

A full-page background image showing a family of three (a woman, a man, and a child) in wetsuits playing in shallow, clear turquoise water. The woman on the left is holding the child's hand, and the man on the right is lifting the child into the air. The child is wearing a blue wetsuit and a black cap. The background shows a sandy beach, a clear blue sky with some clouds, and distant mountains.

Measuring the human dimension of the Great Barrier Reef

Social and economic long term monitoring program

The Social and Economic Long-term Monitoring Program (SELTMP) for the Great Barrier Reef was funded by the Australian Government's National Environment Research Program



National Environmental
Research Program
TROPICAL ECOSYSTEMS *hub*

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Links to reports can be found at
www.nerptropical.edu.au
and on the SELTMP eAtlas website
seltmp.eatlas.org.au

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ICONS USED IN THIS BOOKLET



Australians



Coastal residents living adjacent
to the Great Barrier Reef



Commercial fishers in the
Great Barrier Reef



Tourism operators in the
Great Barrier Reef



Tourists in the Great Barrier
Reef Region

Understanding the human dimension of the Great Barrier Reef

People are a part of the Great Barrier Reef. Today, management of the Reef requires more than a comprehensive understanding of the biophysical pressures, ecosystem states and responses. Understanding the human dimension of the Reef, including how people, industries and communities interact in it, value it, perceive it, and respond to environmental and societal changes is essential for long-term planning, and for evaluating the outcomes of management decisions.

The Social and Economic Long Term Monitoring Program (SELTMP) for the Great Barrier Reef is assisting Reef managers and other decision-makers within the Great Barrier Reef region to incorporate the human dimension into their planning and management. Analogous to the Australian Census, SELTMP gathers long-term data specific to Reef users, communities and industries, enabling new insights into relationships, vulnerabilities and dependencies between people and the natural resource. SELTMP synthesises existing socio-economic data from a wide range of sources, then fills key knowledge gaps by conducting large-scale surveys of Reef user groups. The first of such surveys, in 2013, questioned more than 8,300 people (commercial fishers, tourism operators, tourists, coastal residents and national residents), about their dependence, usage and affinity with the Reef, as well as their perceptions, values, experiences, attitudes, behaviours and norms. As longitudinal data and knowledge are accumulated through repeated surveys, the value of SELTMP to Reef managers and the Australian public will increase.

SELTMP was established in 2011 with funding provided by the Australian Government under the National Environment Research Program (NERP). SELTMP is led by researchers from CSIRO and James Cook University, in partnership with the Great Barrier Reef Marine Park Authority, The Great Barrier Reef Foundation and NQ Dry Tropics Ltd Natural Resource Management organisation. More than 100 people, representing multiple government agencies, community groups and industries in the Great Barrier Reef region have contributed expert knowledge and ideas towards the objectives and design of SELTMP.

This booklet provides a sample of some of the key findings and statistics from the 2013 Reef user group surveys, and is intended to provide readers with (i) a description of the variables that are collected by SELTMP, (ii) a sense of the baseline results, and (iii) inspiration to interrogate the dataset available on the eAtlas website: seltmp.eatlas.org.au



Summary

SELTMP has been designed to provide a comprehensive and longitudinal dataset representing the current status and condition of different user groups and industries of the Great Barrier Reef to assist long term planning and decision-making.

It is governed by a small steering committee and a larger stakeholder and scientific advisory panel comprised of key representatives from each of the main user groups.

Technical advice and secondary data are provided to the SELTMP through Working Groups, each representing a main user group of the Great Barrier Reef (e.g. including commercial fishing, marine tourism, recreation, coastal communities, ports and shipping, economics, agriculture, drivers of change). Over 100 people are involved in the Working Groups.

SELTMP's monitoring framework is based on modelling from the Millennium Ecosystem Assessment, specifically modified to assess social system components.

The four main components of the human dimension of the Great Barrier Reef that are monitored by SELTMP are:

- (i) **Use and dependency** – How people use and are dependent on the Great Barrier Reef
- (ii) **Wellbeing** – The level of wellbeing that people derive from the Great Barrier Reef
- (iii) **The cultural context** – How people perceive, relate to, experience and value the Reef. Such data can provide important insights about how people support Reef management decisions and policies.
- (iv) **Drivers of change** – Providing important context for the state of the Great Barrier Reef, its use and management. (NB. Drivers of change for the Reef are reported in a separate SELTMP report at seltmp.eatlas.org.au)

THIS BOOKLET HIGHLIGHTS RESULTS FROM THE BASELINE SURVEY CONDUCTED IN 2013. THE BASELINE SURVEY WAS ADMINISTERED:



Face-to-face to
2877
tourists and
3182
coastal residents



Online to
2002
representative
Australians



By telephone to
211
commercial fishers
and
119
tourism operators

Results have been weighted on the basis of age, gender and income to represent all people within the Region.

Key findings

1. Use and dependency

- ♦ **95%** of coastal residents in the catchment have visited the Great Barrier Reef in their lifetime and **88%** have visited the Great Barrier Reef in the previous 12 months.
- ♦ Among tourists visiting the Great Barrier Reef catchment, **70%** had visited the Reef during their stay and **50%** took part in a commercial Reef tour.
- ♦ The Great Barrier Reef plays an important economic role in the lives of coastal people. For example we found that **25%** of coastal residents are dependent on the Great Barrier Reef for at least some of their household income.
- ♦ People use and are dependent on the Great Barrier Reef for employment, recreation and cultural and occupational identity. People can also be dependent on the Great Barrier Reef because of their place attachment, employability, family and networks.
- ♦ An example of place attachment: Our results found that coastal residents have lived in the Great Barrier Reef catchment for an average of **21 years** and **41%** do so because of the Great Barrier Reef. We found that **77%** of people plan to reside in the catchment for the next five years and **86%** will stay even if cyclones and floods occur more frequently. **Two-thirds** of coastal residents believe that there are 'not many other places better than the Great Barrier Reef for the recreation activities they enjoy.'

2. Wellbeing

- ♦ People derive wellbeing from the Great Barrier Reef through (i) security of livelihoods and lifestyle values associated with the Reef, (ii) opportunities for employment, cultural practices and recreation, and (iii) a sense of empowerment in the management and protection of the Reef; each of which are measured in the SELTMP framework.
- ♦ Security is measured via economic data for industries such as fisheries and tourism, and through survey data that evaluates people's dependency on the Reef, their perceptions of its health, and perceptions of threats. For example, we found that **52%** of coastal residents believe that climate change is an immediate threat requiring action. We also found that **76%** of tourism operators and **46%** of commercial fishers feel optimistic about the future of their business within the Reef.
- ♦ Opportunities associated with the Reef are measured in several ways, for example, when asked what words come to mind when thinking about the Great Barrier Reef, **82%** of respondents in our national survey recalled 'positive' words such as beauty, diversity, fish and corals. The Great Barrier Reef is considered to be Australia's the most inspiring landmark and the vast majority of Australians either want to visit the Reef or have done so already.
- ♦ Regarding empowerment, we found that **61%** of coastal residents feel confident the Great Barrier Reef is well managed, **78%** support the current rules and regulations affecting access to the Great Barrier Reef, and **80%** believe they have fair access compared to other user groups.

3. The cultural context

Some aspects of the cultural context within which the Great Barrier Reef is managed and used include:

- ♦ **Aesthetic values** – In all users groups of the Great Barrier Reef, we found that people value the aesthetic appeal of the Great Barrier Reef above all other values – even higher than economic values.
- ♦ **Responsibility** – All users of the Great Barrier Reef have strong feelings of personal responsibility and stewardship for the Reef, suggesting that a strong cultural identity exists around the Reef. For example, we found that **88%** of coastal residents felt a personal responsibility to protect the Great Barrier Reef.
- ♦ **Pride** – We found that there is much pride associated with the Reef being a World Heritage Area. For example, we found that **94%** of coastal residents are proud that the Great Barrier Reef is a World Heritage Area.
- ♦ **Identity** – The Great Barrier Reef forms a significant part of the Australian and coastal identity. For example, we found that **64%** of coastal residents believe that, 'the Great Barrier Reef is part of my identity.'
- ♦ **Values** – The strongest values related to the Great Barrier Reef are its aesthetic beauty, biodiversity values, World Heritage status, economic, and scientific and educational values.

1. Use and dependency

People use and are dependent on natural resources in many ways. Understanding how people depend on natural resources provides a basis for understanding how people might be sensitive to changes such as regulatory, political, environmental or cultural changes. Understanding why and how people are dependent on the Reef can assist resource-managers, communities and industries to design and implement strategies that not only protect ecological values but also the social systems dependent upon them.

What did we measure for use and dependency?

ACTIVITIES AND USE PATTERNS

- ♦ What are people doing?
- ♦ When, where, how and how often are people interacting with the Reef?
- ♦ How much are people using the Reef: how much 'product' are people taking?

CULTURAL, SPIRITUAL AND INTELLECTUAL INSPIRATION AND EXPERIENCES

- ♦ How strong is identity and place attachment about the Reef?
- ♦ What are the family connections within the Reef Region?
- ♦ How able are commercial fishers and tourism operators to work elsewhere?
- ♦ What networks within the Region have to create new opportunities?
- ♦ What experiences and knowledge do Reef-dependent people have?

EMPLOYMENT, VALUE AND INVESTMENT

- ♦ What are the employment figures, financial investments and income associated with the Reef?
- ♦ How many Reef-dependent people have a business versus lifestyle approach?



Image: Andrew Tobin

'Being a fisher is such a passion that I don't even regard it as [a job] ... I do take it as a very serious job, but I actually love it so much that ... I'm just wired to go to work. It's a really strong passion of mine.'

Commercial fisher

Financial dependency on the Reef: some examples

The Reef adds **\$5.7b** annually to the economy*



25% of coastal residents rely on the Reef for at least part of their household income



Tourism generates the equivalent of **64,000** full-time jobs*

👤 = 100 jobs



Commercial fishing generates **700** full-time jobs.



There are around 280 commercial fishers in the region who receive **65%** of their household income from fishing.*

For more examples please visit eatlas.org.au/seltmp

*Source: Deloitte Access Economics, 2013

Social dependency on the Reef: some examples; identity

Reef-dependent people can become especially attached to the identity that they have created around their occupation or lifestyle. The more firmly attached a person becomes to their Reef-based identity, the more traumatic and disorienting a change in identity is likely to be.

See the Reef as part of their identity



See the Reef as the best place to enjoy recreational activities



Consider their job to be a lifestyle

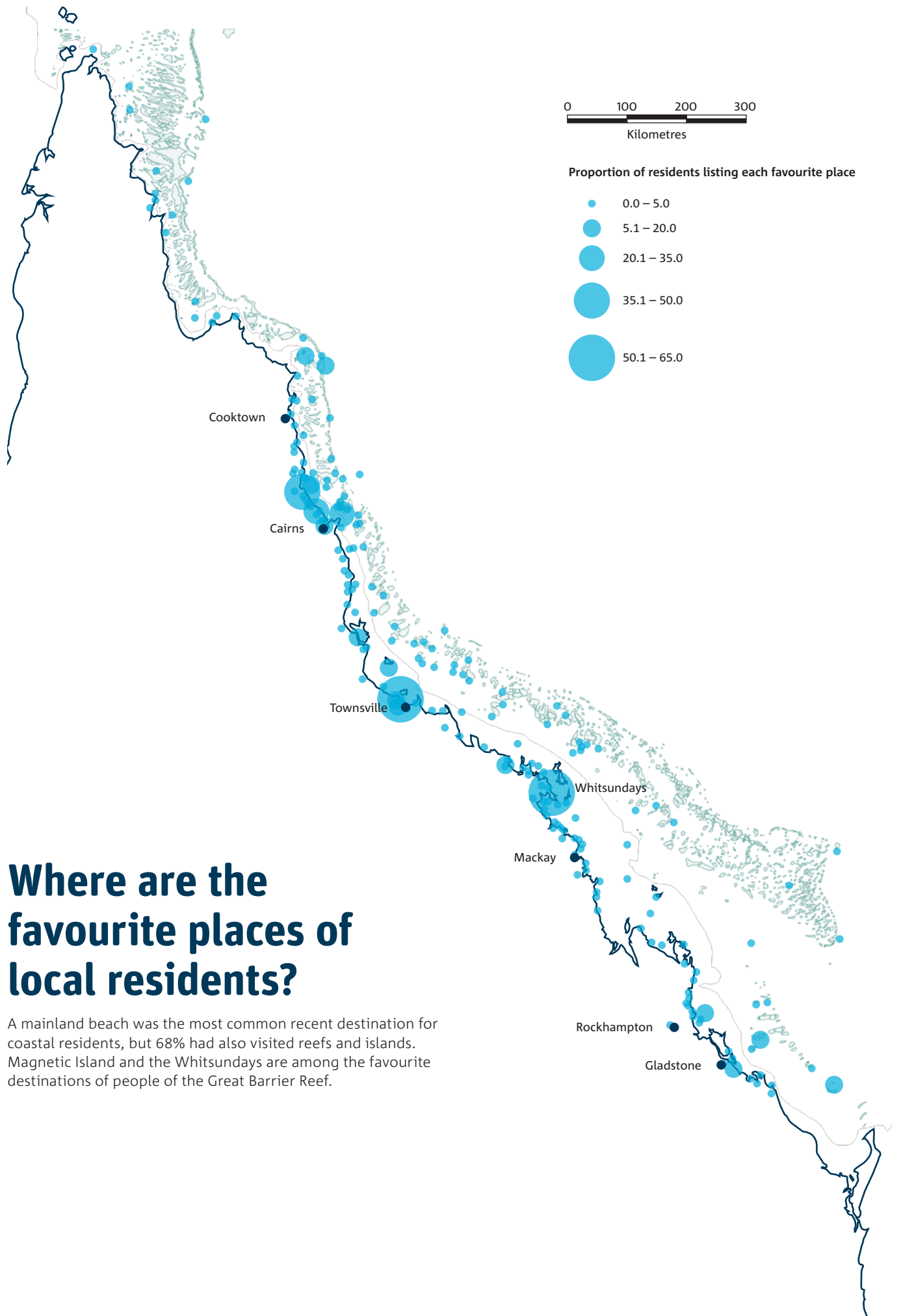


Do not want to be in any other occupation



For more examples of social dependency please visit eatlas.org.au/seltmp

*Source: Deloitte Access Economics, 2013



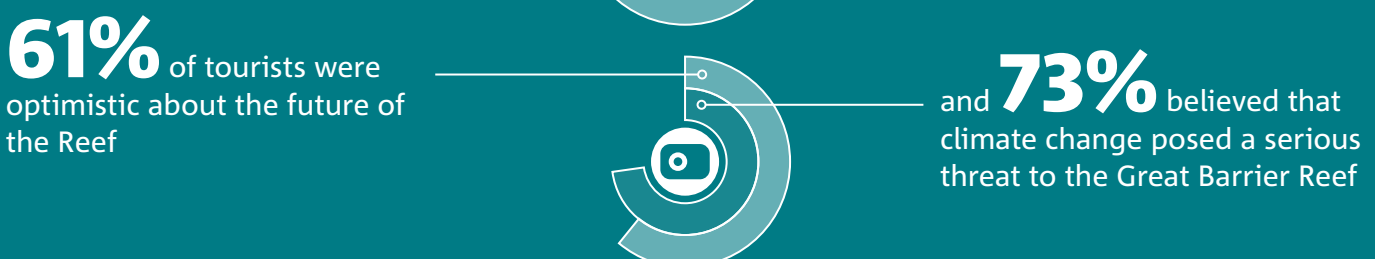
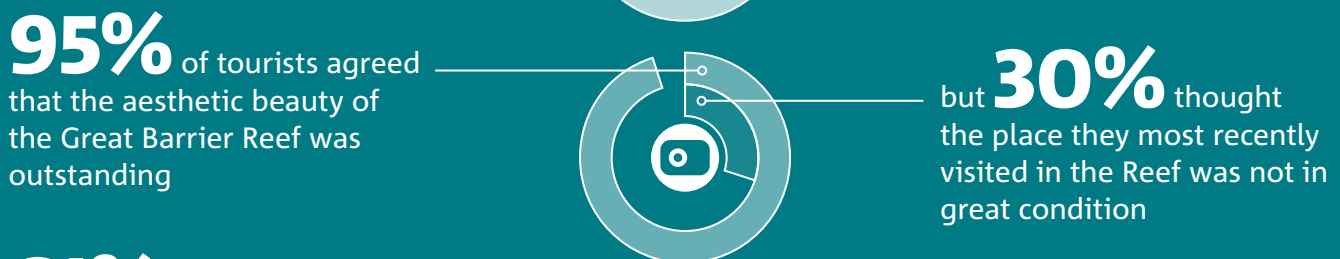
Where are the favourite places of local residents?

A mainland beach was the most common recent destination for coastal residents, but 68% had also visited reefs and islands. Magnetic Island and the Whitsundays are among the favourite destinations of people of the Great Barrier Reef.

2. Wellbeing

Human and community wellbeing are becoming increasingly important in the management of natural resources. We have developed a framework to understand how human and community wellbeing are affected by the condition and management of the Great Barrier Reef. People's perceptions of opportunities, level of empowerment and feelings of security are key indicators that are measured.

Feelings of security: some examples



Perceived opportunities: some examples

93%

of coastal residents value the Great Barrier Reef for the lifestyle it provides



77%

of tourism operators were optimistic about the future of their business and



61%

were optimistic about the future of the Reef itself



88%

of commercial fishers felt the Reef contributed to their quality of life, but only



46%

felt optimistic about the future of their Reef-dependent business



90%

of tourists indicated it meant a lot to have visited the Reef



70%

felt the Reef was an important part of their decision to visit the Region



Empowerment: some examples

40%

of commercial fishers felt they did not have fair access to the Reef and



71%

felt industry rules and regulations impinged on their time



67%

two-thirds of tourism operators were confident the Reef was well managed and



68%

supported current rules and regulations relating to Reef use and access



80%

of tourists felt some personal responsibility for the Reef's protection and



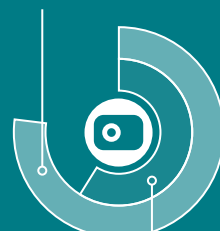
92%

considered this to be the responsibility of all Australians



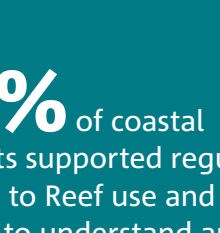
77%

of tourists indicated they would like to do more to help protect the Great Barrier Reef and



59%

felt such efforts would be effective



Measures of human and community wellbeing

1. **Feelings of security associated with the Reef** (stability, sustainability, climate change and environmental quality)
2. **Perceptions of opportunities associated with the Reef** (economic, recreational, spiritual, inspirational)
3. **Level of empowerment in Reef management** (personally, through partnership, collaborations, cultural or institutional relationships)



70% of coastal residents supported regulations relating to Reef use and access, wanted to understand and help protect the condition of the Reef, and tried to encourage others to reduce their environmental impact

For more examples see eatlas.org.au/seltmp

3. The cultural context of the Great Barrier Reef

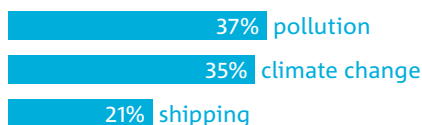
Human pressure on the Great Barrier Reef is driven by many factors, such as the coastal and global economy, changes in demography as well as changes in science and technology, media and communication and a range of socio-cultural drivers such as changing values, experiences, attitudes, perceptions, behaviours and perceptions of normal behaviour. These drivers are monitored within SELTMP so as to interpret human condition and trends through time, to anticipate future conditions and to provide essential contextual knowledge of the human dimension.

Here we describe the cultural context within which management decisions are made. The cultural context can be useful to know in order to gauge the level of public support for management initiatives, the extent that social licence to operate exists for an industry, the effectiveness of

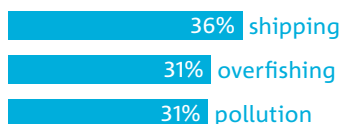
communication strategies, environmental condition, and the extent to which environmental stewardship exists or can be harnessed. Many of these drivers we measure (see box 3) are able to describe both the context and capacity of the system to influence or support change.

As an example of understanding the cultural context, we asked people what they see as threats to the Reef

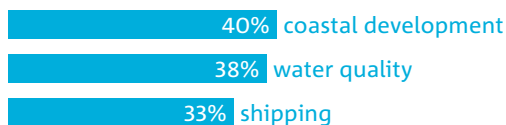
Australians are most worried about



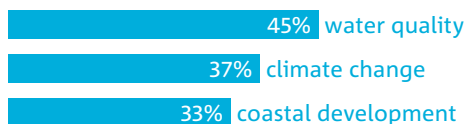
Coastal residents living adjacent to the Great Barrier Reef are most worried about



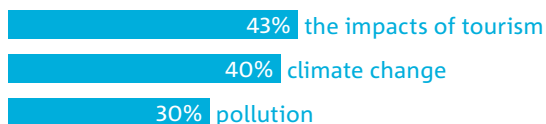
Commercial fishers in the Great Barrier Reef are most worried about



Tourism operators in the Great Barrier Reef are most worried about



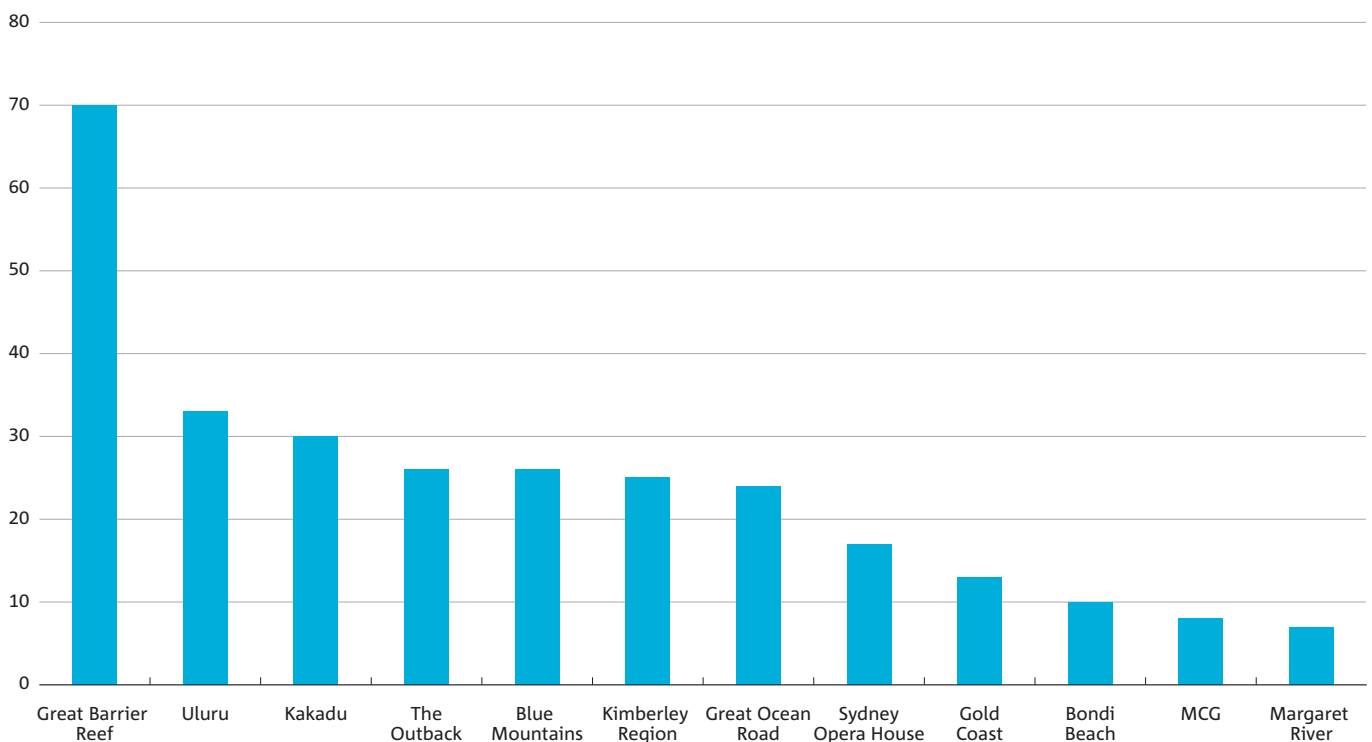
Tourists in the Great Barrier Reef Region are most worried about



How inspiring is the Great Barrier Reef?

We asked Australians to list how inspiring 12 Australian iconic and cultural landscapes were to them on a scale of 1 to 5. Seventy percent of Australians listed the Great Barrier Reef as the most, second most or third most inspiring place in Australia. By far, Australians found the Great Barrier Reef to be Australia's most inspiring landscape.

AUSTRALIA'S MOST INSPIRING LANDMARKS



Source: SELTMP 2013



For more examples of the cultural context see eatlas.org.au/seltmp

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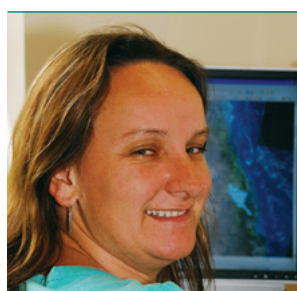
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SELTMP reports and factsheets available via eatlas.org.au/seltmp

The Social and Economic Long Term Monitoring Program (SELTMP) for the Great Barrier Reef 2014: Key Findings

SELTMP 2014: Tourism in the Great Barrier Reef

SELTMP 2014: Ports and Shipping in the Great Barrier Reef

SELTMP 2014: Coastal Communities in the Great Barrier Reef

SELTMP 2014: Commercial Fishing in the Great Barrier Reef

SELTMP 2014: Commercial Fishing in the Great Barrier Reef – a case study

SELTMP 2014: Drivers of Change in the Great Barrier Reef

SELTMP 2014: Recreation in the Great Barrier Reef

SELTMP 2014: The Great Barrier Reef National Survey

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