impacts of climate change on the reef is their responsibility.
- The sources of information about climate change and the Great Barrier Reef rated as 'very trustworthy' by the largest proportion of respondents were the Great Barrier Reef Marine Park Authority (58%), scientists (54%) and conservation organisations (46%).
- A majority of respondents (65%) said they are interested in learning more about what they can do to protect the Great Barrier Reef from the impacts of climate change.
- Survey results revealed that females are somewhat more concerned about climate change and are more likely to believe that humans cause climate change, and perceive higher impacts from climate change than males.
- Older individuals were less concerned about climate change, less likely to attribute climate change to human activities, less likely to believe it is necessary to take climate change actions, and less likely to desire to become engaged in climate change reduction and mitigation efforts than younger individuals.

- None of the observed differences between population segments were particularly large, and no demographic group stood out as being particularly under-informed or under-engaged in the issue of climate change and the Great Barrier Reef.

Conclusions

- There is a high level of awareness about climate change, its causes, and its potential impacts on the Great Barrier Reef among the Australian community, with climate change now seen by the Australian public as the single largest threat to the long-term health of the Great Barrier Reef.
- There is general desire within the Australian community to take more action to reduce or mitigate climate change impacts on the Great Barrier Reef; however, it is concerning that a majority of respondents report being unable to engage in climate change reduction and mitigation strategies to the extent they desire.
- There is a need to identify the relevant actions that individuals can undertake, and to communicate this information to the broader community.
- Programs aimed at empowering individuals and increasing community participation in Great Barrier Reef climate change reduction and mitigation actions need to help people negotiate the constraints they face.
- Communication programs need to take advantage of the high awareness and concern about climate change by focusing efforts on educating the public about potential solutions to the climate change problem, and how they can become more meaningfully engaged in climate change reduction and mitigation strategies.
- Communication programs tailored to specific groups based on age, gender or location may not be necessary because no demographic group stood out as being particularly under-informed or under-engaged in the issue of climate change and the Great Barrier Reef.
- Tailoring communication and education efforts at population segments based on psychographic characteristics (e.g. perceptions of constraints on engagement with climate change actions) or behavioral characteristics (e.g. current climate change reduction and mitigation activities) might be more effective than a demographic-based communication approach.

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Acronyms Used In This Report

AUD	Australian Dollar(s)
CAE	College of Advanced Education
GBR	Great Barrier Reef
GBRMP	Great Barrier Reef Marine Park
GBRMPA	Great Barrier Reef Marine Park Authority
SMA	Statistical Metropolitan Area(s)
TAFE	Technical and Further Education (College)

Acknowledgements

The authors would like to thank Roger Beeden, Ingrid van Putten and Antasia Azure of the Great Barrier Reef Marine Park Authority for their assistance throughout this project.

Thanks to Lucia Papa and Manisha Mehta of Roy Morgan Research for their assistance with data collection.

Special thanks to all of the respondents who gave their time to participate in the survey.

This study was funded jointly by the Great Barrier Reef Marine Park Authority and the Australian Government's Marine and Tropical Sciences Research Facility.

Introduction

The Great Barrier Reef (GBR) is the world's largest and healthiest coral reef ecosystem, consisting of a spatially complex network of over three thousand individual reefs and islands and extensive inter-reef and lagoon areas covering a total area of over 350,000km² (Johnson & Marshall, 2007). These natural values provide important ecosystem services which underpin approximately AUD\$6.9 billion worth of economic activity and incalculable social values (Johnson & Marshall, 2007). The Great Barrier Reef Marine Park Authority (GBRMPA) recognises climate change as the greatest long-term threat to the environmental, economic and social values of GBR, with severe impacts predicted under even moderate climate change scenarios (GBRMPA, 2007; Johnson & Marshall, 2007). The Australian Government's *Great Barrier Reef Climate Change Action Plan* (Action Plan) aims to counter the climate change threat by ensuring that the GBR social-ecological system is resilient to climate change impacts, and that the rate and extent of climate change is minimised through reductions in human influences on climate (GBRMPA, 2007).

Engaging stakeholders in GBR climate change reduction and mitigation strategies is central to both increasing social-ecological resilience and reducing human impacts on climate, and is therefore an integral part of the Action Plan. A range of GBR climate change reduction and mitigation actions can be undertaken by individuals, including changing their level or pattern of use of the GBR, undertaking general pro-environmental behaviours at home or at work (e.g. driving the car less frequently, recycling, reduced energy use, etc.), and participating in specific activities or programs designed to respond to the impacts of climate change on the GBR (e.g. the GBRMPA BleachWatch program). A major challenge facing the GBRMPA in meeting the goals of the Action Plan is increasing community engagement in these and other climate change reduction and mitigation activities.

Effectively empowering stakeholders to participate in climate change mitigation and adaptation requires a sound understanding of the various human dimensions of climate change issues. A recent review of the climate change social science literature by Lynch and others (2009), commissioned by the GBRMPA, found that there is a need for more information about people's values, beliefs, attitudes and behaviours regarding climate change, its impacts on the Great Barrier Reef, and community engagement in adaptation and mitigation strategies. Particular questions of importance identified in the review included:

- What is the level of awareness of and beliefs about the consequences of climate change on the Great Barrier Reef?
- How prepared are people to becoming engaged in efforts to reduce the impacts of climate change on the Great Barrier Reef?
- What types of reduction or mitigation efforts do individuals expect, and which efforts will they be most likely to support?
- Do people feel like they have the ability to help deal with the issue of climate change for the Great Barrier Reef?
- What are the barriers to engaging the community in efforts to reduce or mitigate the impacts of climate change on the Great Barrier Reef?
- How do we best communicate with the public about Great Barrier Reef climate change issues?
- Are there differences in these or other important variables across various segments of the Great Barrier Reef stakeholder public?

In this document, we report on the results of a community survey undertaken to address the priority research questions identified by Lynch *et al.* (2009). The goals of this study were to:

1. Understand perceived community understanding of climate change issues and the impacts on the GBR;
2. Identify key psychological, sociological and demographic characteristics amongst community members that can be combined to produce population segmentation descriptions;
3. Identify options for addressing empowerment issues with respect to reducing climate change impacts on the GBR;
4. Identify communication options for different population segments with respect to climate change issues; and
5. Identify critical knowledge gaps relevant to climate change management actions.

Methods

Data collection

The target population for the study was individuals aged 18 years and over residing within fifty kilometres of the Great Barrier Reef Marine Park coastline, and individuals residing within the Sydney, Melbourne and Brisbane Statistical Metropolitan Areas (SMAs). For sampling purposes, the study area was stratified into eight regions – five regions along the GBR coast, and one region each for the Sydney, Melbourne and Brisbane SMAs. A target sample size of two hundred individuals from each of the eight regions was set.

Individuals in the study area were telephone surveyed in November 2008. A random sample of telephone numbers within each region was drawn from the electronic White Pages® and from the database of active household telephone numbers maintained by Roy Morgan Research (Brisbane). Up to six attempts were made to contact each sampled phone number before replacing it with an alternative number. Surveying was terminated in each region when the regional quota of two hundred completed surveys was reached.

Upon contacting a sampled household, surveyors asked to speak to the youngest male household member aged 18 years or older. If the youngest male was not available, the youngest female was requested. This sampling procedure was used to account for age and gender bias typically associated with random telephone surveys. When the selected respondent was not available, an appointment was made and the respondent was called again at the appointed time. Respondents were administered a twenty-minute survey about their beliefs about climate change, its impacts on the GBR, and their level of interest and involvement in GBR climate change mitigation and adaptation strategies (Appendix B). In total, 10,057 households were contacted, resulting in 1,623 completed surveys.

Analysis

Data for all questions in the survey were analysed and presented descriptively. To aid interpretation, variables measured on five-point response scales were collapsed into three-point scales by combining the categories at each end of the scale, for example, the five-point agree-disagree scale was collapsed into the categories 'agree', 'neutral' and 'disagree' by combining 'agree' with 'strongly agree', and 'disagree' with 'strongly disagree'. Australian Bureau of Statistics population estimates by age, gender and region were used to derive individual case weights to correct for age and gender bias in the telephone sample and oversampling of some regions. Population-level estimates of means and percentages were calculated using the weighted data; raw and adjusted results for all questions in the survey are included in Appendix A.

A subset of questions from the survey was analysed for differences across age, gender, geographic regions, and whether the respondent had visited the Great Barrier Reef Marine Park in the previous twelve months. For the regional analysis, respondents were grouped into two regions, (1) Reef area (i.e. individuals who reside within fifty kilometres of the GBR coast; n=1022); and (2) City area (i.e. individuals who reside in the Sydney, Melbourne or Brisbane SMAs; n=600). In testing for significant differences across independent variables, t-tests were used on interval-scaled (i.e. continuous) variables, and chi-square tests of independence were used for nominal and ordinal variables. All tests were conducted using SPSS Version 16 with level of statistical significance set at alpha=0.05.

Results

Demographics

Age was relatively evenly distributed across age categories (Table A41). The survey had slightly more female (51.4%) than male (48.6%) respondents (Table A42). Thirty-four percent of respondents had a university degree or a college of advanced education (CAE) degree; 17.5% said they had finished or are currently studying Year 12; 8.1% had some secondary school education; and 15.2% had a tertiary diploma (Table A39). Almost half of all respondents (44.7%) had an annual household income of \$100,000 or more and 22.2% had an annual household income of less than \$50,000 (Table A40). Thirty-three percent of respondents had two people in their household; 38.1% had three to four household members; whilst 15.5% of respondents reported living alone (Table A32). Sixty-five percent of respondents had no dependants in their household younger than 18 years of age, whereas 27% had one or two people younger than the age of 18 years (Table A33). Of the dwellings housing people younger than 18 years of age, only 3.3% reported that those individuals attend a 'Reef Guardians' school¹ (Table A34). Respondents of Aboriginal or Torres Strait Island descent were represented by 1.6% of the survey sample (Table A35). Twenty-eight percent of all respondents reported being born outside of Australia (Table A36); and ten percent of respondents did not have English as their first language (Table A37).

Use of the Great Barrier Reef

Ten percent of individuals in the study area had visited the Great Barrier Reef Marine Park in the previous twelve months (Table A25); of those, 63% reported visiting for between one and five days (Table A26). Of the ten percent of respondents who had reported visiting the GBR in the past twelve months, snorkeling was the most common water-based activity (54.3%) undertaken, followed by boating (24.1%), swimming (23.2%) and fishing (17.4%) (Table A28). Almost half (45.9%) of the visitors to the Great Barrier Reef Marine Park had paid for an organised tour during their stay (Table A29).

The effect of human activities on the earth's climate

The majority of respondents (65.2%) believed that human activity has a 'large effect' on the earth's climate, whereas only 2.9% believed that human activities have 'no effect' on the earth's climate (Table A1; Figure 1).

Significantly more respondents in the City area (Sydney, Melbourne and Brisbane) believed that human activities have a large effect on the earth's climate (64%), compared with respondents living in the Reef area (51%) ($\chi^2=32.950$, $df=3$, $p=0.001$) (Figure 2).

¹ <http://www.reefed.edu.au/home/guardians>

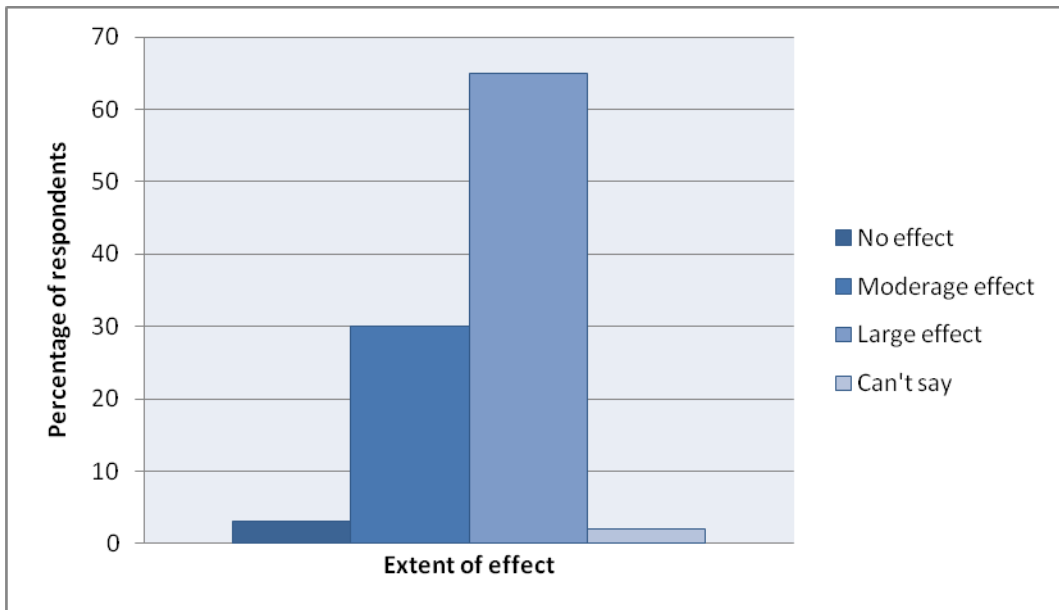


Figure 1: Perceptions of whether human activities have an effect on the earth's climate.



Figure 2: Perceptions of whether human activities have an effect on the earth's climate, by region.

There was a significant negative effect of age on belief about whether human activities have a negative impact on the earth's climate ($\chi^2=25.050$, $df=12$, $p=0.015$) (Figure 3).

Significantly more females (64%) than males (49%) believed that human activities have a large effect on the earth's climate ($\chi^2=45.779$, $df=3$, $p=0.001$). More males (8%) than females (3%) believed that human activities do not have any effect at all on the earth's climate (Figure 4).

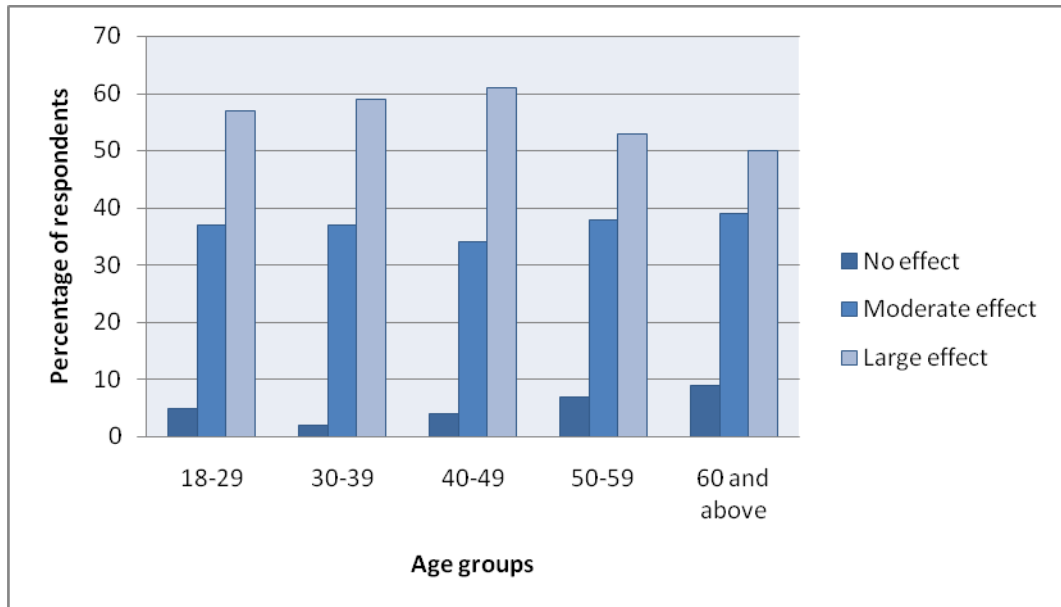


Figure 3: Perceptions of whether human activities have an effect on the earth's climate, by age.

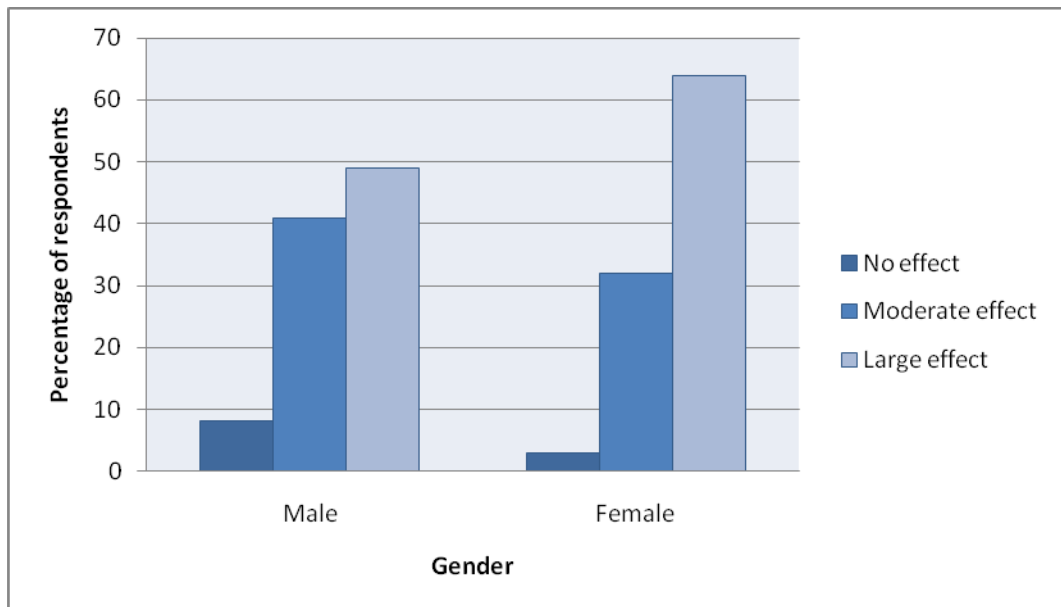


Figure 4: Perceptions of whether human activities have an effect on the earth's climate, by gender.

No significant differences were detected between respondents who had visited the Great Barrier Reef in the last twelve months, and those who had not, regarding whether human activities effect the earth's climate ($\chi^2=10.504$, $df=6$, $p=0.105$).

Overall concern about climate change

Half of all respondents (50.0%) said they were very concerned about climate change in general, whereas 7.2% said they were not at all concerned (Table A7; Figure 5).

Level of concern about climate change differed significantly between respondents living in cities compared to those living along the Great Barrier Reef coast: 51% of City area respondents said they were very concerned about climate change in general compared with 38% of Reef area respondents (Figure 6). Furthermore, fourteen percent of respondents in the Reef area said they were not at all concerned about climate change compared with 6% of respondents in the City area (Figure 6) ($\chi^2=35$, $df=2$, $p=0.001$).

There were significant differences among age groups regarding concern about climate change ($\chi^2=29.482$, $df=8$, $p=0.001$). Fifty-two percent of respondents in the 40-49 years age group were very concerned about climate change in general, whereas only 36% of those in the 18-29 years age group were very concerned (Figure 7).

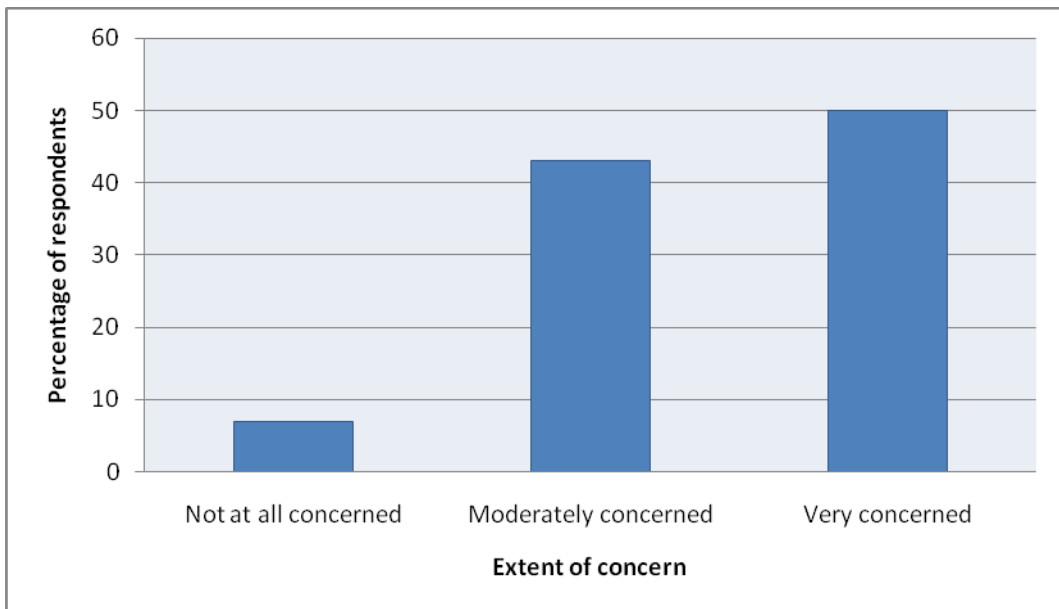


Figure 5: Respondents' concern about climate change in general.

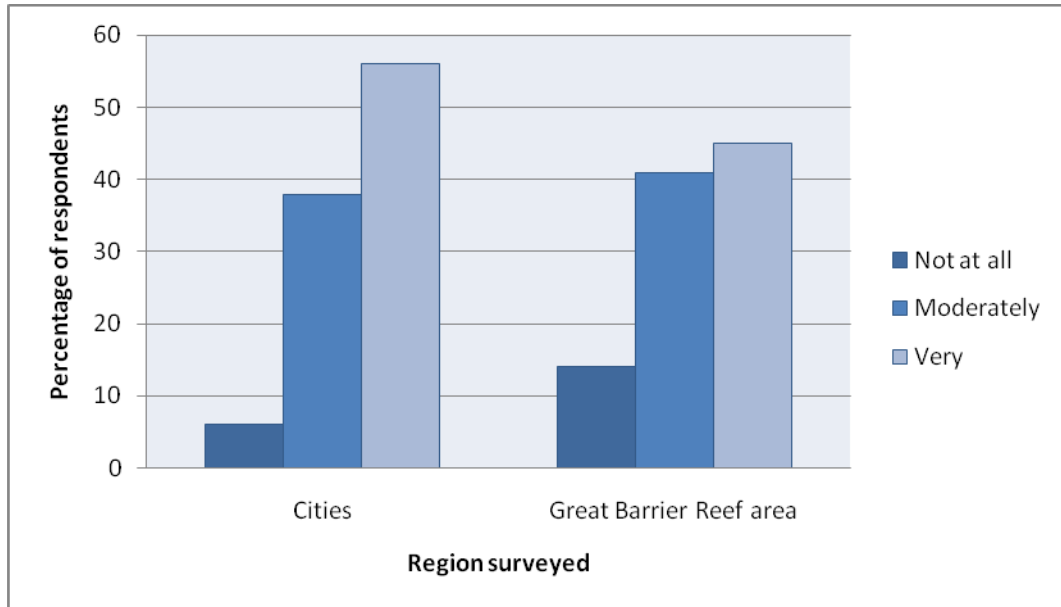


Figure 6: Concern about climate change in general, by region.

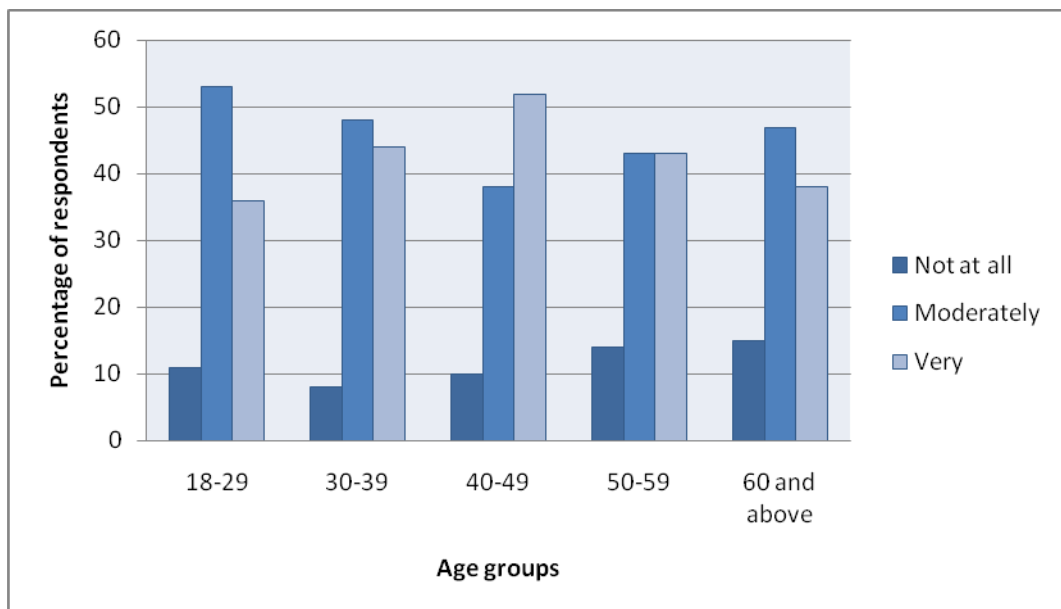


Figure 7: Concern about climate change in general, by age.

Significantly more females (48%) than males (38%) said they are very concerned about climate change in general ($\chi^2=38.006$, $df=2$, $p=0.001$) (Figure 8).

Respondents who had not visited the GBR in the preceding twelve months were more likely to report being very concerned about climate change (45%) than were respondents who had visited the GBR over that time (36%). ($\chi^2=14.254$, $df=4$, $p=0.007$) (Figure 9).

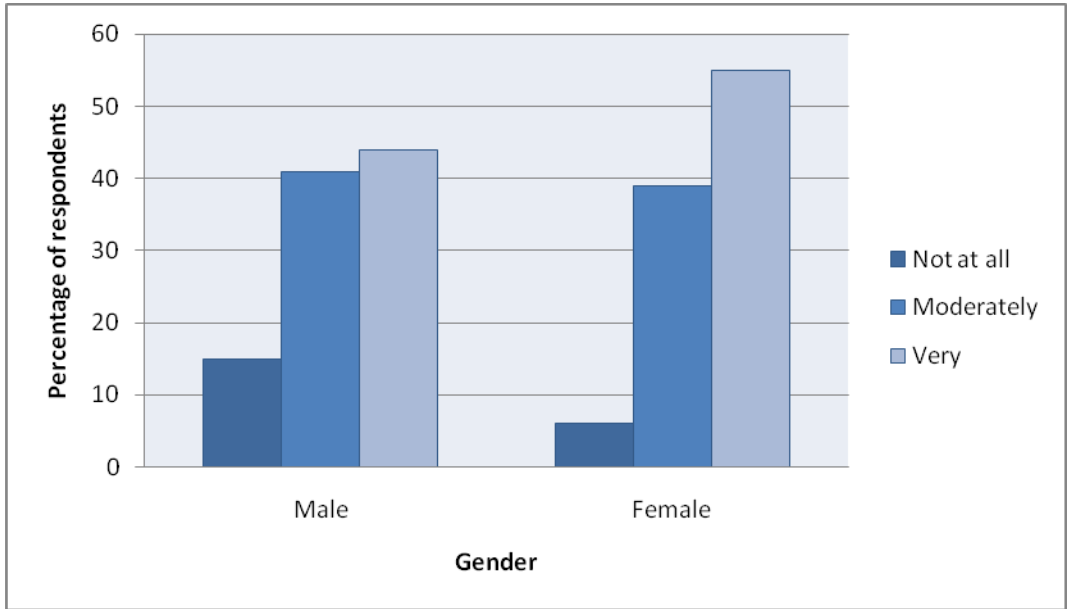


Figure 8: Concern about climate change in general, by gender.

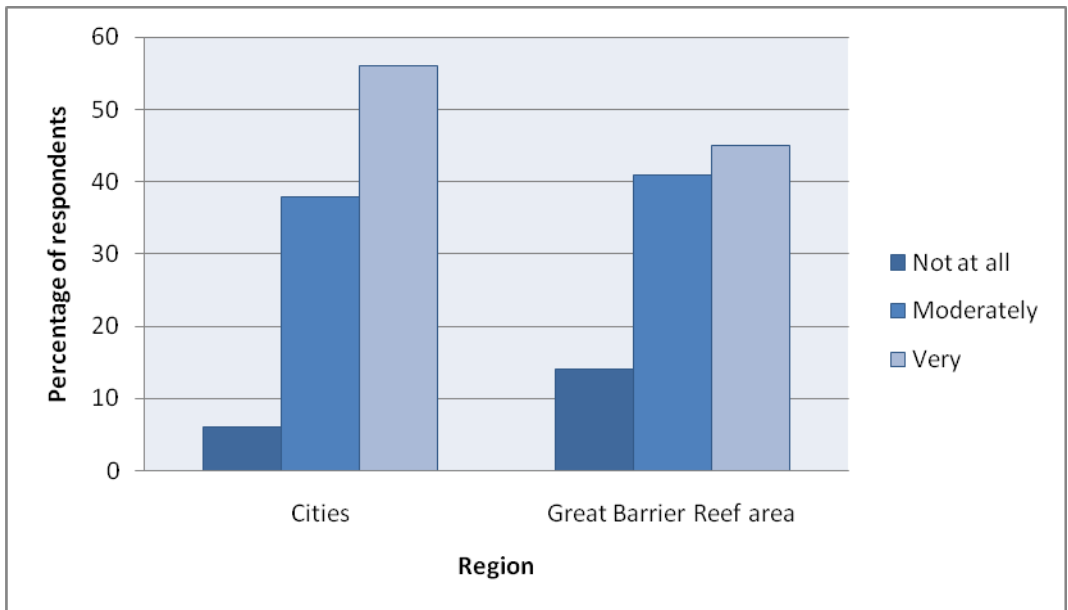


Figure 9: Concern about climate change in general, by region.

Necessity to reduce human activities thought to cause climate change

A majority (72.6%) of all respondents said they believed it is very necessary to take steps to reduce human activities that are thought to cause climate change (Table A8; Figure 10).

Seventy-two percent of City area respondents believed it is necessary to take steps to reduce human activities that are thought to cause climate change compared with 57% of respondents living in the Reef area ($\chi^2=38$, $df=2$, $p=0.001$) (Figure 11). Significant differences were also found among age groups regarding perception of how necessary it is to take steps to reduce human activities that are thought to cause climate change. The 18-29 years age group had the highest percentage of respondents who believed it is very necessary to reduce human activities causing climate change (70%), whereas the 60+ year age group had the lowest (52%) ($\chi^2=37.635$, $df=8$, $p=0.001$) (Figure 12).

Seventy percent of female respondents believed it is very necessary to take steps to reduce human impacts thought to cause climate change, compared to 56% of male respondents ($\chi^2=40.355$, $df=2$, $p=0.001$) (Figure 13).

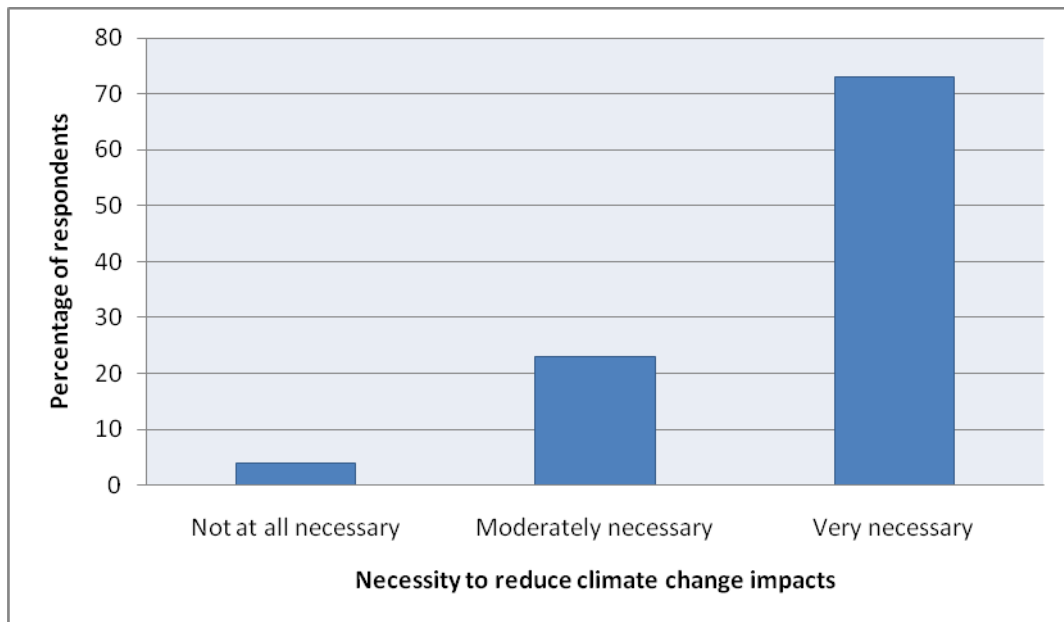


Figure 10: Perception of the necessity to take steps to reduce human activities thought to cause climate change.

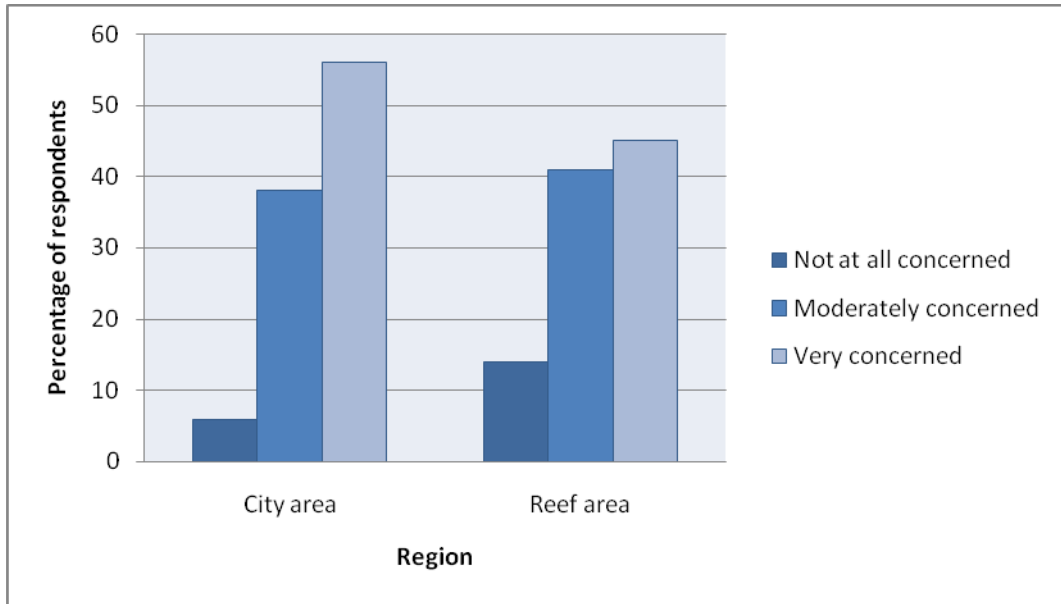


Figure 11: Perceptions of the necessity to take steps to reduce human activities that are thought to cause climate change, by region.

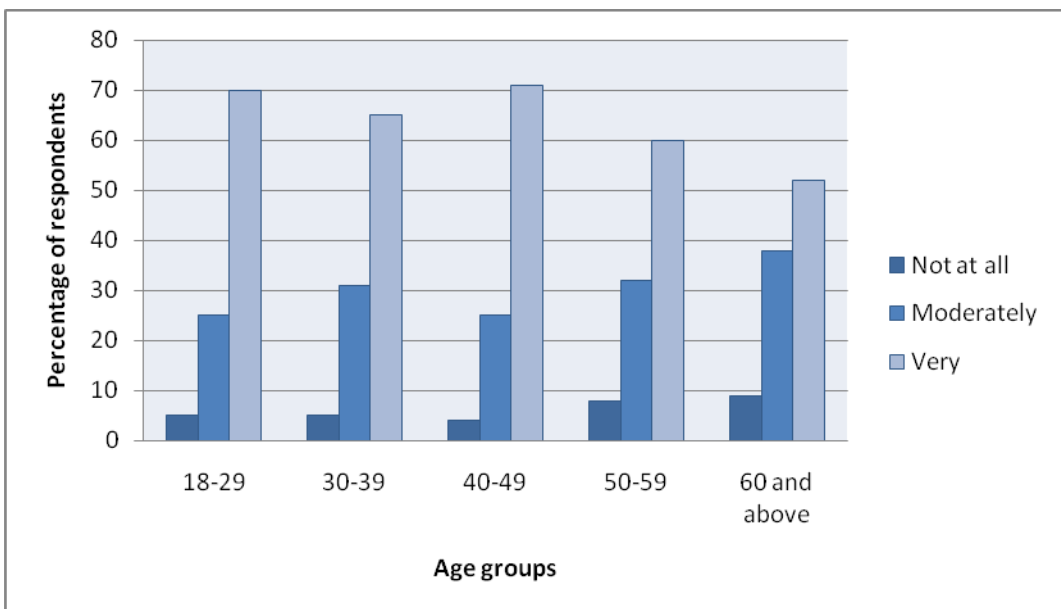


Figure 12: Perceptions of the necessity to take steps to reduce human activities that are thought to cause climate change, by age.

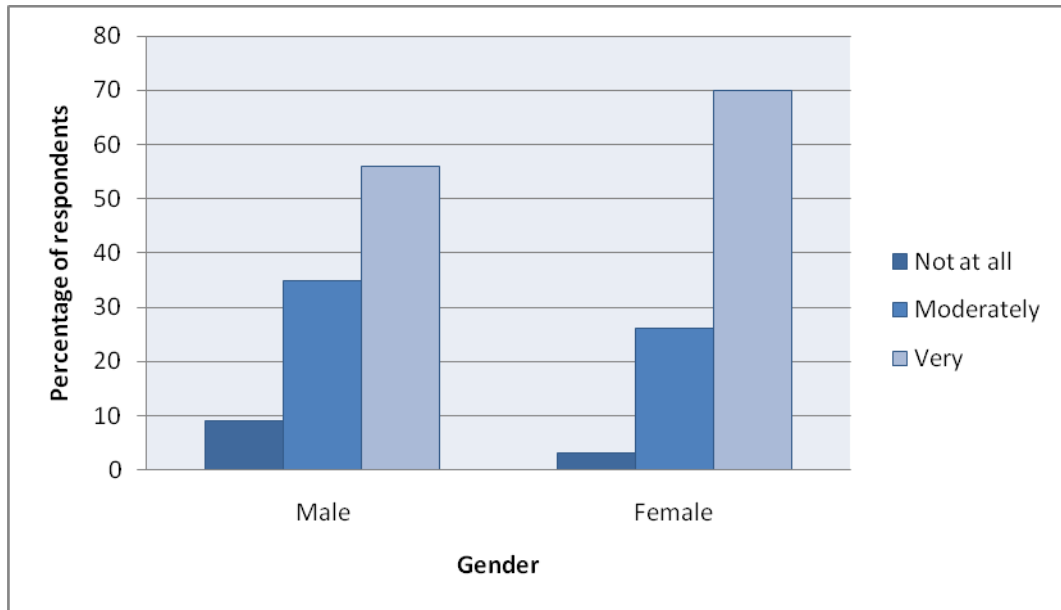


Figure 13: Perception of the necessity to take steps to reduce human activities that are thought to cause climate change, by gender.

No significant differences were found between those respondents who had visited the GBR in the preceding twelve months and those who had not regarding the necessity to take steps to reduce human impacts thought to cause climate change ($\chi^2=8.327$, $df=4$, $p=0.080$).

Interest in taking steps to reduce the impacts of climate change

Nearly forty-seven percent of survey respondents were moderately interested in taking steps to reduce the impacts of climate change on the GBR; 38.6% were very interested; and 14.6% were not at all interested in doing so (Table A10; Figure 14).

There was no significant difference between City and Reef areas in interest in taking steps to reduce the impact of climate change on the Great Barrier Reef ($\chi^2=2.684$, $df=2$, $p=0.261$).

Age groups differed significantly in level of interest ($\chi^2=60.037$, $df=8$, $p=0.001$). The 40-49 years age group had the highest percentage of respondents (44%) who were very interested in taking steps to reduce the impact of climate change on the GBR, whereas the 60+ year age group had the lowest (30%) (Figure 15).

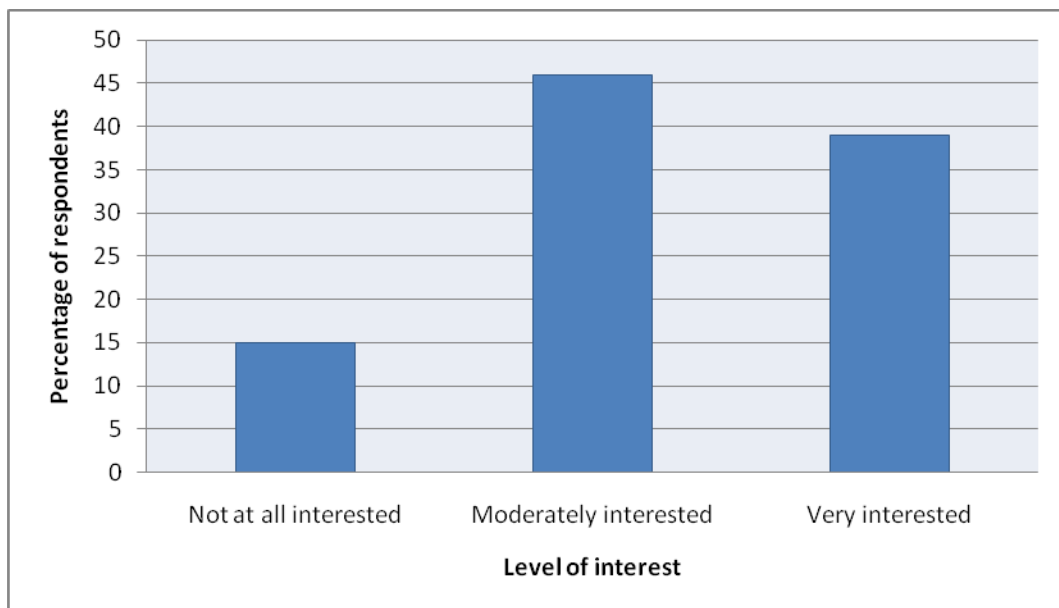


Figure 14: Respondents' interest in taking steps to reduce the impacts of climate change on the Great Barrier Reef.

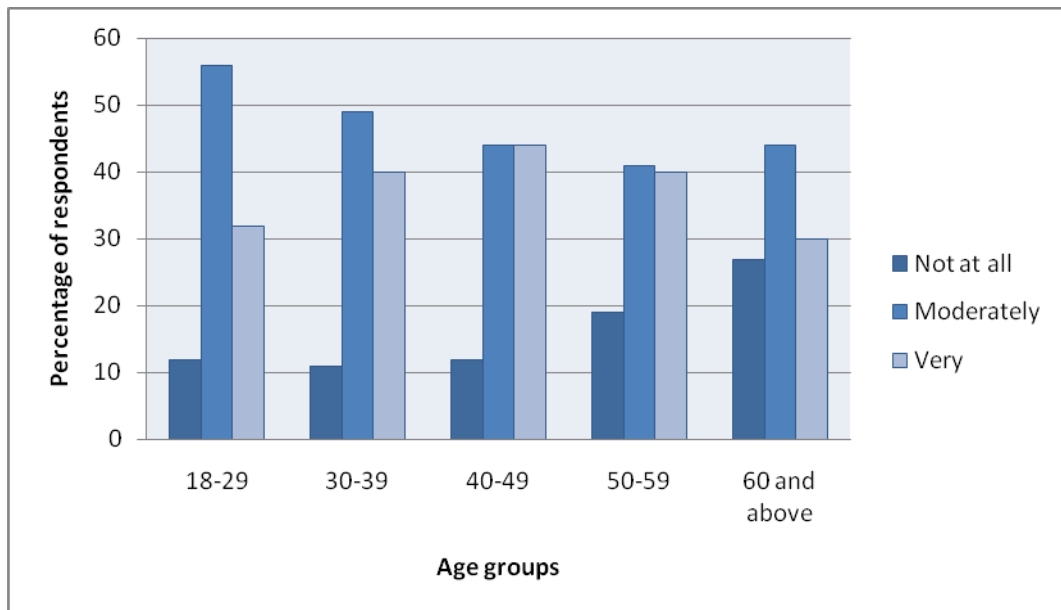


Figure 15: Respondents' interest in taking steps to reduce the impacts of climate change on the Great Barrier Reef, by age.

Forty percent of female respondents and 35% of male respondents said they were very interested in taking steps to reduce the impacts of climate change on the GBR ($\chi^2=14.841$, $df=2$, $p=0.001$). Twenty percent of male respondents and 13% of female respondents were not at all interested in reducing climate change impacts on the GBR (Figure 16).

Forty-two percent of respondents who had visited the GBR in the preceding twelve months said they were very interested in taking steps to reduce the impacts of climate change on the reef, compared to 35% of those who had not visited the reef over that time ($\chi^2=11.634$, $df=4$, $p=0.020$) (Figure 17).

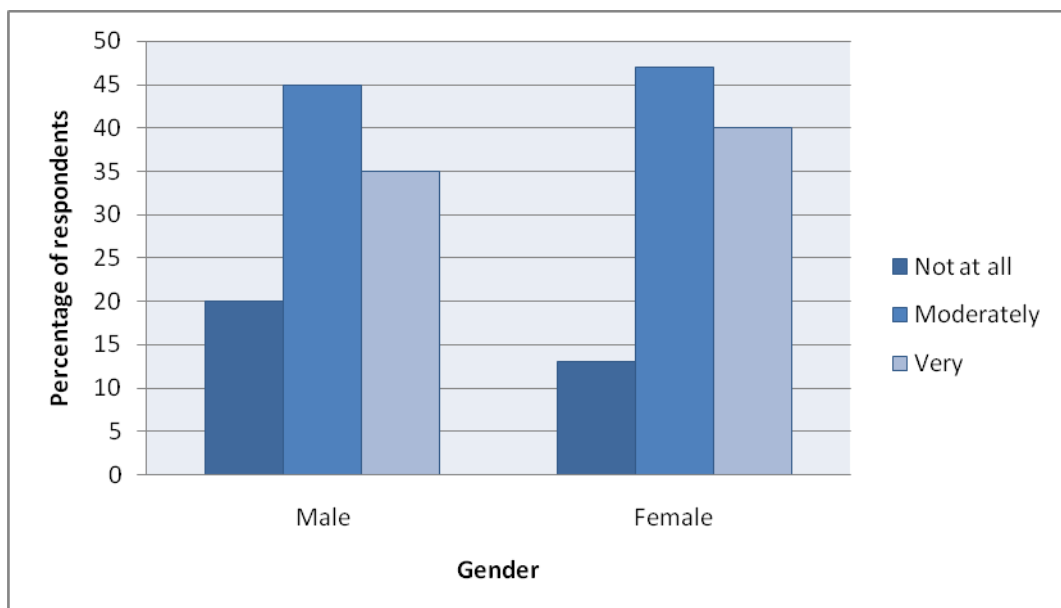


Figure 16: Respondents' interest in taking action to reduce the impacts of climate change on the Great Barrier Reef, by gender.

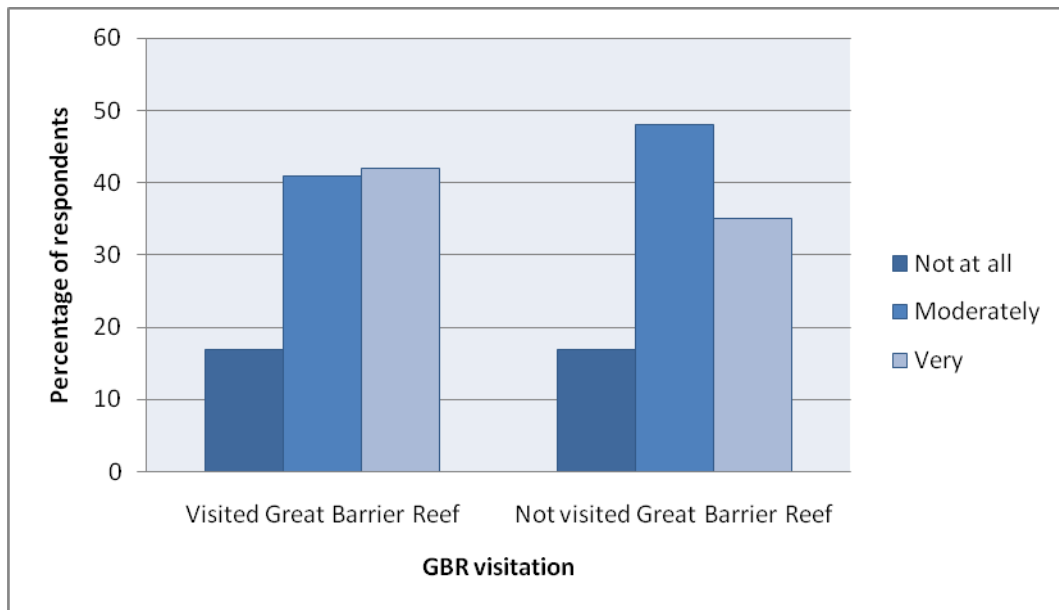


Figure 17: Respondents' interest in taking action to reduce the impacts of climate change on the Great Barrier Reef, by reef visitation in the preceding twelve months.

Action taken over the preceding twelve months to help reduce the impacts of climate change

Nearly seventy-nine percent of respondents said they had taken action in the twelve months leading up to the community survey to help reduce the impacts of climate change (Table A2). Significantly more Reef area respondents (79%) reported they had taken action against climate change than City area respondents (74%) ($\chi^2=9.138$, $df=2$, $p=0.010$).

There were significant differences across age groups in actions taken in the preceding twelve months ($\chi^2=35.634$, $df=8$, $p=0.001$). Eighty-six percent of the 40-49 years age group said they had taken action to reduce impacts compared with 69% of 18-29 year olds (Figure 18).

Of those respondents who said they had taken action towards counteracting the impacts of climate change, the most frequently cited activities were recycling (41.8%), turning off lights or appliances when not in use (35.1%), using energy-efficient products (33.1%), minimising travel (18.9%), walking or cycling rather than driving the car (16.7%), and reducing water usage (14.3%) (Table A3; Figure 19).

Eighty-one percent of female respondents and 72% of male respondents said they had taken action during the preceding twelve months to help reduce the impacts of climate change ($\chi^2=23.615$, $df=2$, $p=0.001$).

There was no significant difference between respondents who had visited the GBR in the preceding twelve months and those who had not with regards to action taken ($\chi^2=7.608$, $df=4$, $p=0.107$).

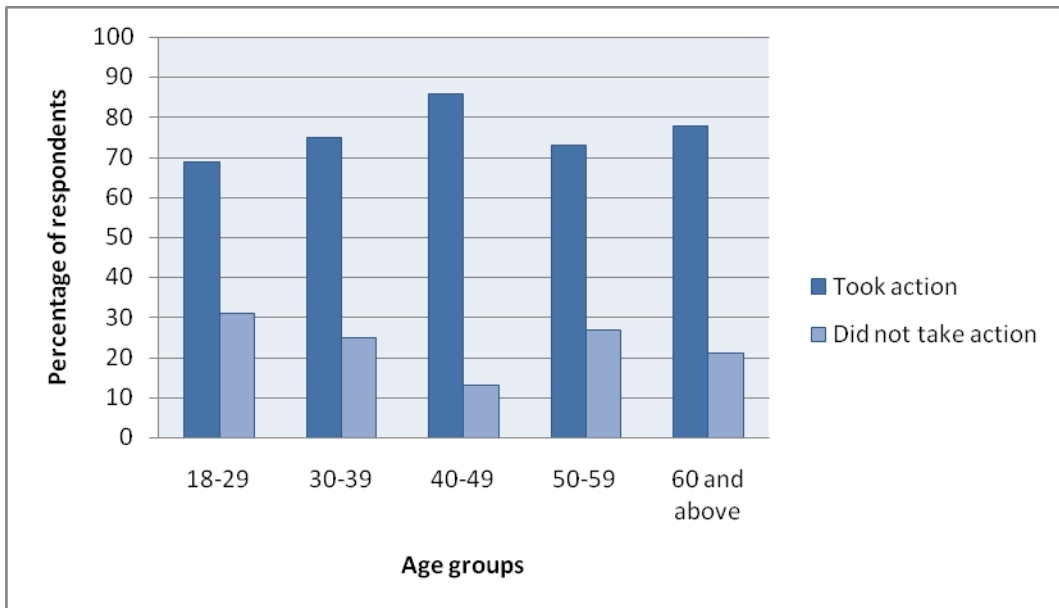


Figure 18: Whether respondents took action over the twelve months leading up to the community survey to help reduce the impacts of climate change, by age group.

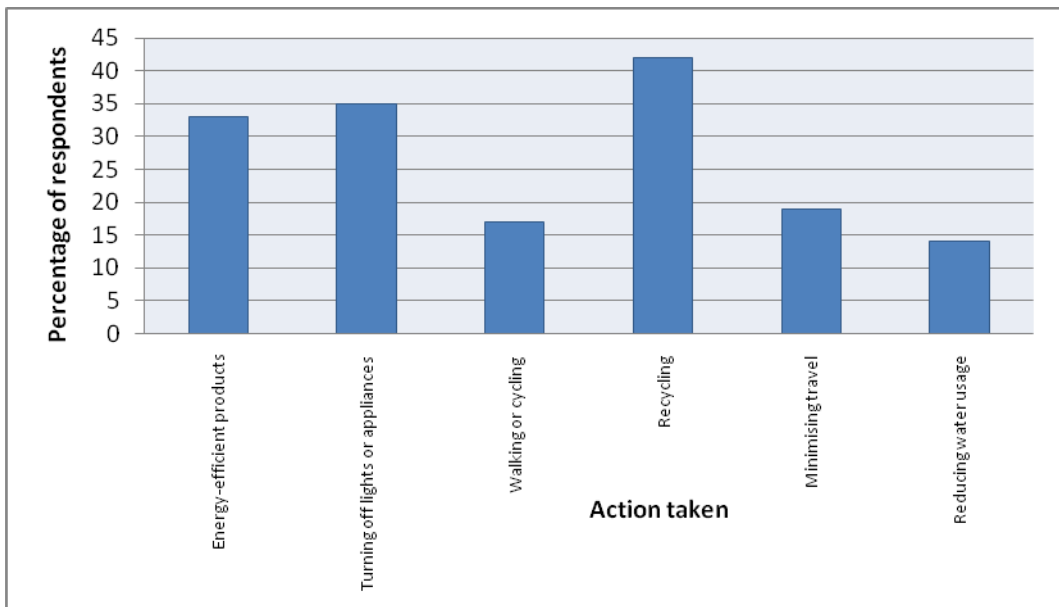


Figure 19: Most frequent activities undertaken by those survey respondents who have taken action to decrease the impacts of climate change. Note, multiple responses allowed.

Likelihood of taking action in the following twelve months to reduce the impacts of climate change

Nearly fifteen percent of respondents said they were not at all interested in taking action to help reduce the impacts of climate change on the GBR; 46.8% were moderately interested in taking action; and 38.6% said they were very interested in doing so (Table A10). Respondents were asked a follow-up question about how likely they were to actually undertake some action in the following twelve months to help reduce the impacts of climate change on the GBR. Forty-four percent of respondents said they were not at all likely to take any action, whereas 15.7% said they were very likely to take action (Table A11; Figure 20). Of those 16% who said they were very likely to take action(s) to help reduce human impacts on the Great Barrier Reef over the following twelve months, the most commonly cited actions included installation of rainwater tank(s) (10.9%); reduction in car usage (9.2%) and changing driving-related behaviour, for example, walking to the shops rather than driving the car, or using public transport (8.8%) (Table A12).

Significantly more respondents living in the Reef area (23%) said they were likely to undertake some action in the next twelve months to reduce the impacts of climate change on the GBR compared with respondents from the City area (17%) ($\chi^2=13.053$, $df=2$, $p=0.001$) (Figure 21).

There were significant differences among the age groups regarding the likelihood to take action in next twelve months ($\chi^2=64.624$, $df=8$, $p=0.001$). Fifty-six percent of the 60+ year age group said they were not at all likely to take action against climate change compared to 35% of the 18-29 years age group (Figure 22).

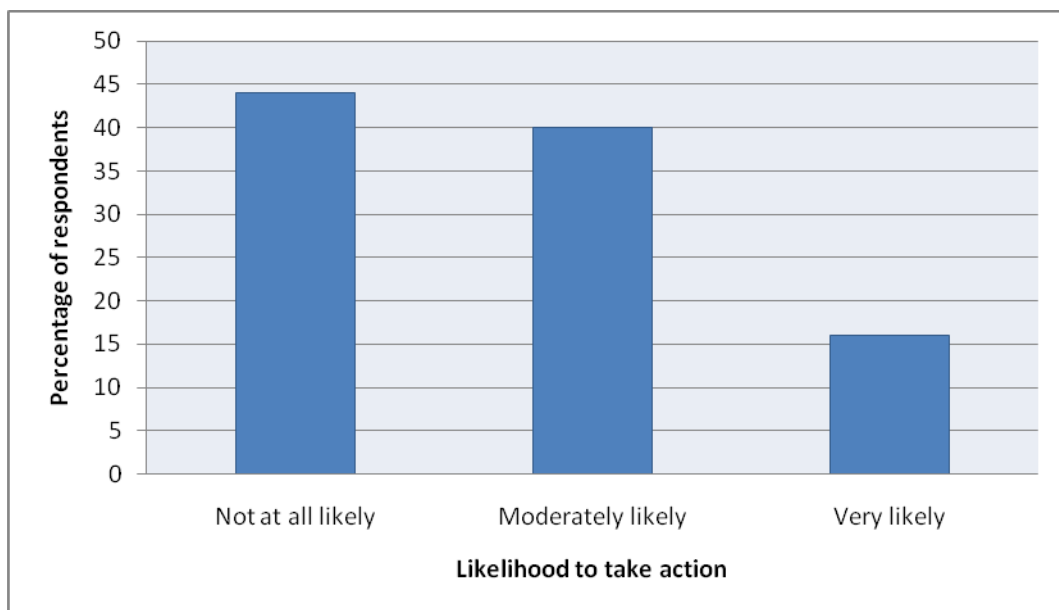


Figure 20: Likelihood of respondents to undertake action(s) over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef.

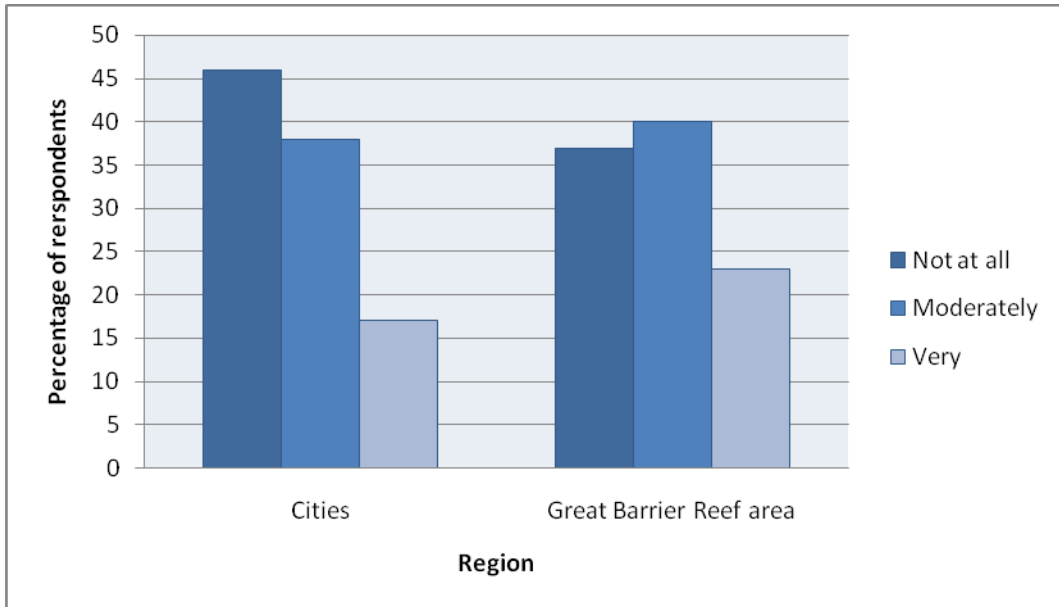


Figure 21: Likelihood of survey respondents to undertake action(s) over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef, by region.

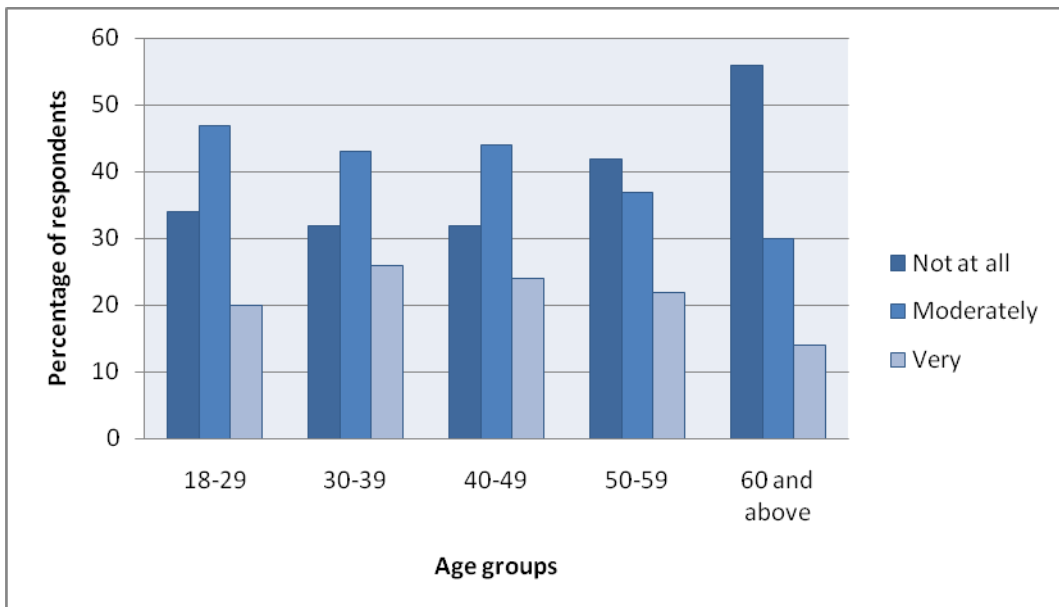


Figure 22: Likelihood of survey respondents to undertake action(s) over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef, by age group.

There were no significant differences between male and female respondents in terms of likelihood to undertake action in the next twelve months to reduce impacts of climate change on the Great Barrier Reef ($\chi^2=5.586$, $df=2$, $p=0.061$).

Comparing respondents who have visited the GBR in the preceding twelve months with those who had not visited revealed a significant difference in likelihood to undertake some action in the next twelve months to reduce the impacts of climate change ($\chi^2=45.910$, $df=4$, $p=0.001$). Thirty percent of those who had visited the GBR in the previous twelve months said they were very likely to undertake action in the twelve months following the survey to reduce climate change impacts, compared with 16% of those who had not visited the GBR before (Figure 23).

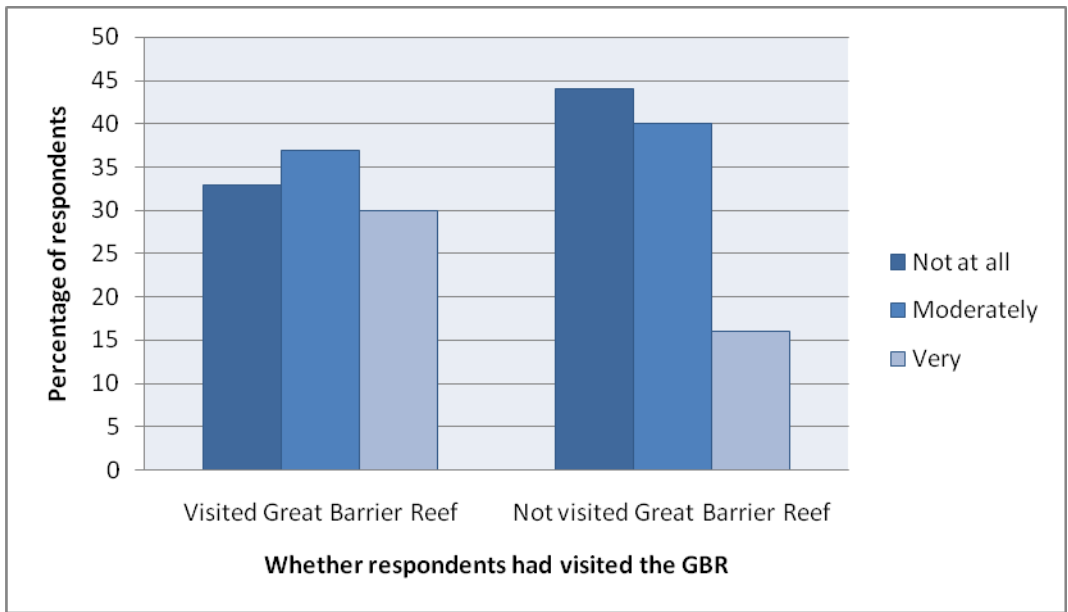


Figure 23: Likelihood of survey respondents to undertake action(s) over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef, by reef visitation.

Perceived threats to the Great Barrier Reef

When asked to rate the seriousness of five potential threats to the Great Barrier Reef, 71.2% of respondents said climate change/global warming was a major threat, followed by commercial fishing (61.1%), declining water quality from land runoff into the GBRMP (61.1%), shipping in the GBRMP (57.9%) and coastal development adjacent to the GBRMP (55.5%) (Table A4; Figure 24).

Respondents who believed that more than one of the listed potential threats was a major threat to the Great Barrier Reef were asked to select the one they thought posed the **greatest** threat. Climate change/global warming was selected by 41.7% of respondents, followed by declining water quality (18.1%) (Table A5). When asked specifically about the potential effects of climate change on the Great Barrier Reef, 72.6% of respondents said they were very concerned about those effects (Table A9; Figure 25).

Significantly more people in the City area (56%) said they were very concerned about the potential effects of climate change on the Great Barrier Reef compared with those living adjacent to the Reef (45%) ($\chi^2=29.013$, $df=2$, $p=0.001$) (Figure 26).

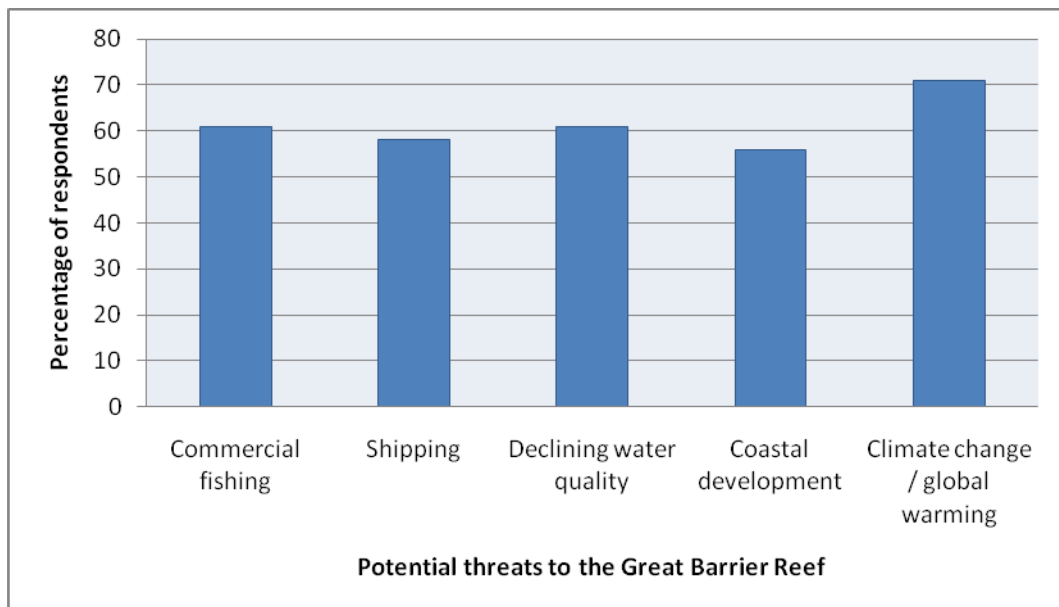


Figure 24: Perceived potential threats to the Great Barrier Reef Marine Park. Note, multiple responses allowed.

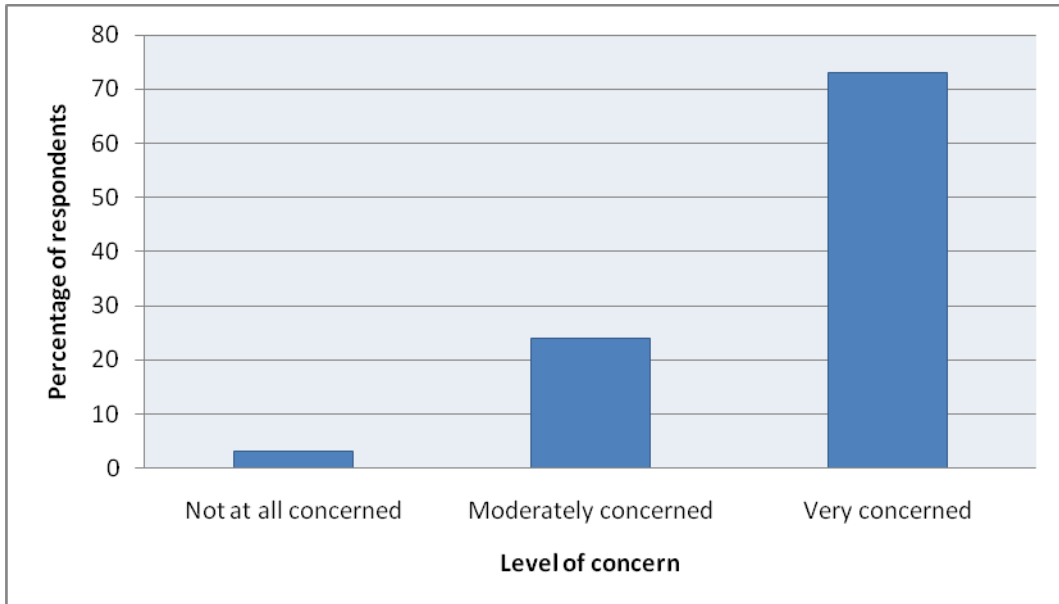


Figure 25: Respondents' level of concern about the potential effects of climate change on the Great Barrier Reef.

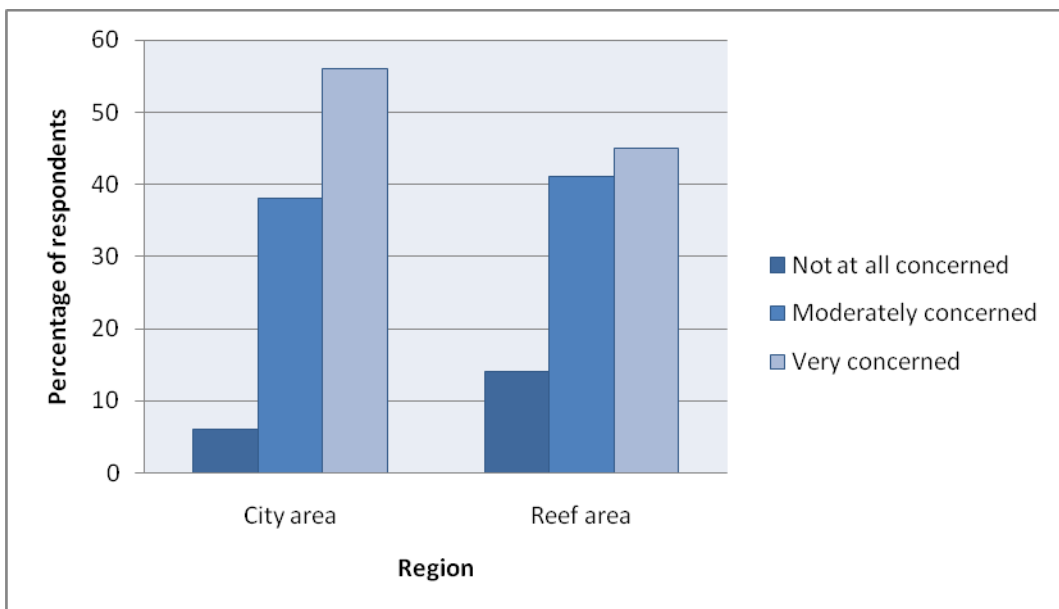


Figure 26: Respondents' level of concern about the potential effects of climate change on the Great Barrier Reef, by region.

Significant differences were found among age groups in terms of respondents' perceptions of the potential effects of climate change on the Great Barrier Reef ($\chi^2=36.769$, $df=8$, $p=0.001$). Among the 40-49 year age group, 52% said they are very concerned about the effects of climate change on the GBR, compared with 36% of 18-29 year olds (Figure 27). Fifteen percent within the 60+ year age group said they were not at all concerned about climate change effects compared with 8% of 30-39 year olds (Figure 27).

Fifty-five percent of all females and 44% of the all males surveyed said they were very concerned about the potential effects of climate change on the Great Barrier Reef (Figure 28) ($\chi^2=43.834$, $df=2$, $p=0.001$).

No differences regarding concern for potential effects of climate change on the Great Barrier Reef were detected between people who had visited the reef and those who had not ($\chi^2=6.308$, $df=4$, $p=0.177$).

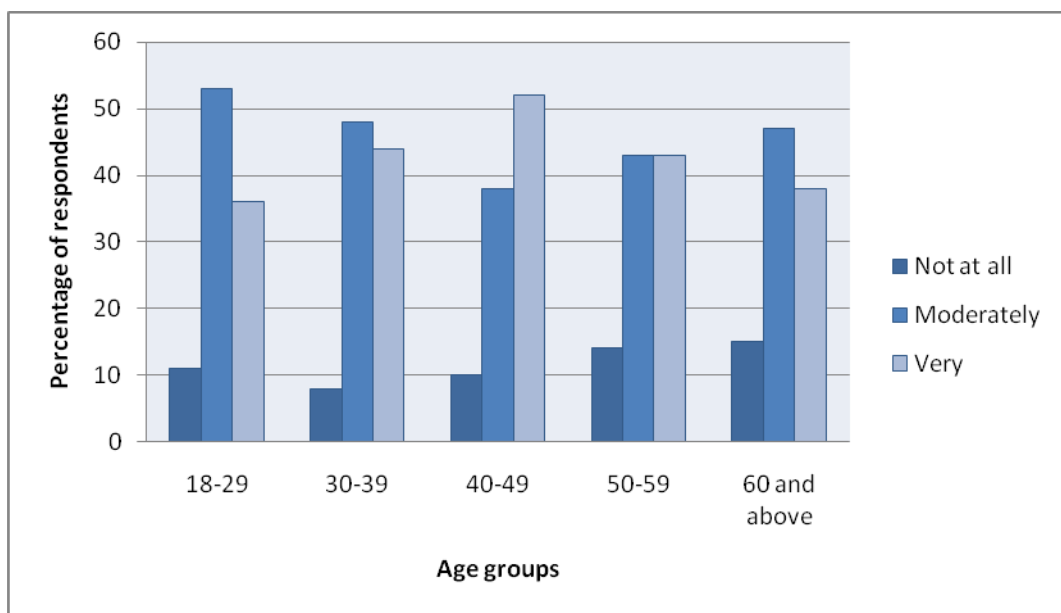


Figure 27: Respondents' concerns about the potential effects of climate change on the Great Barrier Reef, by age.

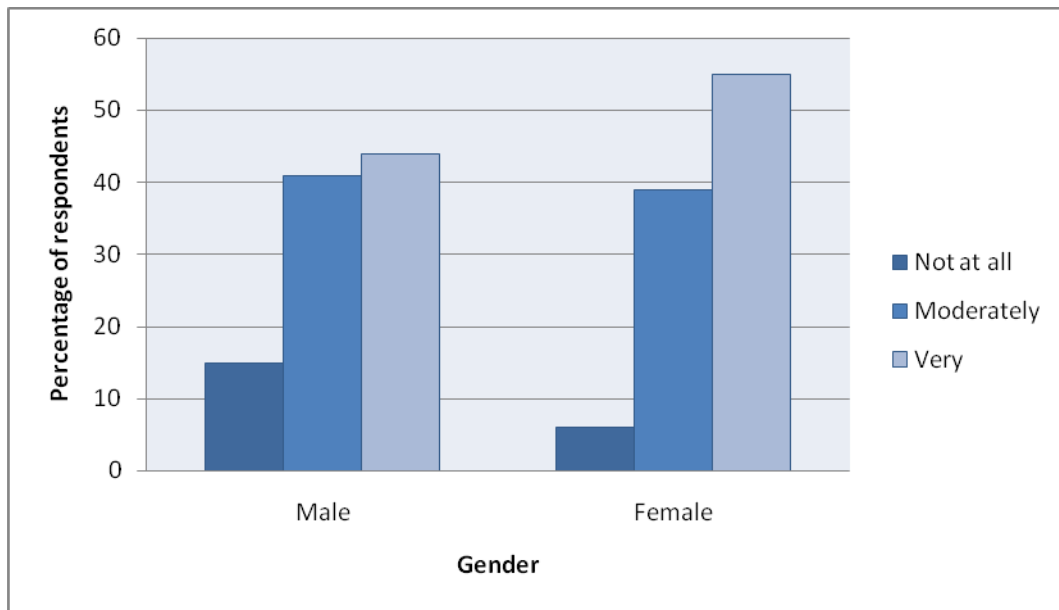


Figure 28: Respondents' concerns about the potential effects of climate change on the Great Barrier Reef, by gender.

Current behaviours to help reduce the impacts of climate change

To better understand levels of engagement in Great Barrier Reef climate change management actions, respondents were asked, "Which of the following two statements best describes the extent to which you are currently helping to reduce the impact of climate change on the Great Barrier Reef? (1) 'I don't do as much as I would like to'; or (2) I don't want to do more than I am already doing". Respondents were then asked to rate their level of agreement with a series of statements about possible reasons for their answer. Nearly seventy-two percent of respondents said that they do not do as much as they would like to do in terms of reducing the impacts of climate change on the Great Barrier Reef, whereas 22.6% felt they did not want to do more than they were already doing (Table 1; Table A18).

Of those respondents who said they do not do as much as they would like to help reduce the impact of climate change on the Great Barrier Reef, reasons receiving the highest level of agreement included, "[I] don't know what else [I] can do to help" (74.3%), "[I] have other more important priorities in [my] life" (54.1%), and "[I] don't have the time" (49.1%) (Table 2; Table A19). Of those respondents who said they did not want to do more than they were already doing to reduce the impacts of climate change on the Great Barrier Reef, reasons receiving the highest level of agreement included, "[I] have other more important priorities in [my] life" (66.7%), "[I] don't believe the things [I] could do would have any impact" (52.9%), "[I am] not certain that human activities are the cause of climate change" (42.6%), and "It is not [my] responsibility to protect the Great Barrier Reef from climate change" (36.5%) (Table 3; Table A20).

No significant differences were detected between respondents living in the Reef area compared to those in the City area regarding how they are currently helping to reduce the impacts of climate change ($\chi^2=3.597$, $df=2$, $p=0.166$).

Table 1: Frequency and percentage of the extent to which respondents are helping to reduce the impacts of climate change on the Great Barrier Reef.

Statements	n	%
I don't do as much as I would like to	1154	71.7
I don't want to do more than I am already doing	363	22.6
Can't say	92	5.7
Total	1609	100

Table 2: Respondents' reasons for not doing as much as they would like to in order to help reduce the impacts of climate change on the Great Barrier Reef.

Reasons	Agree (%)	Neutral (%)	Disagree (%)	Can't say (%)
'I don't know what else I can do to help'	74.3	4.0	20.5	1.2
'I have other more important priorities in my life'	54.1	13.3	30.2	2.4
'I don't have the time'	49.1	8.8	39.1	3.0
'I don't really understand the climate change problem'	31.5	5.7	62.5	0.3
'I don't believe the things I could do would have any impact'	26.6	6.8	63.8	2.8
'Doing more would cost me more money'	25.3	12.6	58.1	4.0
'My friends or family would not approve'	4.5	3.6	89.4	2.5

Table 3: Respondents' reasons for not wanting to do more than they are currently doing to help reduce the impacts of climate change on the Great Barrier Reef.

Reasons	Agree (%)	Neutral (%)	Disagree (%)	Can't say (%)
'I have other more important priorities in my life'	66.7	9.9	23.4	0.0
'I don't believe the things I could do would have any impact'	52.9	8.5	36.3	2.3
'I am not certain that human activities are the cause of climate change'	42.6	7.9	48.7	0.8
'It is not my responsibility to protect the Great Barrier Reef from climate change'	36.5	11.6	50.2	1.7
'I am not worried about the effects of climate change on the Great Barrier Reef'	27.8	6.6	63.8	1.8
'I really don't understand the climate change problem'	27.8	7.3	61.4	3.5
'I feel that I already do more than my share'	25.3	17.6	55.8	1.3
'It's too late to do anything about climate change now'	14.1	9.7	73.6	2.6

There were significant differences found amongst age groups in terms of whether individuals currently do as much as they would like to in order to reduce the impacts of climate change on the Great Barrier Reef ($\chi^2=35.634$, $df=8$, $p=0.001$). Seventy-nine percent of respondents in the 18-29 year age group said they do not do as much as they would like to do, compared to 54% of those in the 60+ year age group. Of the 18-29 year age group, 19% said they did not want to do more than they were already doing, while 60+ year olds were the largest proportion (35%) of respondents who did not want to do more than they were already doing (Figure 29).

Significantly more women (73%) than men (62%) said they do not do as much as they would like to do to reduce the impacts of climate change on the Great Barrier Reef ($\chi^2=19.977$, $df=2$, $p=0.001$). There was no effect of GBR visitation over the previous twelve months in desire to do more to reduce climate change impacts on the reef ($\chi^2=6.652$, $df=4$, $p=0.155$).

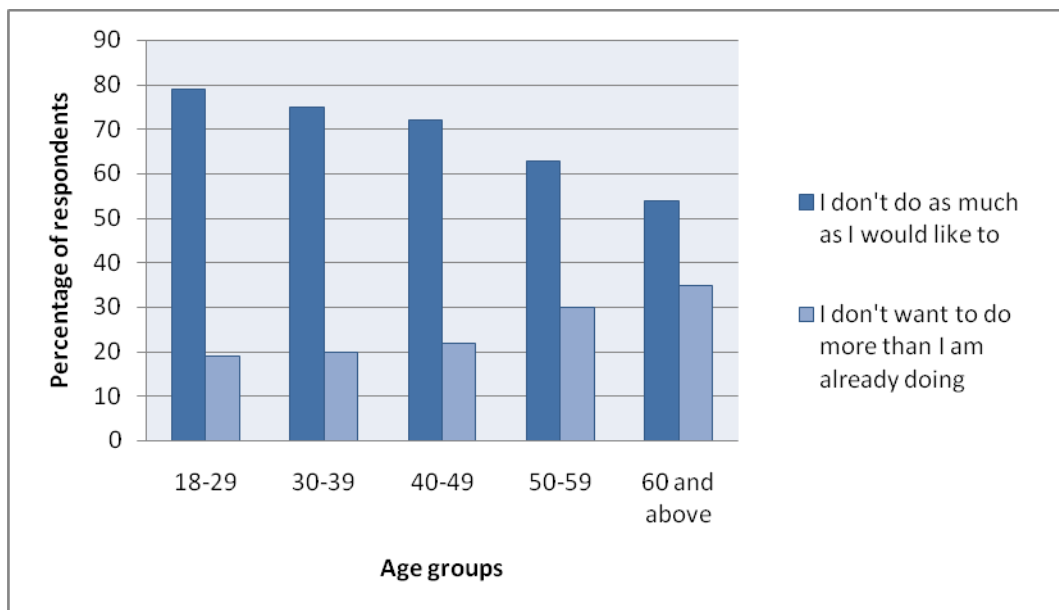


Figure 29: Respondents' interest in doing more to help reduce the impacts of climate change on the Great Barrier Reef, by age.

Views and attitudes about climate change

To measure community attitudes and beliefs about the Great Barrier Reef and the importance of taking action to reduce climate change impacts, respondents were asked to rate their level of agreement with a series of statements (Table 4; Table A13). A majority (85.7%) of respondents agreed that if everyone takes action, the impacts of climate change on the Great Barrier Reef can be reduced, but fewer people (61.2%) agreed that they alone have the ability to help reduce impacts. Nearly fifty-six percent of respondents agreed that they felt personally obliged to help reduce the impacts of climate change on the Great Barrier Reef and that they would feel guilty if climate change had a negative impact on the reef.

A majority (75.4%) of respondents agreed that people should do everything they can to reduce the impacts of climate change and that reducing the impacts of climate change on the reef is their responsibility. Almost half of all respondents (46.2%) agreed that if the health of the reef declined, it would have serious consequences for them and their families, whereas 39.6% believed that declining reef health would not affect them or their family. Nearly eighty-one percent of respondents agreed that everything should be done to ensure the long-term survival of the Great Barrier Reef, regardless of the cost, and 73.7% disagreed that too much money is being spent on protecting the Great Barrier Reef. Almost half of all respondents (43%) felt they did not have enough knowledge to understand how they can help reduce the impacts of climate change on the Great Barrier Reef (Table 4).

Table 4: Percentage of respondents who agreed or disagreed with given statements related to climate change and its impacts on the Great Barrier Reef.

Statements	Agree	Neutral	Disagree	Can't say
'If everyone took action, we could reduce the impacts of climate change on the Great Barrier Reef.'	85.7	5.2	8.0	1.1
'We should do everything we can to ensure the long-term survival of the Great Barrier Reef, regardless of how much it costs.'	80.9	7.1	11.3	0.7
'People like me should do everything they can to reduce the impacts of climate change of the health of the Great Barrier Reef.'	75.4	9.5	14.0	1.1
'I have the ability to help reduce the impacts of climate change on the Great Barrier Reef.'	61.2	13.6	24.0	1.2
'I would feel guilty if climate change had a negative impact on the Great Barrier Reef.'	61.7	10.9	26.2	1.2
'I feel personally obligated to help reduce the impacts of climate change on the Great Barrier Reef.'	55.7	18.8	24.8	0.7
'I am able to influence my friends or family to take action to reduce the impacts of climate change on the Great Barrier Reef.'	52.2	14.6	32.1	1.1
'If the health of the Great Barrier Reef declined, it would have serious consequences for me and my family.'	46.2	13.0	39.6	1.2

Statements	Agree	Neutral	Disagree	Can't say
'I have enough knowledge to understand how I can help reduce the impacts of climate change on the Great Barrier Reef.'	41.0	9.8	47.7	1.5
'I would not be affected if we lost the Great Barrier Reef.'	19.1	4.4	75.6	0.9
'Reducing the impacts of climate change on the Great Barrier Reef is NOT my responsibility.'	17.1	10.8	71.6	0.5
'Too much money is spent on protecting the Great Barrier Reef.'	4.5	11.4	73.7	10.4

Impacts of climate change over time

Respondents were asked what impact ('no impact', 'minor impact' or 'major impact') climate change will have on the Great Barrier Reef in the next twelve months, the next five years, and the next 25 years. Nearly twenty-seven percent of respondents believed that climate change will have a major impact in the next twelve months; 49% believed climate change will have a major impact in the next five years; and 81.9% believed climate change will have a major impact in the next 25 years (Table A14; Table A15; Table A16; Figure 30).

More respondents in the City area (25%) than in the Reef area (20%) believed there will be major impacts caused by climate change on the Great Barrier Reef in twelve months ($\chi^2=13.234$, $df=3$, $p=0.004$). Significantly more respondents in the City area (49%) than in the Reef area (42%) believed climate change will have a major impact on the Great Barrier Reef in the next five years ($\chi^2=14.549$, $df=3$, $p=0.002$). Eight-one percent of respondents in the City area and 71% of those living close to the reef believed climate change will have a major impact on the Great Barrier Reef in 25 years ($\chi^2=23.907$, $df=3$, $p=0.001$).

Significant differences were found amongst age groups with respect to perceptions of the impacts of climate change on the reef over the next twelve months, five years and 25 years. Twice as many (16%) of respondents in the 60+ year age group did not think there will be any impacts from climate change on the reef over the next twelve months, compared with those aged 40-49 years (8%) ($\chi^2=23.857$, $df=12$, $p=0.021$). Half of all respondents (50%) in the 18-29 year age group and 39% in the 60+ year age group thought there will be major impacts of climate change on the Great Barrier Reef evident over the next five years ($\chi^2=26.609$, $df=12$, $p=0.009$). Approximately 80% of respondents aged 18-49 years thought there will be major impacts on the Great Barrier Reef in the next 25 years, compared with 67% of 50-59 year olds ($\chi^2=57.033$, $df=12$, $p=0.001$).

Significantly more females (55%) than males (35%) expected to witness major climate change impacts in the future: in the next twelve months (females 55%; males 35%; $\chi^2=58.503$, $df=3$, $p=0.001$); in the next five years (females 55%; males 25%; $\chi^2=78.153$, $df=3$, $p=0.001$); and in the next 25 years (females 81%; males 69%; ($\chi^2=35.681$, $df=3$, $p=0.001$).

Respondents who had visited the GBR in the preceding twelve months were significantly more likely than non-visitors to believe that there will be major impacts of climate change in the twelve months following the survey (23% visitors; 18% non-visitors; $\chi^2=14.833$, $df=6$, $p=0.022$); in the next five years (46% visitors; 39% non-visitors; $\chi^2=17.699$, $df=6$, $p=0.007$), and in the next 25 years (77% visitors; 70% non-visitors; $\chi^2=12.696$, $df=6$, $p=0.048$).

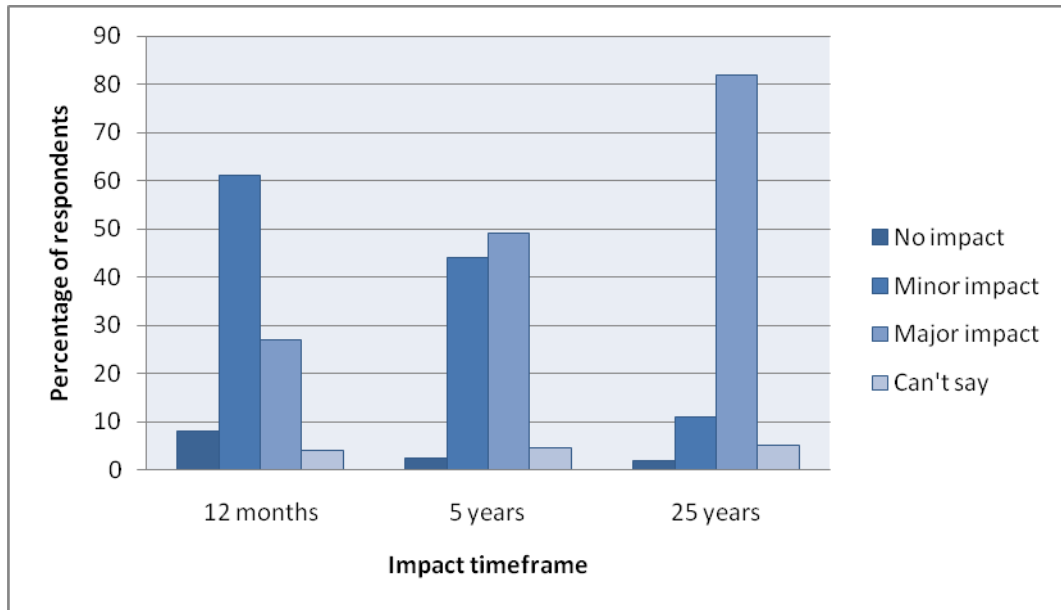


Figure 30: Respondents' perceptions of the impacts that climate change will have on the Great Barrier Reef over time.

Perceived negative effects of climate change

Respondents were presented with a list of reef characteristics and asked if they believed climate change will increase or decrease the quality of these characteristics, or have no impact at all. In general, respondents expected a decrease in the quality of all listed characteristics of the Great Barrier Reef.

The strongest impacts anticipated were in terms of the amount of coral on the Great Barrier Reef with 83.2% of respondents expecting a decrease in coral numbers. Other negative impacts included a decrease in the natural beauty of the Great Barrier Reef (81.4%), and decrease in the overall health (80.5%) and beauty (81.4%) of the Great Barrier Reef (Table A17; Figure 31). Approximately 11% of respondents said they believed there might be positive effects to the Great Barrier Reef due to climate change (Table A17).

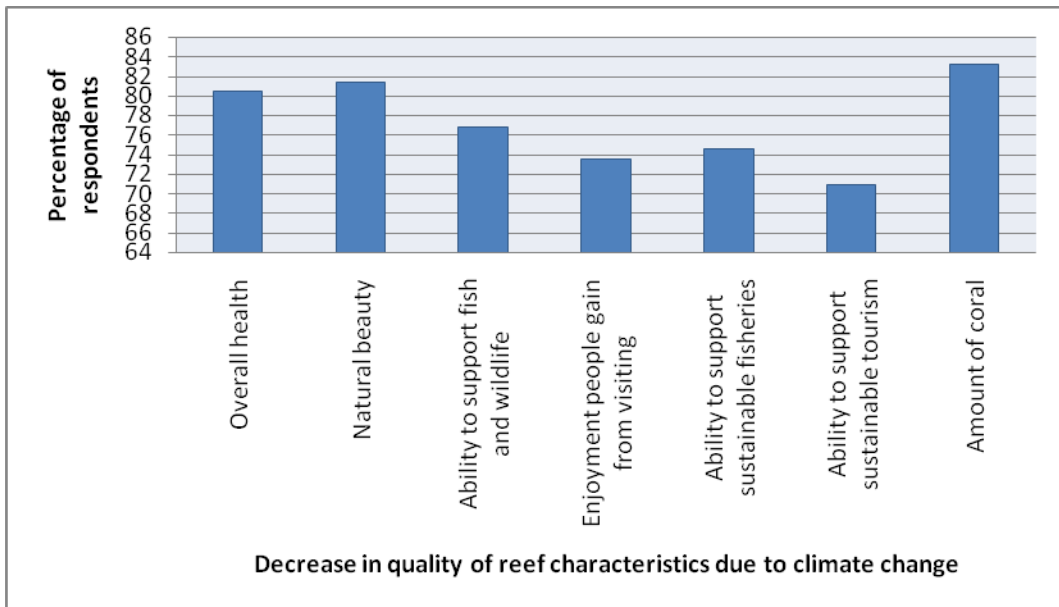


Figure 31: Expected negative changes to the Great Barrier Reef due to climate change impacts.

Trust in sources of information about climate change

Respondents were presented with a list of potential sources of information about climate change and the Great Barrier Reef and asked to rate the trustworthiness of each. The sources rated as most trustworthy were the Great Barrier Reef Marine Park Authority (rated as 'very trustworthy' by 57.8%), scientists (54.5%) and conservation organisations (45.7%) (Table A24; Figure 32). The least trustworthy sources of information about climate change and the Great Barrier Reef were businesses that sell goods and services, and industries like oil, gas and mining (Table A24; Figure 32).

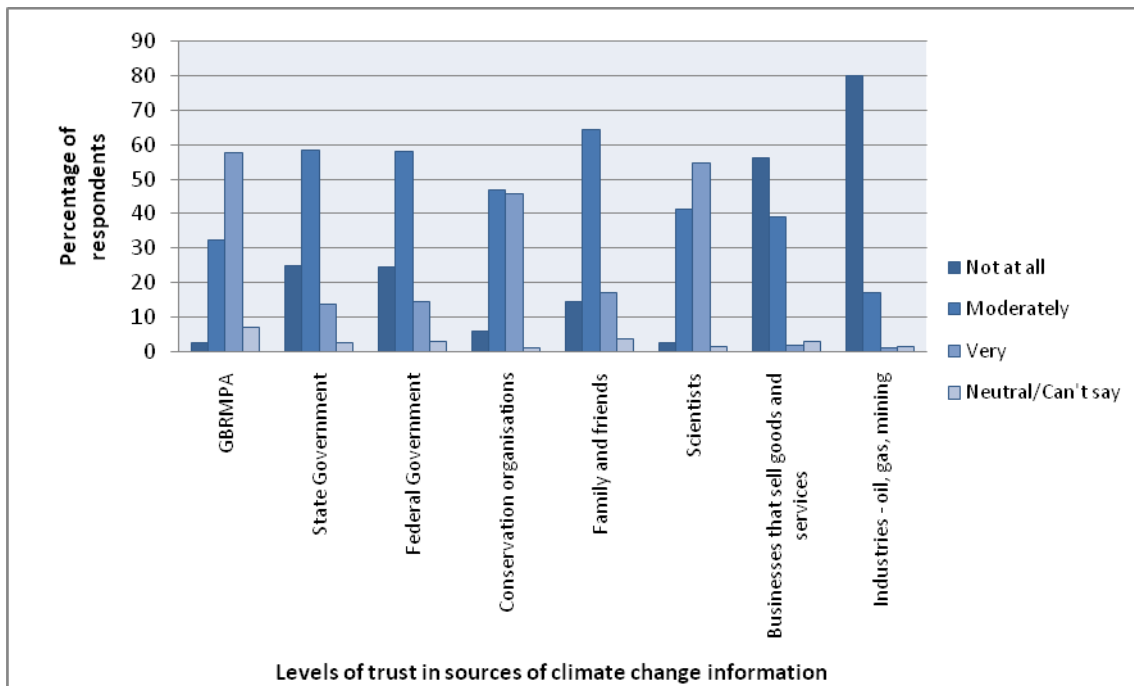


Figure 32: Respondents' levels of trust in sources of information about climate change and its impacts on the Great Barrier Reef.

Respondents' public involvement in environment related issues

A minority (11%) of respondents said they were members of a conservation organisation, while 64.7% reported having made a submission to a government agency or attended a public meeting about an environmental or natural resource issue (Table A21; Table A22). The majority (64.7%) of the respondents said they were interested in learning more about what they could do to protect the Great Barrier Reef from the impacts of climate change (Table A23).

Discussion

Results of the community survey demonstrate that there is a high level of awareness about climate change, contributors to climate change, and its potential impacts on the Great Barrier Reef among the Australian community. The results are generally consistent with trends observed in previous climate change surveys (Cook, 2005; Pew Research Centre, 2008), and indicate that the level of climate change awareness and concern continue to increase in Australia (Lynch *et al.* 2009; Vanclay, 1988; Moscardo *et al.* 2001). Indeed, the results of this study clearly indicate that climate change is now seen by the Australian public as the single largest threat to the long-term health of the Great Barrier Reef.

Corresponding with the high level of climate change awareness in the Australian population is a high level of concern about the future of the Great Barrier Reef, and a general desire within the population to take more action to reduce or mitigate climate change impacts on the reef. Somewhat concerning however is the finding that a majority of respondents (72%) reported being unable to engage in climate change reduction and mitigation strategies to the extent they desire, and the corresponding low percentage of respondents (~25%) who reported a high likelihood of becoming engaged in climate change actions in the twelve months following the survey. Clearly, a range of constraints intervene between individuals' desire to become engaged and their ability to engage at the desired level. In particular, individuals' lack of knowledge about how they can effectively increase their participation in reef climate change reduction and mitigation efforts, and constraints imposed by lack of time and other commitments were identified in this study as factors preventing increased engagement. Programs aimed at empowering individuals and increasing community participation in reef climate change reduction and mitigation actions need to help people negotiate these and the other constraints they face.

Survey results suggest that future communication efforts do not need to be heavily focused on increasing public awareness of climate change, its causes, or its consequences; because high levels of awareness of and knowledge about climate change have already been established in the community. Results suggest that it would be more effective to take advantage of this high awareness and concern by focusing communication efforts on educating the public about potential solutions to the climate change problem and how they can become more meaningfully engaged in climate change reduction and mitigation strategies (Gaillard, 2008). Likewise, targeted communication and education efforts should be aimed at helping individuals to negotiate specific constraints on relevant climate change engagement activities (McKenzie-Mohr, 2008). The finding that the Great Barrier Reef Marine Park Authority (GBRMPA) is the most trusted source of information about climate change and the Great Barrier Reef indicates that the agency should take the lead in developing climate change communication and education programs, possibly in collaboration with scientists and conservation organisations.

One objective of this study was to identify key psychological, sociological and demographic characteristics amongst community members that could be combined to produce population segmentation descriptions. Population segmentation involves partitioning the target population into smaller, more homogeneous groups (segments) with similar characteristics in order to more effectively tailor and target communication and recruitment efforts (Weinstein 1994). In this study, we explored segmentation of the target population based on age, gender, region of residence, use of the reef, and a range of psychological variables relevant to climate change and the Great Barrier Reef. Results revealed that females are somewhat more concerned about climate change; are more likely to believe that humans cause climate change; and perceive higher impacts from climate change than do males. Older individuals were less concerned about climate change; less likely to attribute climate change to human activities; less likely to believe it is necessary to take actions to prevent the reduce the

impacts of climate change; and less likely to desire to become engaged in climate change reduction and mitigation efforts than younger individuals. Individuals who live adjacent to the Great Barrier Reef (in the Reef area) were less likely to believe climate change is human-caused; less likely to be concerned about climate change; and less likely to believe that it is necessary to take climate change related actions than their city counterparts (those in the City area). Individuals who had visited the Great Barrier Reef in the twelve months leading up to the survey were more likely to expect major consequences of climate change for the reef, and were more likely expect to undertake some climate change related action over the twelve months following the survey than non-visitors. These results were generally consistent with the results of previous studies (Young and Temperton, 2007; Fenton and Beeden, 2006), and suggest that some differences in climate change attitudes, knowledge and engagement level can be expected across demographic variables. However, none of the observed differences between population segments were particularly large, and no demographic group stood out as being particularly under-informed or under-engaged in the issue of climate change and the Great Barrier Reef.

These results suggest a number of directions for future research. Firstly, although population segmentation based on demographic variables produced few large differences, some of the observed differences may be worthy of further investigation. In particular, further exploration of differences between Reef area residents and City area residents, and differences between reef users and reef non-users, might provide useful insights into why these differences occur and whether they have implications for climate change communication and education strategies. For example, the lower level of general concern about climate change and the corresponding level of belief about the necessity to take action among Reef area residents suggest that there may be higher levels of skepticism about climate change in general in the Reef area. Understanding the underlying reasons for the differences between Reef area and City area residents would provide valuable information in support of targeted communication and education efforts for Reef and non-Reef area residents. Likewise, a better understanding of the mechanism through which use of the reef influences climate change beliefs and perceptions would help to determine if, and how, increased exposure to the reef (either directly or indirectly, for example, through 'ReefHQ') could be used to improve community engagement in climate change action strategies.

Secondly, results suggest that segmentation of the population based on demographic characteristics might not be the most useful approach to identifying homogenous population subgroups for targeted climate change reduction and mitigation actions. However, this study did identify alternative segmentation approaches that might be worth further consideration and investigation. In particular, two distinct segments were identified based on individuals' interest in becoming more engaged in climate change actions (72% interested; 28% not interested). A better understanding of the factors that influence levels of interest in increased climate change engagement, the constraints that prohibit increased engagement, and the demographic and psychological variables that influence individuals' perceptions of constraints would be useful for informing communication, education and engagement strategies directed at each of these distinct population segments. Likewise, segmenting the population according to current participation in climate change actions (i.e. participants vs. non-participants) would allow for a better understanding of the psychological and demographic factors that promote (or inhibit) climate change reduction and mitigation behaviour. Although these analyses were beyond the scope of this report, the data collected through this project have the depth and breadth to enable exploration of these issues in more detail through further analysis.

The results of this study have highlighted a number of critical gaps relevant to increasing community engagement in Great Barrier Reef climate change management actions. First, there is a clear requirement to identify the relevant actions that individuals can undertake to reduce the impacts of climate change, and to communicate this information to the broader

community. Although most individuals in the study reported having engaged in at least one activity related to climate change impact reduction or mitigation, most of the reported actions were general in nature (e.g. recycling, using energy-efficient products, etc.) and not linked directly to reducing or mitigating the effects of climate change on the Great Barrier Reef. Managers need to identify actions that will have the largest impact on reducing the effects of climate change on the Great Barrier Reef and focus their efforts on promoting community engagement in, or support for, those actions. Second, more research is required to understand how to motivate individuals to undertake the actions identified as critical to managing the impacts of climate change on the Great Barrier Reef. Although most individuals surveyed reported an interest in becoming more engaged in climate change management actions, most people are not engaged to the extent they could be, or to the extent they desire to be. A better understanding of the social and psychological factors that lead to pro-environmental behavior regarding the Great Barrier Reef, the factors that constrain those behaviors, and how those constraints can be negotiated would provide managers with a sound basis for designing more effective climate change reduction and mitigation programs.

Engaging stakeholders in climate change management actions is critical for reducing and mitigating the impacts of climate change on the Great Barrier Reef. Empowering individuals and communities to contribute to climate change management actions requires a sound understanding of the human dimensions of climate change issues. This report begins to provide an understanding of the Australian community's awareness, knowledge and concern regarding climate change and its impacts on the Great Barrier Reef, and provides guidance for developing effective engagement strategies and future climate change human dimensions research. However, many knowledge gaps remain, particularly concerning the question of how to translate environmental concern into positive environmental actions. Hopefully, this study will provide a basis for further research in support of climate change management actions for the Great Barrier Reef Marine Park.

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Appendix A: Survey Responses

Responses to the community survey are presented in tabular format in the order the questions appeared in the survey instrument (Appendix B).

Table A1: Extent to which survey respondents believe that human activity is affecting the earth's climate (Question 1).

Extent of effect	Raw data		Adjusted data	
	n	%	n	%
No effect	90	5.6	47	2.9
Moderate effect	597	37.0	492	30.6
Large effect	895	55.7	1048	65.2
Can't say	27	1.7	22	1.3
Total	1609	100	1609	100

Table A2: Whether survey respondents are taking action(s) to help reduce the impacts of climate change (Question 2).

Action taken	Raw data		Adjusted data	
	n	%	n	%
Yes	1225	76.0	1269	78.9
No	374	23.0	324	20.1
Can't say	10	1.0	16	1.0
Total	1609	100	1609	100

Table A3: Actions being taken by survey respondents to help reduce the impacts of climate change. More than one answer per respondent possible (Question 2).

Action taken	Raw data		Adjusted data	
	n	%	n	%
Using energy-efficient products	511	41.7	405	33.1
Turning off lights or appliances when not in use	469	38.3	430	35.1
Walking or cycling rather than using the car	186	15.2	205	16.7
Using 'green' electricity (solar, wind or other power)	92	7.5	120	9.8
Own solar panel for hot water or power supply	101	8.2	70	5.7
Recycling	406	33.1	512	41.8
Composting	77	6.3	66	5.4
Not using plastic shopping bags / using environmentally-friendly bags	83	6.8	77	6.3
Not putting non-biodegradable chemicals down the drain	34	2.8	42	3.4
Minimising travel (by car or plane)	190	15.5	232	18.9
Purchasing more energy/fuel efficient vehicles	70	5.7	67	5.5
Reducing the use of heating or cooling in the home	136	11.1	164	13.4
Reducing/minimising water usage	145	11.8	175	14.3
Installing water saving devices, e.g. shower heads / water efficient appliances	27	2.2	34	2.8
Installing water storage systems, e.g. water tank	35	2.9	56	4.6
Planting trees/plants	53	4.3	31	2.5
Growing own edibles, e.g. vegetables/fruit, etc.	21	1.7	20	1.6
Using public transport	13	1.1	44	3.6
Reducing electricity use (unspec)	44	3.6	47	3.8
Not using, or reducing the use of, clothes dryer	11	0.9	20	1.6
Other	155	12.7	181	14.8
Can't say	7	0.6	1	0.1

Table A4: Survey respondents' views on the potential threats to the Great Barrier Reef (Question 3).

Issues in the GBR	Data	Rating (%)				
		No Threat	Minor Threat	Moderate Threat	Major Threat	Can't say
Commercial fishing in the GBRMP	Raw	3.5	10.2	32.6	51.2	2.5
	Adjusted	1.6	5.4	28.7	61.1	3.2
Recreational fishing in the GBRMP	Raw	10.5	36.2	37.8	14.1	1.4
	Adjusted	5.9	32.9	39.4	20.5	1.3
Recreational activities such as snorkelling or diving on the reef	Raw	18.7	48.1	25.6	6.3	1.3
	Adjusted	13.4	48.8	29.4	7.3	1.1
Shipping in the GBRMP	Raw	3.7	14.5	31.6	47.5	2.7
	Adjusted	1.8	8.2	29.4	57.9	2.7
Declining quality of the water from land runoff into GBRMP	Raw	2.9	11.2	27.6	55.6	2.7
	Adjusted	1.4	8.0	25.6	61.1	3.9
Coastal development along the GBRMP	Raw	2.9	13.9	32.4	48	2.8
	Adjusted	1.9	10.5	28.6	55.5	3.5
Tourism in the GBRMP	Raw	8.0	31.8	43.7	14.6	1.9
	Adjusted	4.5	31.1	46.4	16.2	1.8
Climate change or global warming	Raw	4.4	8.7	22.5	60.0	4.4
	Adjusted	2.0	4.1	19.5	71.2	3.2
Indigenous hunting in the GBRMP	Raw	18.5	42.9	21.1	13.4	4.1
	Adjusted	20.1	46.0	19.9	10.6	3.4
Recreational boating in the GBRMP	Raw	9.3	35.6	38.9	14.3	1.9
	Adjusted	4.6	28.1	42.2	21.4	3.7

Table A5: Survey respondents' views on perceived *major* threats to the Great Barrier Reef (Question 4).

Perceived major threats to the GBR	Raw data		Adjusted data	
	n	%	n	%
Commercial fishing	192	13.3	187	13.0
Recreational fishing	14	0.9	7	0.5
Recreational activities such as snorkelling and diving	13	0.9	5	0.3
Shipping	177	12.3	188	13.0
Declining water quality	320	22.2	261	18.1
Coastal development	169	11.7	150	10.4
Tourism	31	2.2	18	1.2
Climate change or global warming	479	33.2	601	41.7
Indigenous hunting	38	2.6	16	1.1
Recreational boating	10	0.7	10	0.7
Total	1443	100	1443	100

Table A6: Survey respondents' views on perceived *moderate* threats to the Great Barrier Reef (Question 4).

Perceived moderate threats to the GBR	Raw data		Adjusted data	
	n	%	n	%
Commercial fishing	25	13.3	28	20.0
Recreational fishing	3	1.0	4	2.8
Recreational activities such as snorkelling and diving	2	1.0	1	0.3
Shipping	21	12.3	28	20.0
Declining water quality	30	22.2	18	12.8
Coastal development	25	11.7	7	5.0
Tourism	9	2.2	17	12.0
Climate change or global warming	22	33	28	20.0
Indigenous hunting	2	2.6	1	0.1
Recreational boating	3	0.7	10	7.0
Total	142	100	142	100

Table A7: Survey respondents' levels of concern about climate change in general (Question 5a).

Levels of concern	Raw data		Adjusted data	
	n	%	n	%
Not at all concerned	193	12.0	116	7.2
Moderately concerned	734	45.6	689	42.8
Very concerned	682	42.4	804	50.0
Total	1609	100	1609	100

Table A8: Survey respondents' views about the level of necessity to reduce human activities that cause climate change (Question 5b).

Levels of concern	Raw data		Adjusted data	
	n	%	n	%
Not at all necessary	103	6.4	56	3.5
Moderately necessary	493	30.6	385	23.9
Very necessary	1013	63.0	1168	72.6
Total	1609	100	1609	100

Table A9: Survey respondents' levels of concern about the potential effects of climate change on the Great Barrier Reef (Question 5c).

Levels of concern	Raw data		Adjusted data	
	n	%	n	%
Not at all concerned	174	10.8	56	3.5
Moderately concerned	647	40.2	385	23.9
Very concerned	788	49.0	1168	72.6
Total	1609	100	1609	100

Table A10: Survey respondents' levels of interest in taking action to help reduce the impacts of climate change on the Great Barrier Reef (Question 5d).

Levels of interest	Raw data		Adjusted data	
	n	%	n	%
Not at all interested	271	16.8	235	14.6
Moderately interested	744	46.3	753	46.8
Very interested	594	36.9	621	38.6
Total	1609	100	1609	100

Table A11: Likelihood of survey respondents to take some action over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef (Question 5e).

Likelihood of taking action	Raw data		Adjusted data	
	n	%	n	%
Not likely	647	40.2	714	44.4
Moderately likely	632	39.3	642	39.9
Very likely	330	20.5	253	15.7
Total	1609	100	1609	100

Table A12: Likelihood of survey respondents to take specific action(s) over the twelve months following the community survey to help reduce the impacts of climate change on the Great Barrier Reef (Question 5e). Multiple answers possible.

Specific action to reduce climate change impacts on the GBRMP	Raw data		Adjusted data	
	n	%	n	%
Use public transport	11	1.1	26	2.7
Reduce car usage / drive less	67	7.0	89	9.2
Cut down on carbon / CO ₂ emissions / reduce 'carbon footprint'	39	4.1	45	4.7
Reduce consumption / buy less (unspec) / recycle (unspec)	16	1.7	25	2.6
Install/use solar panels / solar energy / solar heating	50	5.2	62	6.4
Walking instead of driving (to work/shops)	47	4.9	59	6.1
Fundraising / spreading awareness	11	1.1	8	0.8
Reduce power / energy / electricity usage	46	4.8	47	4.9
Install a rainwater tank	113	11.7	105	10.9
Save/reduce the usage of water	7	0.7	14	1.5
Use recycled/grey water	35	3.6	29	3.0
Become more educated about the impacts of climate change	9	0.9	13	1.3
Educate more people about the impacts of climate change	24	2.5	47	4.9
Education / education programs (unspec)	27	2.8	25	2.6
Lobby/encourage/write to politicians	7	0.7	13	1.4
Sign/send/start petitions (unspec)	22	2.3	24	2.5
Participate in/donate to/fund research (unspec)	0	0	0	0.0

Specific action to reduce climate change impacts on the GBRMP	Raw data		Adjusted data	
	n	%	n	%
Make donations to environmental organisations (unspec)	6	0.6	13	1.3
Becoming involved/more involved with environmental organisations (unspec)	8	0.8	8	0.8
Very little / I am limited in my ability	24	2.5	23	2.4
I will reduce/stop fishing on the reef	7	0.7	12	1.2
Pick up rubbish / take my rubbish with me	27	2.8	15	1.6
Use/switch to energy saving/efficient/ environmentally-friendly light bulbs	45	4.7	11	1.1
Turning lights off / minimising usage of lights	19	2	12	1.2
Cycling / riding a bike / push bike	7	0.7	13	1.4
I will do/support anything/everything I can to stop climate change / help the environment	0	0	0	0
Support/donate money to / participate in causes / sign petitions that help to protect the Great Barrier Reef	16	1.7	26	2.7
Stop diving / dive less / pay attention to other divers / be aware of the impact my diving has on the Great Barrier Reef	49	5.1	79	8.2
Keep doing what I am currently doing	7	0.7	6	0.6
Plant trees/vegetation	31	3.2	34	3.5
Stop/reduce use of fertiliser/herbicides/poisons/chemicals	27	2.8	8	0.8
Prevent/reduce chemical run-off into water system / be more careful of what goes down drains / reduce waste run-off	35	3.6	10	1.0
Not go to reef / visit the reef less often / tell others not to visit the reef	55	5.7	14	1.5
Use environmentally-friendly/bio-degradable products	12	1.3	14	1.5
Reduce/not use plastic bags / use recyclable shopping bags	12	1.3	8	0.8
Drive a hybrid/smaller or more energy-efficient car	12	1.3	4	0.4
Other	11	1.1	16	1.7
Can't say	149	15.5	107	11.2

Table A13: Percentage of respondents who agreed or disagreed with given statements relating to climate change and its impacts on the Great Barrier Reef (Question 6).

Statement	Data	Level of agreement/disagreement (%)					
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Can't say
'If everyone took action, we could reduce the impacts of climate change on the Great Barrier Reef'	Raw	42.1	40.0	4.8	8.5	3.2	1.4
	Adjusted	47	38.7	5.2	6.2	1.8	1.1
'I have the ability to help reduce the impacts of climate change on the Great Barrier Reef'	Raw	16.7	46.2	10.3	21.2	4.1	1.5
	Adjusted	16.0	45.2	13.6	20.0	4.0	1.2
'I feel personally obligated to help reduce the impacts of climate change on the Great Barrier Reef'	Raw	15	43.8	14.6	21.8	3.7	1.1
	Adjusted	12.7	43.0	18.8	21.3	3.5	0.7
'I would feel guilty if climate change had a negative impact on the Great Barrier Reef'	Raw	18.5	39.8	9.5	25.2	5.6	1.4
	Adjusted	20.3	41.39	10.9	21.6	4.6	1.21
'People like me should do everything they can to reduce the impacts of climate change on the health of the Great Barrier Reef'	Raw	24.9	51.9	8.0	11.4	2.6	1.2
	Adjusted	23.3	52.1	9.5	11.7	2.3	1.1
'Reducing the impacts of climate change on the Great Barrier Reef is NOT my responsibility'	Raw	2.0	14.4	8.5	52.7	21.5	0.9
	Adjusted	1.6	15.5	10.8	50.5	21.1	0.5
'If the health of the Great Barrier Reef declined, it would have serious consequences for me and my family'	Raw	17.8	37.0	10.0	29.9	3.9	1.4
	Adjusted	12.7	33.5	13.0	34.2	5.4	1.2
'We should do everything we can to ensure the long-term survival of the Great Barrier Reef, regardless of how much it costs'	Raw	31.8	48.4	6.9	10.2	1.8	0.9
	Adjusted	31.9	49.0	7.1	10.4	0.9	0.7
'Too much money is being spent on protecting the Great Barrier Reef'	Raw	1.5	7.3	8.6	54.6	20.5	7.5
	Adjusted	0.9	3.6	11.4	51.9	21.8	10.4
'I would not be affected if we lost the Great Barrier Reef'	Raw	2.7	11.8	3.3	51.8	29.3	1.1
	Adjusted	2.4	16.7	4.4	50.5	25.1	0.9
'I have enough knowledge to	Raw	6.8	40.0	9.0	38.3	4.7	1.2

Statement	Data	Level of agreement/disagreement (%)					
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Can't say
understand how I can help reduce the impacts of climate change on the Great Barrier Reef	Adjusted	5.6	35.4	9.8	41.9	5.8	1.5
'I am able to influence my friends or family to take action to reduce the impacts of climate change on the Great Barrier Reef'	Raw	7.6	47.8	12.1	28.3	2.6	1.6
	Adjusted	6.4	45.8	14.6	29.1	3.0	1.1

Table A14: Survey respondents' views on the impacts climate change will have on the Great Barrier Reef over the twelve months following the community survey (Question 7a).

Extent of impact	Raw data		Adjusted data	
	n	%	n	%
No impact	194	12.1	138	8.6
Minor impact	999	62.0	975	60.5
Major impact	352	21.9	427	26.6
Can't say	64	4.0	69	4.3
Total	1609	100	1609	100

Table A15: Survey respondents' view on the impact climate change is likely to have on the Great Barrier Reef over the next five years (Question 7b).

Extent of impact	Raw data		Adjusted data	
	n	%	n	%
No impact	86	5.3	37	2.3
Minor impact	733	45.6	709	44.1
Major impact	716	44.5	789	49.0
Can't say	74	4.6	74	4.6
Total	1609	100	1609	100

Table A16: Survey respondents' view on the impact climate change is likely to have on the Great Barrier Reef over the next 25 years (Question 7c).

Extent of impact	Raw data		Adjusted data	
	n	%	n	%
No impact	35	2.1	20	1.2
Minor impact	286	17.8	187	11.6
Major impact	1200	74.6	1317	81.9
Can't say	88	5.5	85	5.3
Total	1609	100	1609	100

Table A17: Respondents' views on potential changes to the Great Barrier Reef due to climate change (Question 8).

Impact	Data	Rating (%)					
		Strongly increase	Increase	Neutral	Decrease	Strongly decrease	Can't say
The overall health of the Great Barrier Reef	Raw	1.7	10.3	10.4	55	18.7	3.9
	Adjusted	2.1	9.0	5.6	56.0	24.5	2.7
The natural beauty of the Great Barrier Reef	Raw	1.4	8.3	12.0	56.1	18.8	3.4
	Adjusted	1.3	6.7	7.4	56.3	25.1	3.2
The ability of the Great Barrier Reef to support populations of fish and wildlife	Raw	2.2	11.0	12.6	54.0	16.5	3.7
	Adjusted	2.6	9.5	7.4	55.2	21.6	3.7
The enjoyment people get from visiting the Great Barrier Reef	Raw	2.2	14.0	14.4	51.5	14.5	3.4
	Adjusted	1.9	12.1	9.6	55.1	18.5	2.8
The ability of the Great Barrier Reef to support sustainable fisheries	Raw	1.6	9.4	12.4	54.7	15.9	6.0
	Adjusted	1.5	9.4	8.3	54.3	20.3	6.2
The ability of the Great Barrier Reef to support sustainable tourism	Raw	1.4	14.3	15.3	52.5	12.2	4.3
	Adjusted	1.4	13.5	10.4	57.3	13.7	3.7
The amount of coral on the Great Barrier Reef	Raw	1.4	8.2	8.6	58.3	19.1	4.4
	Adjusted	1.3	8.0	4.1	56.5	26.7	3.4

Table A18: The extent to which survey respondents are helping to reduce the impacts of climate change on the Great Barrier Reef (Question 9).

Statement	Raw data		Adjusted data	
	n	%	n	%
'I don't do as much as I would like to'	1085	67.4	1154	71.7
'I don't want to do more than I am already doing'	419	26.0	363	22.6
Can't say	105	6.5	92	5.7
Total	1609	100	1609	100

Table A19: Survey respondents' reasons for not doing as much as they would like in order to help reduce the impacts of climate change on the Great Barrier Reef (Question 10).

Impact	Data	Level of agreement (%)					
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Can't say
'I don't have the time'	Raw	6.1	40.5	8.5	39.3	3.9	1.7
	Adjusted	7.7	41.4	8.8	34.9	4.2	3.0
'I don't know what else I can do to help'	Raw	10.2	59.5	5.6	21.2	1.9	1.6
	Adjusted	12.1	62.2	4.0	18.9	1.6	1.2
'Doing more would cost me too much money'	Raw	3.4	22.4	11.0	53.2	7.1	2.9
	Adjusted	4.0	21.3	12.6	52.0	6.1	4.0
'I don't believe the things I could do would have any impact'	Raw	2.4	22.5	6.3	58.9	8.0	1.9
	Adjusted	2.7	23.9	6.8	55.5	8.3	2.8
'My friends or family would not approve'	Raw	0.3	3.7	3.6	65.0	25.6	1.8
	Adjusted	0.5	4.0	3.6	63.5	25.9	2.5
'I don't really understand the climate change problem'	Raw	3.4	30.0	6.2	49.8	9.8	0.8
	Adjusted	3.0	28.5	5.7	51.8	10.7	0.3
'I have other more important priorities in my life'	Raw	6.0	45.2	11.1	32.7	3.5	1.5
	Adjusted	8.0	46.1	13.3	27.2	3.0	2.4

Table A20: Reasons as to why survey respondents do not want to do more than they are already doing to help reduce the impacts of climate change on the Great Barrier Reef (Question 11).

Impact	Data	Level of agreement (%)					
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Can't say
'I feel that I already do more than my share'	Raw	3.6	29.6	15.0	47.3	1.4	3.1
	Adjusted	1.2	24.1	17.6	52.3	3.5	1.3
'I am not worried about the effects of climate change on the GBR'	Raw	7.4	28.2	6.7	48.2	8.1	1.4
	Adjusted	4.0	23.8	6.6	56.7	7.1	1.8
'I don't believe the things I could do would have any impact'	Raw	7.9	42.7	9.8	33.6	4.1	1.9
	Adjusted	9.3	43.6	8.5	33.1	3.2	2.3
'I am not certain that human activities are the cause of climate change'	Raw	14.1	38.6	6.7	31.3	8.1	1.2
	Adjusted	12.6	30.0	7.9	40.0	8.7	0.8
'It is not my responsibility to protect the GBR from climate change'	Raw	4.1	30.6	12.4	43.1	8.1	1.7
	Adjusted	3.3	33.2	11.6	43.2	7.0	1.7
'I don't really understand the climate change problem'	Raw	2.6	27.7	8.8	48.2	10.3	2.4
	Adjusted	1.2	26.6	7.3	51.1	10.3	3.5
'It is too late to do anything about climate change now'	Raw	3.3	10.3	9.6	59.8	12.7	4.3
	Adjusted	4.1	10.0	9.7	59.6	14.0	2.6
'I have other more important priorities in my life'	Raw	9.1	56.0	8.6	22.7	3.1	0.5
	Adjusted	11.7	55.0	9.9	21.3	2.1	0.0

Table A21: Frequency and percentage of respondents who are members of conservation organisations (Question 12).

Member of a conservation organisation	Raw data		Adjusted data	
	n	%	n	%
Yes	170	10.6	176.99	11.0
No	1432	89.0	1432.01	89.0
Can't say	7	0.4	0	0.0
Total	1609	100	1609	100

Table A22: Frequency and percentage of respondents having made a submission to a government agency or attended a public meeting about an environmental or natural resource management issue (Question 13).

Submission or attendance at a meeting	Raw data		Adjusted data	
	n	%	n	%
Yes	508	31.2	394	24.5
No	1093	67.9	1208	75.1
Can't say	8	0.5	7	0.4
Total	1609	100	1609	100

Table A23: Frequency and percentage of respondents interested in learning more about what they can do to protect the Great Barrier Reef from the impacts of climate change (Question 14).

Interested in learning more	Raw data		Adjusted data	
	n	%	n	%
Yes	1047	65.0	1041	64.7
No	543	33.8	556	34.5
Can't say	19	1.2	12	0.8
Total	1609	100	1609	100

Table A24: Survey respondents' views on the reliability of sources of information regarding climate change and the Great Barrier Reef (Question 15).

Impact	Data	Level of trustworthiness (%)			
		Not at all trustworthy	Moderately trustworthy	Very trustworthy	Can't say
The Great Barrier Reef Marine Park Authority	Raw	6.5	39.3	49.2	5
	Adjusted	2.7	32.4	57.8	7.2
State Government departments	Raw	31.3	54.6	11.6	2.6
	Adjusted	25	58.5	13.9	2.7
Federal Government departments	Raw	31.7	54.1	11.3	2.9
	Adjusted	24.4	58.1	14.6	3
Conservation organisations	Raw	11.7	47.6	38.9	1.8
	Adjusted	6	46.9	45.7	1.3
Family and Friends	Raw	15.7	60.5	20.1	3.7
	Adjusted	14.5	64.3	17.2	3.8
Scientists	Raw	5.3	45.3	46.5	2.9
	Adjusted	2.6	41.4	54.5	1.6
Businesses that sell you goods and services	Raw	51.6	42.3	2.3	3.8
	Adjusted	56	39.2	2	2.9
Industries like oil, gas and mining	Raw	76.3	19.8	2.1	1.9
	Adjusted	79.9	17	1.3	1.6

Table A25: Frequency and percentage of respondents who visited the Great Barrier Reef Marine Park in the twelve months leading up to the community survey (Question 16).

Visited the GBRMP	Raw data		Adjusted data	
	n	%	n	%
Yes	495	30.8	163	10.2
No	1112	69.1	1445	89.7
Can't say	2	0.1	1	0.1
Total	1609	100	1609	100

Table A26: Duration of survey respondents' visits (days) to the Great Barrier Reef Marine Park in the twelve months leading up to the community survey (Question 17).

Duration of visit (days)	Raw data		Adjusted data	
	n	%	n	%
1-5 days	268	54.2	310	62.9
6-10 days	75	15.2	76	15.3
11-20 days	53	10.7	67	13.4
21-40 days	39	7.9	23	4.7
42-60 days	18	3.6	6	1.1
70-100 days	15	3.0	4	0.9
101-249 days	12	2.4	4	0.7
250-365 days	15	3.0	5	1.0
Total	495	100	495	100

Table A27: Frequency and percentage of in which month respondents last visited the Great Barrier Reef Marine Park (Question 18).

Month, Year	Raw data		Adjusted data	
	n	%	n	%
November, 2007	18	3.6	24	6.9
December, 2007	14	2.8	13	3.4
January, 2008	27	5.5	71	17.7
February, 2008	17	3.4	19	4.8
March, 2008	16	3.2	4	0.9
April, 2008	23	4.7	13	3.2
May, 2008	19	3.8	13	3.4
June, 2008	24	4.9	26	6.7
July, 2008	39	7.9	51	12.8
August, 2008	34	6.9	25	6.3
September, 2008	65	13.0	38	9.6
October, 2008	78	15.8	67	16.5
November, 2008	11	22.5	29	7.3
Can't say	10	2.0	2	0.5
Total	395	100	395	100

Table A28: Respondents' most popular water-based activities participated in whilst visiting the Great Barrier Reef Marine Park in the twelve months leading up to the survey. Respondents could give more than one answer to this question (Question 19).

Activity	Raw data		Adjusted data	
	n	%	n	%
Swimming	100	20.2	178	23.2
Scuba diving	40	8.1	102	13.3
Snorkelling	161	32.5	416	54.3
Fishing	204	41.2	133	17.4
Sailing	22	4.4	44	5.8
Boating	106	21.4	185	24.1
Jet-skiing	5	1.0	2	0.3
Whale/bird watching	11	2.2	6	0.8
Sight seeing / observing	15	3.0	17	2.2
Beach / walking along beach / sitting on the beach / paddling / beach combing	19	3.8	34	4.4
Walking / bush walking	4	0.8	18	2.3
Camping	5	1.0	2	0.2
Kayaking / canoeing	5	1.0	2	0.3
Spear fishing	4	0.8	15	2
Crab/prawn hunting	4	0.8	2	0.2
Diving (unspec)	5	1.0	2	0.2
Other	49	10.0	83	10.9
Can't say	8	1.6	13	1.7

Table A29: Frequency and percentage of respondents who paid for an organised tour while visiting the Great Barrier Reef Marine Park in the twelve months leading up to the community survey (Question 20).

Visited the GBRMP	Raw data		Adjusted data	
	n	%	n	%
Yes	132	26.7	227	45.9
No	363	73.3	268	54.1
Total	495	100	495	100

Table A30: Survey respondents' satisfaction with their last visit to the Great Barrier Reef Marine Park (Question 21). Satisfaction rating of 1 ('not at all satisfied') to 10 ('extremely satisfied').

Satisfaction rating	Raw data		Adjusted data	
	n	%	n	%
1 'Not at all satisfied'	10	2.0	31	6.2
2	3	0.6	2	0.4
3	7	1.4	3	0.6
4	4	0.8	1	0.3
5	37	7.5	22	4.5
6	26	5.3	17	3.4
7	68	13.7	58	11.8
8	126	25.5	107	21.7
9	65	13.1	110	22.1
10 'Extremely satisfied'	149	30.1	144	29.0
Total	495	100	495	100

Table A31: Survey respondents' intention to visit the Great Barrier Reef in the next twelve months (Question 22).

Intend to visit in the next twelve months	Raw data		Adjusted data	
	n	%	n	%
Yes	678	42.1	360	22.4
No	862	53.6	1193	74.1
Can't say	69	4.3	56	3.5
Total	1609	100	1609	100

Table A32: The number of people living in survey respondents' households (Question 23).

No. of household members	Raw data		Adjusted data	
	n	%	n	%
1 person	253	15.8	249	15.5
2 people	585	36.5	533	33.2
3 people	267	16.7	303	18.9
4 people	278	17.3	308	19.2
5 people	137	8.5	146	9.1
6 people	48	3.0	43	2.7
7+ people	36	2.2	22	1.4
Total	1604	100	1604	100

Table A33: Frequency and percentage of household members under 18 years of age (Question 24).

No. of household members under 18 years of age	Raw data		Adjusted data	
	n	%	n	%
None	982	61.2	1048	65.4
1 person	236	14.7	212	13.2
2 people	237	14.8	220	13.7
3 people	106	6.6	99	6.2
4 people	29	1.8	18	1.1
5 people	8	0.5	3	0.2
6 people	5	0.3	2	0.1
7 people	1	0.1	2	0.1
Total	1604	100	1604	100

Table A34: Frequency and percentage of household members under 18 years of age who attend a 'Reef Guardian' school (Question 24).

Attend a 'Reef Guardian' school	Raw data		Adjusted data	
	n	%	n	%
Yes	51	8.2	21	3.3
No	550	88.4	593	95.4
Can't say	21	3.4	8	1.3
Total	622	100	622	100

Table A35: Frequency and percentage of survey respondents who are of Aboriginal or Torres Strait Islander descent (Question 25).

Aboriginal / Torres Strait Islander descent	Raw data		Adjusted data	
	n	%	n	%
Yes	59	3.7	53	1.6
No	1547	96.1	1535	98.1
Can't say	3	0.2	21	0.3
Total	1609	100	1609	100

Table A36: Frequency and percentage of survey respondents who originate from Australia (Question 26).

Born in Australia	Raw data		Adjusted data	
	n	%	n	%
Yes	1287	80.0	1157	71.9
No	321	19.9	449	27.9
Can't say	1	0.1	3	0.2
Total	1609	100	1609	100

Table A37: Frequency and percentage of respondents having English as their first language (Question 27).

English is first language	Raw data		Adjusted data	
	n	%	n	%
Yes	1532	95.2	1453	90.3
No	77	4.8	156	9.7
Total	1609	100	1609	100

Table A38: Frequency and percentage of non-native English-speaking survey respondents (Question 27).

Origin	Raw data		Adjusted data	
	n	%	n	%
Afrikaans	2	2.6	1	1.0
Creole	3	3.9	1	2.0
Dutch	2	2.6	2	2.1
French	5	6.5	4	4.6
German	8	10.4	3	4.3
Hungarian	2	2.6	2	2.2
Italian	3	3.9	2	3.0
Japanese	2	2.6	1	0.2
Latvian	2	2.6	1	0.6
Mandarin	2	2.6	6	8.2
Persian	3	3.9	2	3.0
Spanish	4	5.2	8	9.9
Swedish	2	2.6	1	1.3
Tamil	2	2.6	3	3.8
Vietnamese	3	3.9	4	4.6
Other	32	41.5	36	49.2
Total	77	100	77	100

Table A39: Survey respondents' levels of education (Question 28).

Level of education	Raw data		Adjusted data	
	n	%	n	%
Some primary school	8	0.5	2	0.1
Completed primary school	7	0.4	2	0.1
Some secondary school	245	15.2	130	8.1
Some technical or commercial education	11	0.7	2	0.1
Passed fourth form / inter	141	8.8	84	5.2
Passed fifth form/ leaving	107	6.7	85	5.3
Finished technical/ commercial/TAFE education	93	5.8	87	5.4
Finished or studying Year 12	333	20.7	281	17.5
Some university / CAE training	48	3.0	66	4.1
Tertiary diploma	206	12.8	245	15.2
University student	27	1.7	64	4.0
University / CAE degree	372	23.0	551	34.3
Can't say	11	0.7	10	0.6
Total	1609	100	1609	100

Table A40: Frequency and percentage of respondents' annual household income (Question 29).

Household income bracket	Raw data		Adjusted data	
	n	%	n	%
Less than \$30,000 per year	182	15.8	127	11.0
\$30,000-\$39,999 per year	81	7.0	65	5.6
\$40,000-\$49,999 per year	69	6.0	65	5.6
\$50,000-\$59,999 per year	106	9.2	90	7.8
\$60,000-\$69,999 per year	86	7.5	83	7.2
\$70,000-\$79,999 per year	86	7.5	76	6.6
\$80,000-\$89,999 per year	59	5.1	72	6.2
\$90,000-\$99,999 per year	44	3.8	61	5.3
\$100,000 or more per year	441	38.2	515	44.7
Total	1154	100	1154	100

Table A41: Frequency and percentage of survey respondents' age (Question 30).

Age group	Raw data		Adjusted data	
	n	%	n	%
15-17 years	75	4.7	57	3.6
18-19 years	97	6.0	154	9.5
20-24 years	110	6.8	151	9.3
25-29 years	125	7.8	162	10.1
30-34 years	142	8.8	164	10.2
35-39 years	149	9.3	159	9.9
40-44 years	167	10.4	151	9.4
45-49 years	178	11.1	135	8.4
50-54 years	171	10.6	124	7.7
55-59 years	145	9.0	94	5.9
60-64 years	250	15.5	258	16.0
Total	1609	100	1609	100

Table A42: Frequency and percentage of respondents' gender (Question 31).

Gender	Raw data		Adjusted data	
	n	%	n	%
Male	864	53.7	782	48.6
Female	745	46.3	827	51.4
Total	1609	100	1609	100

Appendix B: Survey Instrument

Good morning/afternoon/evening.

My name is _____ from Roy Morgan Research.

I'm ringing on behalf of James Cook University. We are conducting a survey to understand what people think about climate change and how it might affect the Great Barrier Reef. May I please speak to the youngest male in your household aged 18 years or over?

If youngest male aged 18+ not available:

May I please speak to the youngest female in your household who is 18 years or over?

If new respondent, repeat introduction.

Your participation is important for managing the effects of climate change on the Great Barrier Reef. Your answers are strictly confidential and these are not passed on to James Cook University with any of your identifying information.

If asked:

The survey will take approximately twenty minutes and will be used for research purposes.

If necessary, say:

Is now a good time or would it be more convenient if I made an appointment to speak to you at another time?

When we talk about climate change, we are referring to the idea that human activity is causing the earth's climate and weather patterns to change.

1 What effect do you think human activity is having on the earth's climate?

- 1 No effect
- 2 Moderate effect.....
- 3 Large effect.....
- 4 Cant' say.....

2 Over the past twelve months, have you taken any action to help reduce the impacts of climate change?

- 1 Yes.....
- 2 No (skip to **Question 3**).....
- 3 Can't say (skip to **Question 3**)

If yes, what actions have you taken?

- Q2yes1 Using energy-efficient products
- Q2yes2 Turning off lights or appliances when not in use.....
- Q2yes3 Walk or cycle rather than use the car
- Q2yes4 Use green electricity (solar, wind, other)
- Q2yes5 Own solar panel for hot water or power supply
- Q2yes6 Recycling
- Q2yes7 Composting.....
- Q2yes8 Don't use plastic shopping bags / use environmentally-friendly bags
- Q2yes9 Don't put non-biodegradable chemicals down the drain
- Q2yes10 Minimise travel (by car or plane)
- Q2yes11 Purchased a more energy/fuel efficient car
- Q2yes12 Reduced the use of heating or cooling in the home
- Q2yes13 Reduced/minimised water usage
- Q2yes14 Installed water saving devices, e.g. shower heads / water-efficient appliances
- Q2yes15 Installed water storage system, e.g. water tank
- Q2yes16 Plant trees / plants
- Q2yes17 Growing own edibles, e.g. vegetables / fruit, etc.
- Q2yes18 Use public transport.....
- Q2yes19 Reduce electricity usage (unspec)
- Q2yes20 Do not use / reduced use of clothes dryer.....

Q2yes21 Other
 Q2yes22 Can't say

3 We're interested in your opinion of various potential threats to the Great Barrier Reef. For each item that I read out, please tell me if it is:

- 1 No threat at all
- 2 A minor threat
- 3 A moderate threat
- 4 A major threat
- 5 Can't say

to the Great Barrier Reef:

- Q3a Commercial fishing in the GBRMP 1 2 3 4 5
- Q3b Recreational fishing in the GBRMP 1 2 3 4 5
- Q3c Recreational activities such as snorkelling
or diving on the reef 1 2 3 4 5
- Q3d Shipping in the GBRMP 1 2 3 4 5
- Q3e Declining quality of water from land run-off
into the GBRMP 1 2 3 4 5
- Q3f Coastal development along the GBR coast 1 2 3 4 5
- Q3g Tourism in the GBRMP 1 2 3 4 5
- Q3h Climate change or global warming 1 2 3 4 5
- Q3i Indigenous hunting in the GBRMP 1 2 3 4 5
- Q3j Recreational boating in the GBRMP 1 2 3 4 5

4amaj. You mentioned that you thought [Q3a-Q3j] was a major threat to the Great Barrier Reef. Which one of these threats do you think is the biggest threat to the Great Barrier Reef? (Asked if more than one item in Q3 was listed as a major threat)

- 1 Commercial fishing
- 2 Recreational fishing
- 3 Recreational activities such as snorkelling
and diving
- 4 Shipping
- 5 Declining water quality
- 6 Coastal development
- 7 Tourism
- 8 Climate change or global warming
- 9 Indigenous hunting
- 10 Recreational boating

4amod You mentioned that you thought [Q3a-Q3j] was a moderate threat to the Great Barrier Reef. Which one of these threats do you think is the biggest threat to the Great Barrier Reef? (Asked only if no major threats were indicated in Q3)

- 1 Commercial fishing
- 2 Recreational fishing
- 3 Recreational activities such as snorkelling and diving
- 4 Shipping
- 5 Declining water quality
- 6 Coastal development
- 7 Tourism
- 8 Climate change or global warming
- 9 Indigenous hunting
- 10 Recreational boating

5a How concerned are you about climate change in general?

- 1 Not at all concerned
- 2 Moderately concerned
- 3 Very concerned

5b How necessary do you think it is to take steps to reduce human activities that are thought to cause climate change?

- 1 Not at all necessary
- 2 Moderately necessary
- 3 Very necessary

5c How concerned are you about the potential effects of climate change on the Great Barrier Reef?

- 1 Not at all concerned
- 2 Moderately concerned
- 3 Very concerned

5d How interested are you in taking action to help reduce the impacts of climate change on the Great Barrier Reef?

- 1 Not at all interested
- 2 Moderately interested
- 3 Very interested

5e How likely are you to undertake some action over the next twelve months to help reduce the impacts of climate change on the Great Barrier Reef?

- 1 Not at all likely (go to **Question 6**)
- 2 Moderately likely
- 3 Very likely

If Q5e response is ‘very likely’ or ‘moderately likely’:

What action will you take over the next twelve months to help reduce the impacts of climate change on the Great Barrier Reef? What else? Anything else?

- Q5e1 Use public transport.....
- Q5e2 Reduce car usage / drive less
- Q5e3 Cut down on carbon/CO₂ emissions / reduce carbon footprint.....
- Q5e4 Reduce consumption / buy less (unspec.)
- Q5e5 Recycle (unspec.).....
- Q5e6 Install/use solar panels / solar energy / solar heating
- Q5e7 Walking instead of driving (to work/shops).....
- Q5e8 Fundraising / spreading awareness.....
- Q5e9 Reduce power / energy / electricity usage
- Q5e10 Install a rainwater tank.....
- Q5e11 Save / reduce the use of water.....
- Q5e12 Use recycled / grey water
- Q5e13 Become more educated about the impacts of climate change.....
- Q5e14 I will educate more people about the impacts of climate change.....
- Q5e15 Education / education programs (unspec.).....
- Q5e16 Lobby / encourage / write to politicians
- Q5e17 Sign / send / start petitions (unspec.)
- Q5e18 Participate in / donate to / fund research (unspec.).....
- Q5e19 Make donations to environmental organisations (unspec.)
- Q5e20 Become involved / more involved with environmental organisations (unspec.).....
- Q5e21 Very little / I am limited in my ability to take action
- Q5e22 I will reduce / stop fishing at the reef
- Q5e23 Picking up rubbish / taking my rubbish with me
- Q5e24 Use/switch to energy

- saving/efficient/environmentally-friendly light bulbs
- Q5e25 Turn of lights / minimizing usage of lights.....
- Q5e26 Cycling / riding a bike / push bike
- Q5e27 I will do/support anything/everything I can to stop climate change / help the environment.....
- Q5e28 Support / donate money to / participate in causes / sign petitions that help to protect the Great Barrier Reef
- Q5e29 Stop diving / dive less / pay attention to the other divers / be aware of the impacts my diving has on the Great Barrier Reef
- Q5e30 Keep doing what I am currently doing
- Q5e31 Plant trees / vegetation
- Q5e32 Stop / reduce use of fertiliser/herbicides/ poisons/chemicals
- Q5e33 Prevent/reduce chemical run-off into water system / careful what goes down the drains / reduce waste run-off
- Q5e34 Not go to the reef / visit the reef less often / tell others not to go there
- Q5e35 Use environmentally-friendly / bio-degradable shopping bags
- Q5e36 Reduce use of / not use plastic bags / use recycleable shopping bags
- Q5e37 Drive a hybrid/smaller/more energy-efficient car
- Q5e38 Other
- Q5e39 Can't say

6 Please tell me whether you:

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree
- 6 Can't say

with each of the following statements:

(Some items are 'missing' because they were removed from the pilot, but numbering has not changed)

- Q6a 'If everyone took action, we could reduce the impacts of climate change on the Great Barrier Reef' 1 2 3 4 5
- Q6c 'I have the ability to help reduce the impacts of climate change on the Great Barrier Reef.... 1 2 3 4 5
- Q6e 'I feel personally obligated to help reduce the

	impacts of climate change on the Great Barrier Reef'	1	2	3	4	5
Q6f	'I would feel guilty if climate change had a negative impact on the Great Barrier Reef'	1	2	3	4	5
Q6g	'People like me should do everything they can to reduce the impacts of climate change on the health of the Great Barrier Reef'	1	2	3	4	5
Q6h	'Reducing the impacts of climate change on the Great Barrier Reef is NOT my responsibility'	1	2	3	4	5
Q6i	'If the health of the Great Barrier Reef declined, it would have serious consequences for me and my family'	1	2	3	4	5
Q6l	'We should do everything we can to ensure the long-term survival of the Great Barrier Reef, regardless of how much it costs'	1	2	3	4	5
Q6n	'Too much money is being spent on the Great Barrier Reef'	1	2	3	4	5
Q6o	'I would not be affected if we lost the Great Barrier Reef'	1	2	3	4	5
Q6p	'I have enough knowledge to understand how I can help reduce the impacts of climate change on the Great Barrier Reef'	1	2	3	4	5
Q6q	'I am able to influence my friends or family to take action to reduce the impacts of climate change on the Great Barrier Reef'	1	2	3	4	5

7a Thinking about the impacts of climate change on the Great Barrier Reef, would you say this impact will be:

- 1 No impact
- 2 Minor impact
- 3 Major impact
- 4 Can't say

over the next twelve months?

7b Thinking about the impacts of climate change on the Great Barrier Reef, would you say this impact will be:

- 1 No impact
- 2 Minor impact
- 3 Major impact
- 4 Can't say

over the next five years?

7b Thinking about the impacts of climate change on the Great Barrier Reef, would you say this impact will be:

- 1 No impact
- 2 Minor impact
- 3 Major impact
- 4 Can't say

over the next 25 years?

8 With respect to the following attributes of the Great Barrier Reef, please tell me whether you think climate change will:

- 1 Strongly increase
- 2 Increase
- 3 Neither increase nor decrease
- 4 Decrease
- 5 Strongly decrease
- 6 Can't say

- Q8a The overall health of the Great Barrier Reef 1 2 3 4 5
- Q8b The natural beauty of the Great Barrier Reef ... 1 2 3 4 5
- Q8c The ability of the Great Barrier Reef to support populations of fish and wildlife..... 1 2 3 4 5
- Q8d The enjoyment people get from visiting the Great Barrier Reef 1 2 3 4 5
- Q8e The ability of the Great Barrier Reef to support sustainable fisheries 1 2 3 4 5
- Q8f The ability of the Great Barrier Reef to support sustainable tourism..... 1 2 3 4 5
- Q8g The amount of coral on the Great Barrier Reef 1 2 3 4 5

9 Which of the following two statements best describes the extent to which you are currently helping to reduce the impacts of climate change on the Great Barrier Reef?

- 1 'I don't do as much as I would like to (go to **Question 10**)
- 2 'I don't want to do more than I am already doing' (go to **Question 11**)
- 3 Can't say (*don't read out*) (go to **Question 10**).....

10 Please tell me whether you:

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree
- 6 Can't say

with each of the following statements about why you don't do as much as you would like to help reduce the impacts of climate change on the Great Barrier Reef.

- Q10a 'I don't have the time'1 2 3 4 5 6
- Q10b 'I don't know what else I can do to help'1 2 3 4 5 6
- Q10c 'Doing more would cost me too much money'1 2 3 4 5 6
- Q10d 'I don't believe the things I could do would have any impact'1 2 3 4 5 6
- Q10e 'My friends or family would not approve'1 2 3 4 5 6
- Q10f 'I don't really understand the climate change problem'1 2 3 4 5 6
- Q10g 'I have other more important priorities in my life'1 2 3 4 5 6

Skip to Question 12.

11 Please tell me whether you:

- 1 Strongly agree
- 2 Agree
- 3 Neither agree nor disagree
- 4 Disagree
- 5 Strongly disagree
- 6 Can't say

with each of the following statements about why you don't want to do more than you already are doing to help reduce the impacts of climate change on the Great Barrier Reef

- Q11a 'I feel that I already do more than my share'1 2 3 4 5 6
- Q11b 'I am not worried about the effects of climate change on the Great Barrier Reef'1 2 3 4 5 6
- Q11c 'I don't believe that things I could do would have any impact'1 2 3 4 5 6
- Q11d 'I am not certain that human activities are the cause of climate change'1 2 3 4 5 6
- Q11e 'It is not my responsibility to protect the GBR from climate change'1 2 3 4 5 6

- Q11f 'I don't really understand the climate change problem'1 2 3 4 5 6
- Q11g 'It's too late to do anything about climate change now'1 2 3 4 5 6
- Q11h 'I have other more important priorities in my life'1 2 3 4 5 6

12 Are you a member of a conservation organisation?

- 1 Yes
- 2 No
- 3 Can't say

13 Have you ever made a submission to a government agency or attended a public meeting?

- 1 Yes
- 2 No
- 3 Can't say

14 Are you interested in learning more about what you can do to protect the Great Barrier Reef from the impacts of climate change?

- 1 Yes
- 2 No
- 3 Can't say

15 Do you think each of the following would be:

- 1 Not at all trustworthy
- 2 Moderately trustworthy
- 3 Very trustworthy
- 4 Can't say

as a source of information about climate change and the Great Barrier Reef?

- Q15a Great Barrier Reef Marine Park Authority..... 1 2 3 4
- Q15b State Government departments 1 2 3 4
- Q15c Federal Government departments..... 1 2 3 4
- Q15d Family and friends 1 2 3 4
- Q15e Scientists 1 2 3 4
- Q15f Businesses that sell goods and services..... 1 2 3 4
- Q15g Industries like oil, gas and mining..... 1 2 3 4

16 Thinking about a visit to the Great Barrier Reef Marine Park as getting in or out on the water inside the marine park zone for the purposes of recreation or work, have you visited the Great Barrier Reef Marine Park in the past twelve months?

- 1 Yes.....
- 2 No (go to **Question 22**)
- 3 Can't say (go to **Question 22**).....

17 For how many days did you visit the Great Barrier Reef Marine Park in the past twelve months?

18 In what month did you last visit the Great Barrier Reef Marine Park?

- 1 November 2007
- 2 December 2007
- 3 January 2008
- 4 February 2008
- 5 March 2008
- 6 April 2008.....
- 7 May 2008
- 8 June 2008
- 9 July 2008
- 10 August 2008.....
- 11 September 2008
- 12 October 2008
- 13 November 2008
- 14 Can't say.....

19 What were the main water-based activities you participated in during your visit to the Great Barrier Reef Marine Park within the last twelve months?

- Q19act1 Swimming.....
- Q19act2 SCUBA diving
- Q19act3 Snorkelling
- Q19act4 Fishing.....
- Q19act5 Sailing.....
- Q19act6 Boating
- Q19act7 Jet-skiing
- Q19act8 Whale/bird watching.....
- Q19act9 Sight-seeing/observing.....
- Q19act10 Beach / walking along the beach / sitting on

- the beach / paddling / beach-combing
- Q19act11 Walking / bush-walking
- Q19act12 Camping
- Q19act13 Kayaking / canoeing
- Q19act14 Spear fishing
- Q19act15 Crab / prawn hunting
- Q19act16 Diving (unspec.)
- Q19act17 Other
- Q19act18 Can't say

20 Did you pay to go on an organised tour during your visit to the Great Barrier Reef Marine Park within the past twelve months?

- 1 Yes
- 2 No
- 3 Can't say

21 On a scale of 1 to 10, where 1 = 'not at all satisfied' and 10 = 'extremely satisfied', how satisfied were you with your last visit to the Great Barrier Reef Marine Park?

- 1 2 3 4 5 6 7 8 9 10
- Not at all satisfied Extremely satisfied

22 Do you intent to visit the Great Barrier Reef in the next twelve months?

- 1 Yes
- 2 No
- 3 Can't say

Finally, to make sure we have interviewed a true cross-section of the population, I'd like to ask you a few questions about yourself.

23 Including yourself, how many people in total live in your household?

- 1 2 3 4 5 6 7+

24a How many of the total number of people living in your household are under the age of 18 years? (If none, skip to Question 25)

- 0 1 2 3 4 5 6 7+

24b Do any of the children in your household attend a 'Reef Guardian' school?

- 1 Yes.....
- 2 No
- 3 Can't say.....

(Note to surveyors: The Reef Guardian School program is an environmental education program run by the Great Barrier Reef Marine Park Authority. Students, parents and teachers at schools in the program are given opportunities to participate in a range of initiatives aimed at protecting the Great Barrier Reef).

25 Are you of Aboriginal or Torres Strait Islander descent?

- 1 Yes.....
- 2 No
- 3 Can't say.....

26 Were you born in Australia?

- 1 Yes.....
- 2 No
- 3 Can't say.....

27 Is English your first language?

- 1 Yes (skip to **Education question**)
- 2 No
- 3 Can't say (skip to **Education question**)

If no: What is your first language?

- firstlang1 Afrikaans.....
- firstlang2 Creole.....
- firstlang3 Dutch.....
- firstlang4 French.....
- firstlang5 German.....
- firstlang6 Hungarian.....
- firstlang7 Italian.....
- firstlang8 Japanese.....
- firstlang9 Latvian.....
- firstlang10 Mandarin.....
- firstlang11 Persian.....
- firstlang12 Spanish.....
- firstlang13 Swedish.....
- firstlang14 Tamil.....
- firstlang15 Vietnamese.....
- firstlang16 Other.....
- firstlang17 Can't sway / refused to tell.....

educ Would you please tell me the highest level fo education you've reached?

- 1 Some primary school
- 2 Finished primary school
- 3 Some secondary school.....
- 4 Some technical or commercial education.....
- 5 Passed fourth form / inter.....
- 6 Passed fifth form / leaving.....
- 7 Finished technical or commercial / TAFE education
- 8 Finished or now studying for matric / HSC / VCE / Year 12
- 9 Some university / CAE training
- 10 Tertiary diploma
- 11 Now at university / CAE
- 12 University / CAE degree.....
- 13 Can't say

Income Would you mind telling my your household's TOTAL approximate annual income from all sources before tax?

- 1 Less than \$30,000
- 2 \$30,000-\$39,999
- 3 \$40,000-\$49,999
- 4 \$50,000-\$59,999
- 5 \$60,000-\$69,999
- 6 \$70,000-\$79,999
- 7 \$80,000-\$89,999
- 8 \$90,000-\$99,999
- 9 \$100,000 or more.....
- 10 Can't say
- 11 Declined to answer

age Would you mind telling me your approximate age? *If respondent refuses, read out:*

- 1 15-17 years
- 2 18-19 years
- 3 20-24 years
- 4 25-29 years
- 5 30-34 years
- 6 35-39 years
- 7 40-44 years

- 8 45-49 years
- 9 50-54 years
- 10 55-59 years
- 11 60-64 years
- 12 65 years and over
- 13 Declined to answer

gender Record the gender of the respondent:

- Male
- Female

region Record the region in which the respondent resides:

- 1 Sydney
- 2 Melbourne
- 3 Brisbane
- 4 Cape York
- 5 Far Northern Region
- 6 Northern Region
- 7 Central Region
- 8 Southern Region

Further Information

Marine and Tropical Sciences Research Facility
PO Box 1762
CAIRNS QLD 4870

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