



National Environmental
Research Program

TROPICAL ECOSYSTEMS *hub*

Interim Report

The Social and Economic Long Term Monitoring Program (SELTMP) 2013

Recreation in the Great Barrier Reef



Renae Tobin, Erin Bohensky, Matt Curnock, Jeremy Goldberg,
Margaret Gooch, Nadine Marshall, Bernadette Nicotra,
Petina Pert, Lea Scherl and Samantha Stone-Jovicich



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Rainforest
RESEARCH CENTRE

The Social and Economic Long Term Monitoring Program (SELTMP) 2013 Recreation in the Great Barrier Reef

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SELTMP 2013: Recreation in the Great Barrier Reef

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SELTMP 2013: Recreation in the Great Barrier Reef

Introduction



People love to spend their recreational time visiting the Great Barrier Reef World Heritage Area (GBRWHA), (GBRMPA, 2009), and many people are doing it! The recent SELTMP surveys revealed that 95% of residents of coastal town adjacent to the GBR had visited the GBRWHA for recreation at least once, and 87% had visited in the previous 12 months. Many of these visits appeared to be to a mainland beach to walk, swim, and relax. However, 68% of people who told us about their recent trips had been beyond the mainland beach to islands, reefs, shoals, etc., to take part in activities such as fishing, snorkelling and diving. Other activities include boating, sailing, jet skiing, camping, kayaking, sight-seeing, photography, and wildlife viewing, to name a few. Recreational visitors are currently very satisfied with their use of the Marine Park.

While most trips beyond the beach were made by ferry, about a third of these trips were accessed by residents' own or someone else's boat. While not everyone is using their vessel very frequently, vessel registration by coastal residents has increased substantially in recent years (Qld Department of Transport, unpublished data, 2011).

Given all of this activity, it is not surprising that recreation in the GBRWHA provides significant social and cultural benefits as well as many health and wellbeing benefits associated with the psychological interaction with nature (Synergies Economic Consulting, 2012). In economic terms, recreation (defined by Deloitte Access Economics as GBR catchment residents visiting an island, sailing, boating and fishing), contributed \$126m in direct value or \$243.9m value added to the Australian economy in 2011/12 (Deloitte Access Economics, 2013). This estimate did not include beach visits.

Importantly, recreation differs from tourism. The Great Barrier Reef Marine Park Authority define recreation as *an independent visit for enjoyment that is not part of a commercial operation* (GBRMPA, 2012). For the purposes of the SELTMP Surveys (outline following), any resident of the GBR catchment who visits the GBRWHA is included within recreation; while tourists are defined as those residing outside of the GBR catchment (and therefore are included in the Tourism report – see Curnock et al., 2014).

SELTMP 2013: Recreation in the Great Barrier Reef



There is potential for overlap between tourism and recreation in some instances; for example if a visitor to a GBR coastal region is staying within a caravan park, they are considered a tourist for that purpose; however when they make an independent visit to the region in their own boat, they are making an independent recreational visit. If a resident visits the Reef via a paid tour, they are considered a tourist for that trip, but in this report they are included as recreational users because they are residents of the catchment. This issue will likely be debated in subsequent versions of the SELTMP while we seek clarity on specific examples. For SELTMP 2013, this report focuses on residents making recreational visits to the WHA, in part due to data availability at this time.



Recreation in the WHA is managed by the Great Barrier Reef Marine Park Authority (GBRMPA) in partnership with multiple state agencies including the Department of National Parks, Sports, Recreation and Racing (NPRSR), Fisheries Queensland within Queensland's Department of Agriculture, Fishing and Forestry (DAFF), the Queensland Boating and Fisheries Patrol (QBFP), and Maritime Safety Queensland (MSQ). The Commonwealth Department of Environment (DoE) also assists with management of the WHA (GBRMPA, 2012). While many activities are subject to specific regulations (e.g. fishing, camping in national parks), others are not (e.g. visiting beaches, swimming), and aside from fishing, recreational activities can occur in almost all of the GBR region. Most non-extractive impacts from recreation are related to vessels, particularly inshore and close to population centres where use is highest (GBRMPA, 2009). The GBRMPA has developed a *Recreation Management Strategy* for the Marine Park, with the aim of providing an overarching framework for the management of recreation in the Park, and to facilitate coordination between agencies responsible (see GBRMPA, 2012). Their vision for recreation in the Park is: *Ecologically sustainable recreational use of the Great Barrier Reef Marine Park where the Great Barrier Reef is protected and where visitors can appreciate its values and enjoy recreational experiences, now and into the future*. This vision highlights the essential link between healthy ecosystems and enjoyable recreational use.



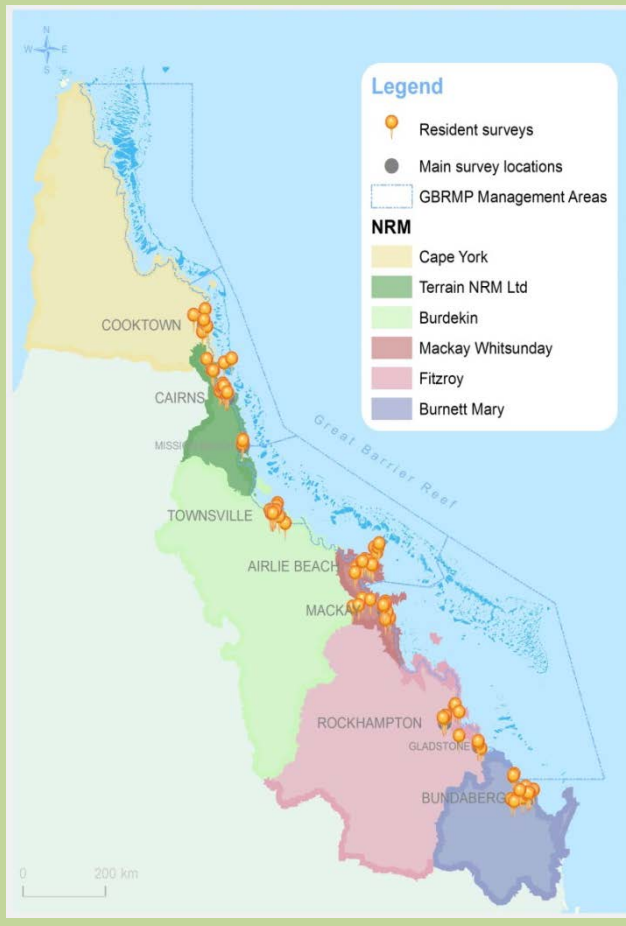
This report outlines available (secondary) data and primary survey data from 2013 for recreation in the GBRWHA. The surveys are explained further on the following page.

SELTMP 2013: Recreation in the Great Barrier Reef

SELTMP Survey methods



Resident survey locations



GBR Resident Survey

3181 respondents were surveyed via face-to-face interviews, with responses to survey questions entered into an iPad, using the iSurvey application. In some cases respondents opted to complete the survey on paper, and their responses were later entered into the iPad app. For the purposes of this survey, **residents were defined as people who live within the GBR catchment** (bounded by Bundaberg in the south, Cape York in the north and the Great Dividing Range in the west). **Recreational users were defined as residents undertaking recreational activity in the GBRWHA**, anywhere from the mainland beaches to the eastern boundary of the GBRMP.

Surveys were conducted at locations in and around 14 coastal towns of the GBR region, from Cooktown to Bundaberg. Survey locations included (but were not limited to) public beaches and esplanades, nearby islands, airports, boat ramps, jetties, shopping centres, caravan parks, markets, popular public education locations (e.g. Aquarium, museum) and a limited number of Reef tourism vessels. The resident surveys were conducted at the same time as tourist surveys, and the response rate for both survey types combined was over 53%

Data presentation

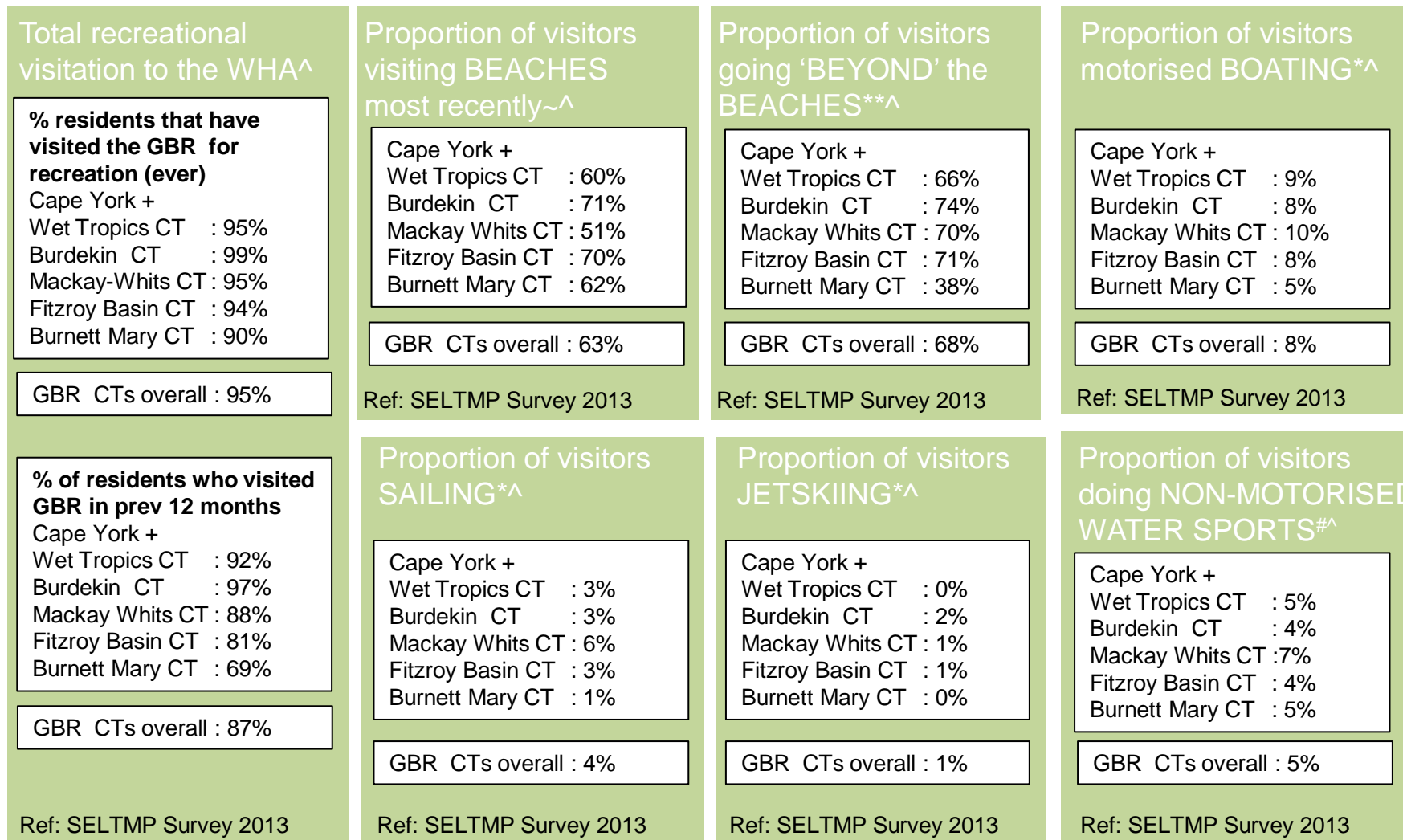
Most data are presented as **% of respondents**. Where 10-point scales were used to elicit agreement with statements (where 1 = strongly disagree, 10 = strongly agree), we display the **mean score** and the **% of respondents who agreed** with the statement (i.e. scored a 6 or above). All survey related data are referenced as “SELTMP Survey 2013”

Limitations to note

Data from the surveys are relevant to **residents of coastal towns (CTs)** adjacent to the GBR only. They cannot be extrapolated to the entire catchment. As such, where SELTMP data are shown, they are represented as the “**NRM CT**” in which they were surveyed – E.g. “Burdekin CT” which includes Townsville and Bowen. (Note 88% of respondents were surveyed in the same NRM that they reside in). Data are presented not weighted / stratified in this report (they will be in 2014) but given the sample size are considered very reliable.

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?



~Beach visits relate to going to a mainland beach on their most recent trip. **Beyond the beach is a trip (either most recent or in addition to the recent beach trip) taken beyond the mainland beaches. *Proportion of coastal town resident visitors who provided trip details, who listed each activity either as primary or 'other'.

[#]Non-motorised watersports includes kayaks, SUP, surfing and windsurfing. [^]Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?

<div>Proportion of visitors SWIMMING</div> <div><div>Cape York + Wet Tropics CT :35% Burdekin CT :31% Mackay Whits CT :28% Fitzroy Basin CT :29% Burnett Mary CT :24%</div><div>GBR CTs overall :30%</div></div> <div>Ref: SELTMP Survey 2013^</div>	<div>Proportion of visitors SNORKEL/DIVING*</div> <div><div>Cape York + Wet Tropics CT :37% Burdekin CT :23% Mackay Whits CT :24% Fitzroy Basin CT :29% Burnett Mary CT :19%</div><div>GBR CTs overall :26% Prop'n of visitors :5.5% snorkel; 26.6% scuba^2</div></div> <div>Ref: ^1SELTMP Survey 2013^; ^2Lawrence et al. (2010)</div>	<div>Proportion (and number +/- SE) of residents** and visitors* FISHING</div> <div><div><div>% of residents (number) Cape York: 34%^2 (3,621 +/- 1,373)~ Wet Tropics: 22%^2 (51,210 +/- 3,868) Burdekin: 20%^2 (43,228 +/- 3,304) Mackay Whits: 28%^2 (33,615 +/- 3,207) Fitzroy Basin: 21%^2 (47,551 +/- 3,728) Burnett Mary: 25%^2 (74,572 +/- 5,084)</div><div>TOTAL GBR: 23%^2 TOTAL Qld :17%^1 (703,021 +/- 19,800)</div></div><div>% visitors^3 Cape York + Wet Tropics CT :4% Burdekin CT :20% Mackay Whits CT:28% Fitzroy Basin CT :33% Burnett Mary CT :27%</div><div>GBR CTs overall: 27%</div></div> <div>Ref: ^1Taylor et al. (2012); ^2DAFF, unpubl. data (2013); ^3SELTMP Survey 2013^</div>	
<div>Proportion of visitors CAMPING~</div> <div><div>Cape York + Wet Tropics CT :7% Burdekin CT :3% Mackay Whits CT :3% Fitzroy Basin CT :4% Burnett Mary CT :3%</div><div>GBR CTs overall :4%</div></div> <div>Ref: SELTMP Survey 2013^</div>	<div>Proportion of visitors HIKING##</div> <div><div>Cape York + Wet Tropics CT :5% Burdekin CT :4% Mackay Whits CT :6% Fitzroy Basin CT :1% Burnett Mary CT :2%</div><div>GBR CTs overall :4%</div></div> <div>Ref: SELTMP Survey 2013^</div>	<div>Proportion of visitors SIGHTSEEING^</div> <div><div>Cape York + Wet Tropics CT :24% Burdekin CT :21% Mackay Whits CT :22% Fitzroy Basin CT :12% Burnett Mary CT :12%</div><div>GBR CTs overall :19%</div></div> <div>Ref: SELTMP Survey 2013^</div>	<div>Proportion of visitors WALKING+ etc</div> <div><div>Cape York + Wet Tropics CT :36% Burdekin CT :46% Mackay Whits CT :34% Fitzroy Basin CT :28% Burnett Mary CT :33%</div><div>GBR CTs overall :37%</div></div> <div>Ref: SELTMP Survey 2013^</div>

* Proportion of coastal town resident visitors who provided trip details, who listed each activity either as primary or 'other'. **Residents from DAFF SWRFS 2010. ~ Not reliable due to low sample size. ~Camping can include caravanning, but predominantly relates to camping on islands and beaches. ##Hiking does NOT include walking. ^Sightseeing includes photography. +Walking etc includes walking on beach, walking the dog, running, biking, general fitness. ^Coastal town residents.

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?

At the Beach

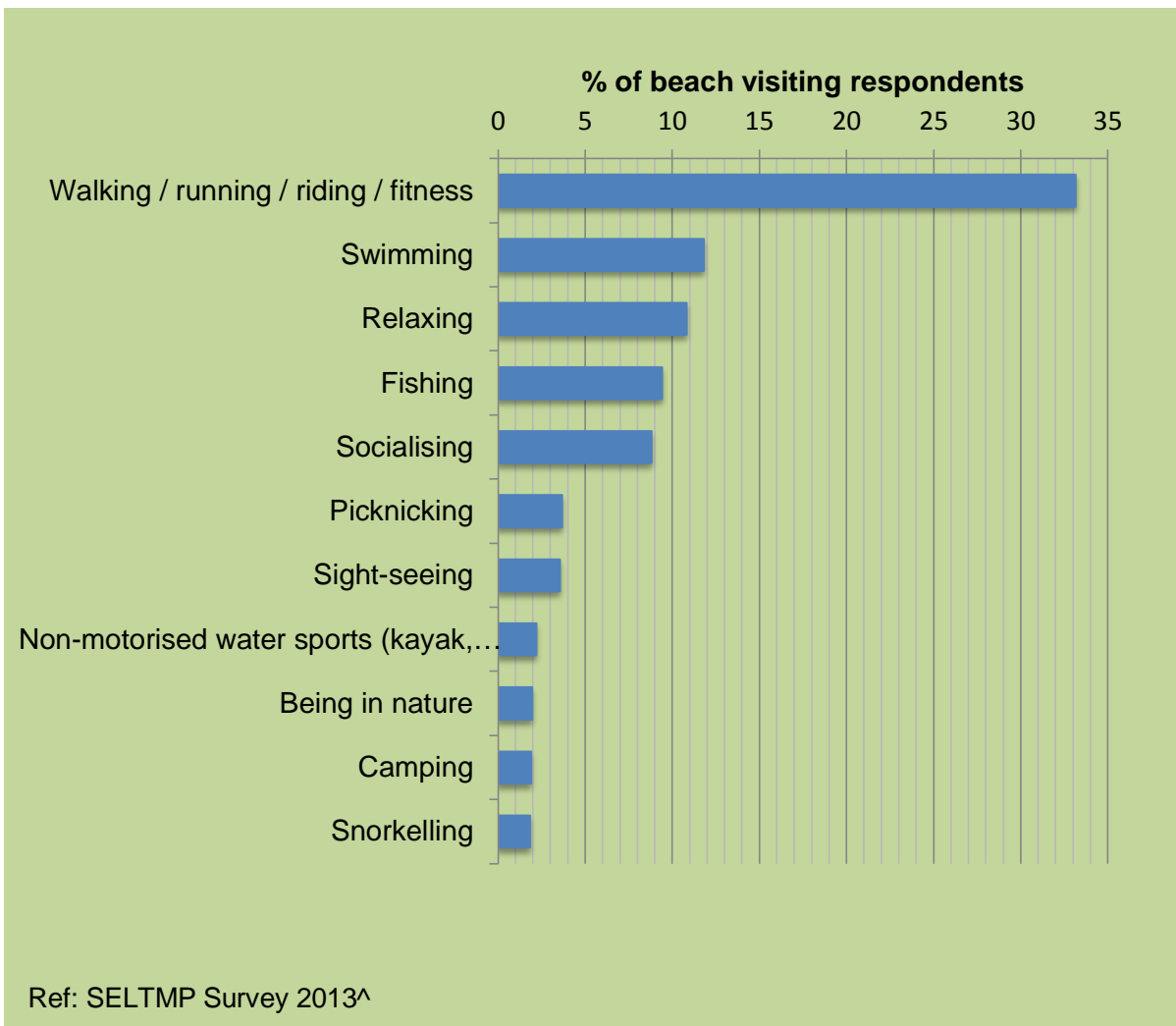
Primary activity

Most popular activity by region*

Cape York +
Wet Tropics CT : walking etc
Burdekin CT : walking etc
Mackay Whits CT: walking etc
Fitzroy Basin CT: walking etc
Burnett Mary CT: walking etc

GBR CTs overall: walking etc

Ref: SELTMP Survey 2013

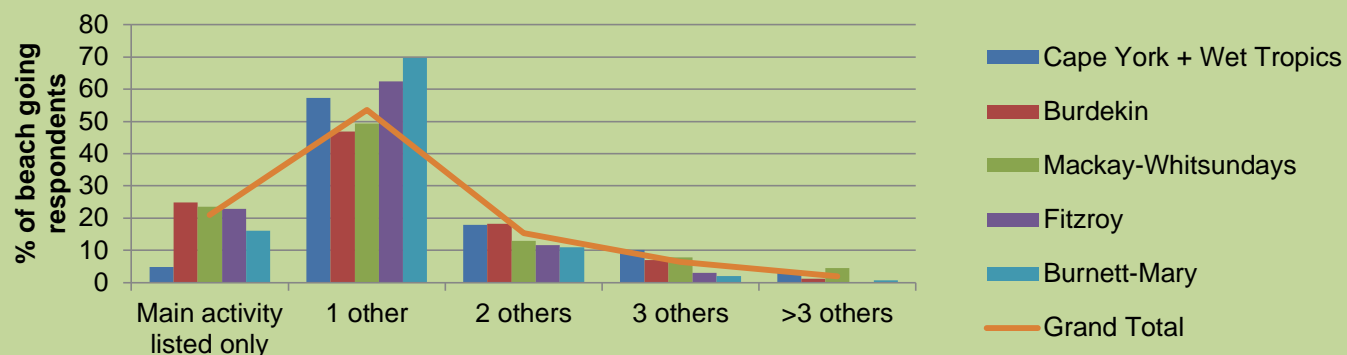


*For most recent trip to a mainland beach. Activities listed by >1% of respondents listed in graph; ^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?

Diversity of activity*



Ref: SELTMP Survey 2013^

Linked activities

Most common associations*

1 ^o	2 ^o
Boating	+ Fishing & swimming
Sailing	+ Multiple
Jetskiing	+ Relaxing
Fishing	+ Relaxing
Diving	+ Diving & snorkelling
Camping	+ Fishing
Hiking	+ Being in nature
Swimming	+ Relaxing

Ref: SELTMP Survey 2013^

*For most recent trip to a mainland beach. Number of activities was not exhaustive – indicative only; ^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?

'Beyond' the Beach

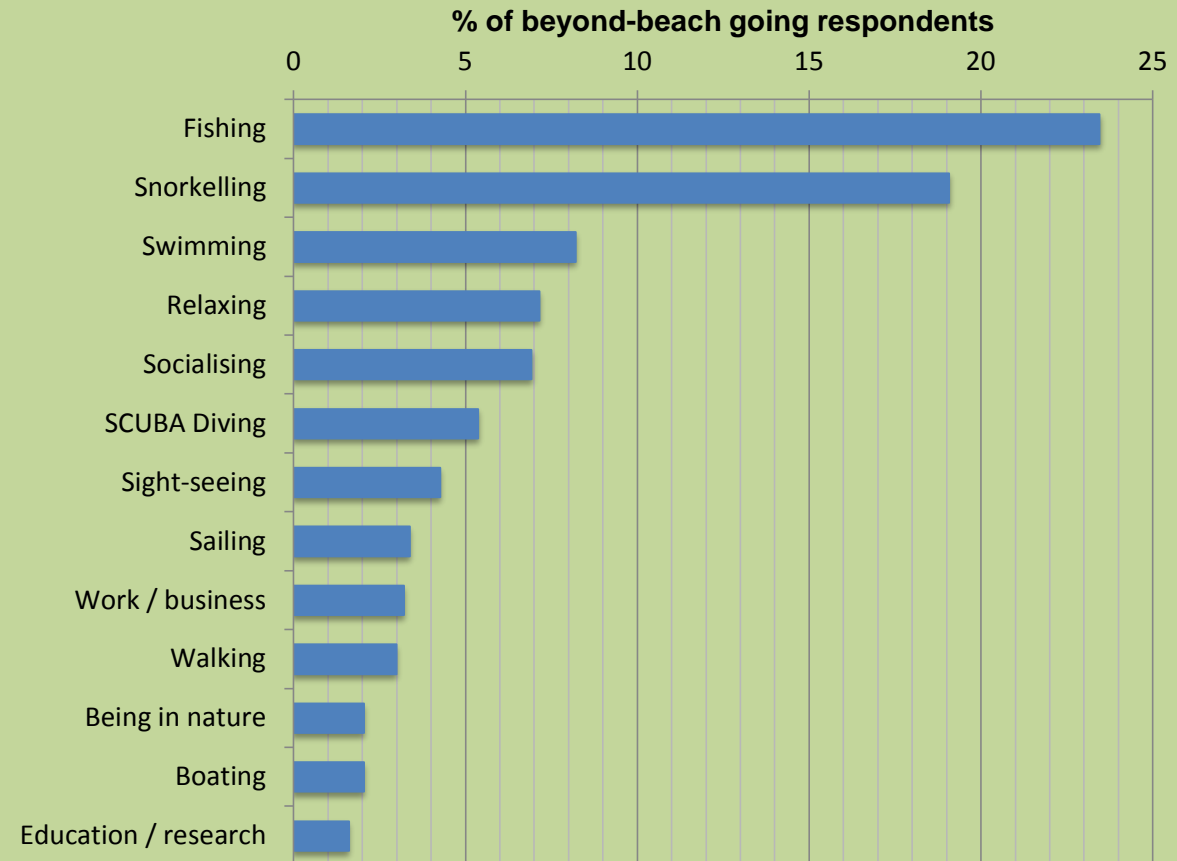
Primary activity

Most popular activity by region*

Cape York +
Wet Tropics CT : Fishing
Burdekin CT : Fishing
Mackay Whits CT: Fishing
Fitzroy Basin CT : Fishing
Burnett Mary CT: Fishing

GBR CTs overall: Fishing

Ref: SELTMP Survey 2013^



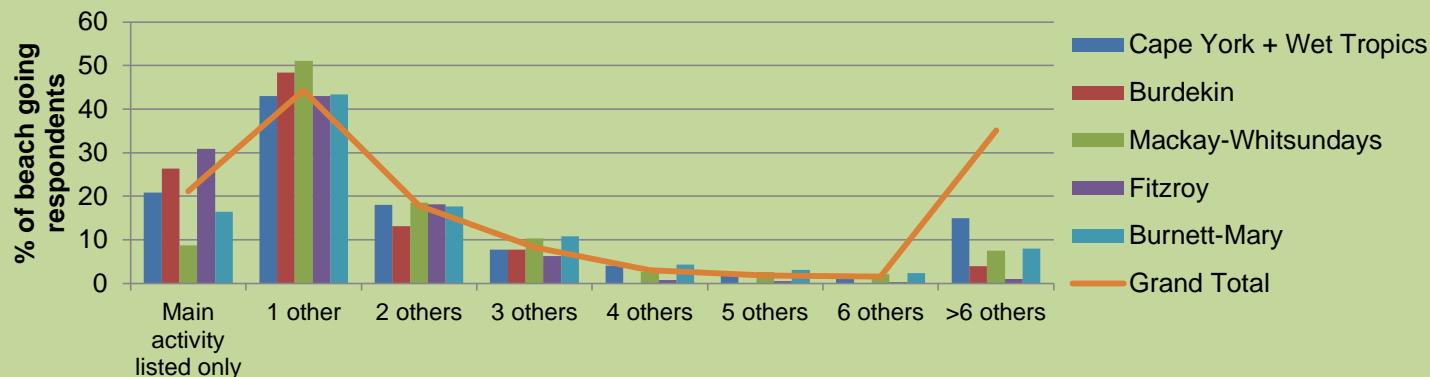
Ref: SELTMP Survey 2013^

*For most recent trip OR additional non-beach trip for those who listed a beach but had also gone beyond the beach. Activities listed by >1% of respondents listed in graph; ^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – WHAT are people doing?

Diversity of activity



Ref: SELTMP Survey 2013^

Linked activities

Most common associations*

1 ^o	2 ^o
Boating	+ Fishing
Sailing	+ Snorkelling
Fishing	+ Boating
Diving	+ Snorkelling
Camping	+ Fishing
Hiking	+ Being in nature
Swimming	+ Snorkelling

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Use of the Environment*: 1. Activities – WHAT are people doing?

Key species of interest

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: prawns, mud crab, whiting, bream, coral trout, sweetlip ¹
Divers	: dwarf minke whales, potato cod, white-tip reef and grey reef sharks, Queensland grouper, marine turtles, large schools of pelagic fish (e.g. trevally) and reef fish (e.g. small mouth nannygai, batfish), large resident fishes (e.g. Maori wrasse, coral trout, cobia, mangrove jack), rays and bull sharks ²
Campers	: xx
Hiking	: xx
Swimmers	: xx

Ref: ¹Taylor et al. (2010); ²Stoeckl et al (2010)

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?

Vessel vs shore

% of most recent visit to beach vs beyond¹

Cape York +

Wet Tropics CT: 71% vs 29%

Burdekin : 71% vs 29%

Mackay Whits : 61% vs 39%

Fitzroy Basin: 51% vs 49%

Burnett Mary: 73% vs 27%

Boaters : n/a

Sailers : n/a

Jetskiers : n/a

Fishers : 48%²

Snork/Divers : xx

Campers : xx

Hikers : xx

Swimmers : xx

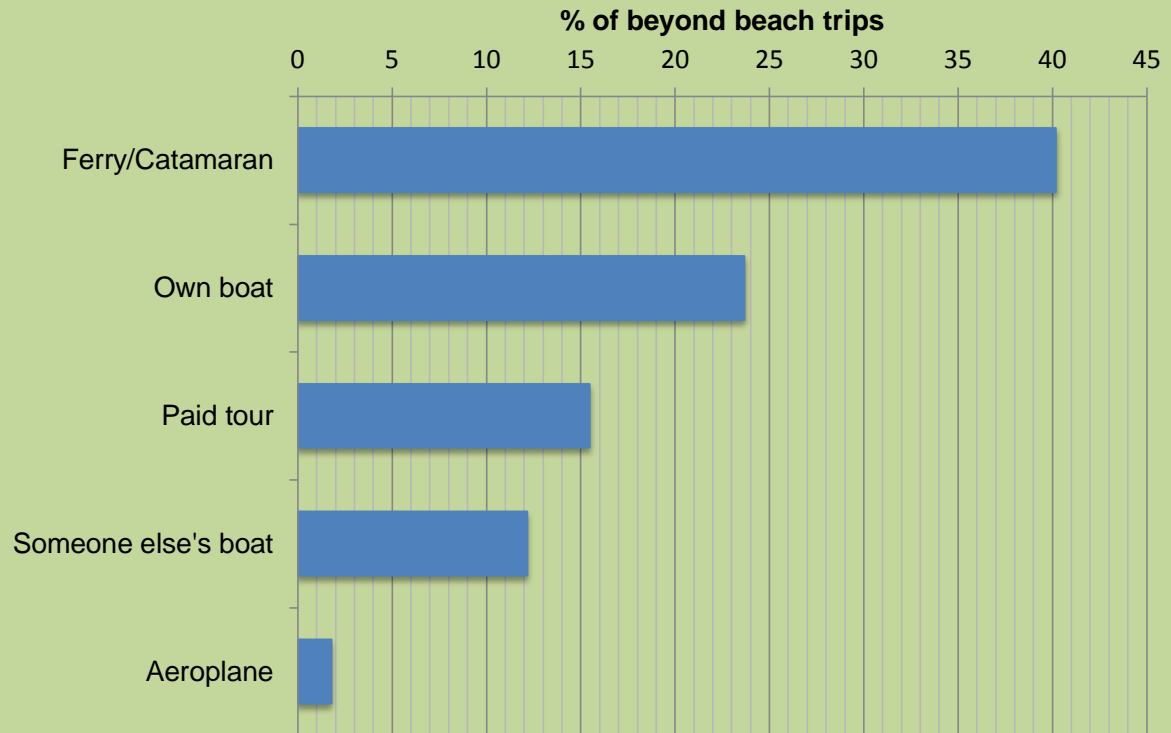
GBR overall : 65% vs 35%¹

Ref: ¹SELTMP Survey 2013^;

²Taylor et al. (2012)

^Coastal town residents

How did people get 'beyond' the beach



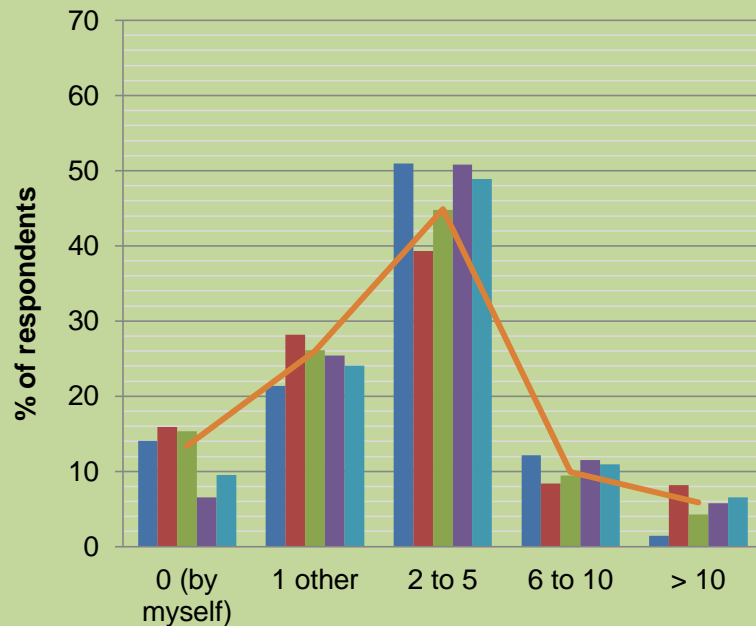
Ref: SELTMP Survey 2013^

SELTMP 2013: Recreation in the Great Barrier Reef

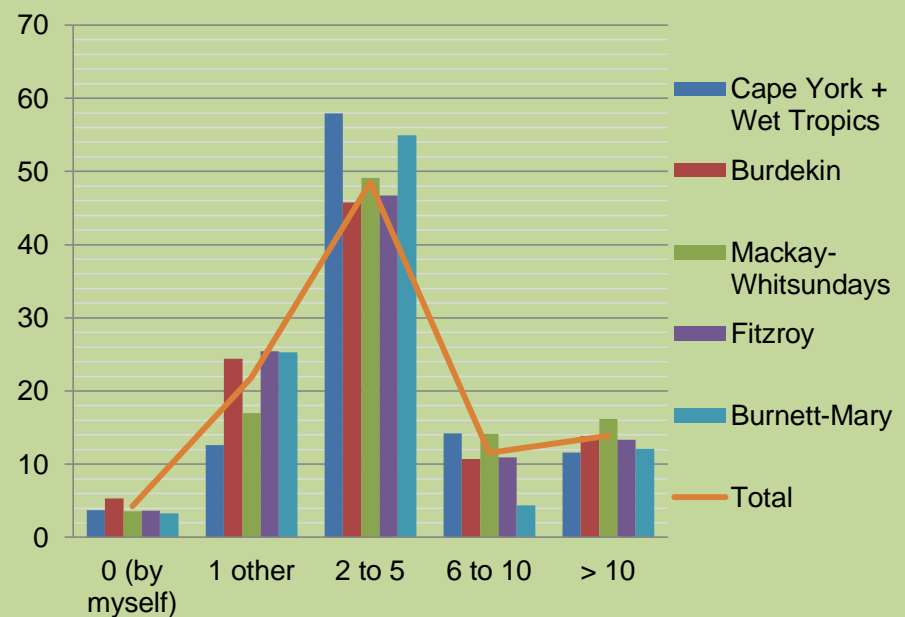
A) *Use of the Environment*: 1. Activities – HOW are people doing it?

Party size: How many people went with you on your most recent trip?

Mainland Beach trip



'Beyond the beach' trip



Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?

Party size[#]

Most common number of people per trip to beach

Boaters	: 2 to 5 other
Sailers	: 2 to 5
Jetskiiers	: 2 to 5
Fishers	: 2 to 5
Snork/Divers	: 1 and 2 to 5
Campers	: 2 to 5
Hikers	: 2 to 5
Swimmers	: 2 to 5

Ref: SELTMP Survey 2013[^]

Party size[#]

Most common number of people per trip beyond beach

Boaters	: 2 to 5
Sailers	: 2 to 5
Jetskiiers	: 1 and 2 to 5
Fishers	: 2 to 5
Snork/Divers	: 2 to 5
Campers	: 2 to 5
Hikers	: 1 other
Swimmers	: 2 to 5

Ref: SELTMP Survey 2013[^]

Party make-up

% of trips with family only

Boaters	: 35.5% ¹
Sailers	: xx
Jetskiiers	: xx
Fishers	: xx
Snork/Divers	: xx

Campers	: xx
Hiking	: xx
Swimmers	: xx

% of trips with family + friends

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hiking	: xx
Swimmers	: xx

% of trips with friends only

Boaters	: 38.8% ¹
Sailers	: xx
Jetskiiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

% of trips with other groups (e.g. school)

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: ¹OESR (2008)

*Australia wide data from National Visitor Survey; [#]Party size categorised as how many 'other' people accompanied the respondent. See previous page for categories; [^]Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

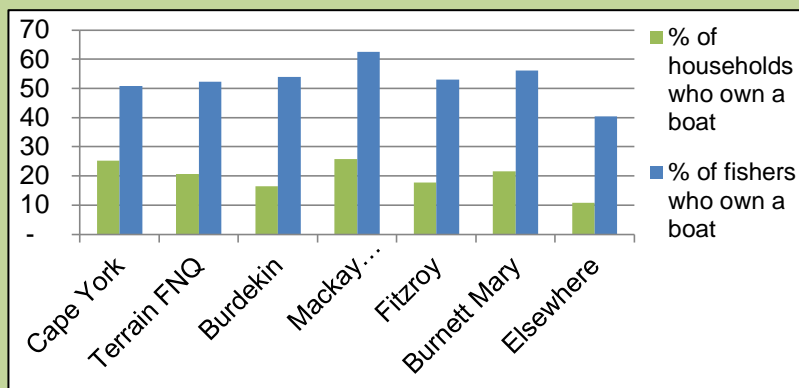
A) Use of the Environment: 1. Activities – HOW are people doing it?

Boat ownership

% of GBR catchment residents who own a boat

13% of all Qld resident households¹; 20% of all GBR households²

45% of Qld fishing households¹; 55% of all GBR Fishing households²



Ref: ¹Taylor et al. (2012); ²DAFF, unpublished data (2013) – graph also*

Boat ownership in coastal towns

% coastal town residents who own a vessel

Motor boat : 24%

Sailboat : 5%

Jet ski : 3%

Ref: SELTMP Survey 2013[^]

Registered vessels

Number of Qld registered vessels⁵

NRM	Motorboats (3-4.5kwbp engine)	Speed boats (>4.5kwbp engine)	Sailboats	PWC (e.g. jetskis)
Cape York	226	2401	70	46
Wet Tropics	1644	17922	614	749
Burdekin Dry Tropics	1290	18143	421	797
Mackay	1203	15399	512	624
Whitsundays Fitzroy Basin	1990	18944	410	1102
Burnett-Mary	3814	27527	928	1094
Total GBR	10167	100336	2955	4412
Intrastate	16330	110417	4066	13920
Interstate	88	600	91	66
International		2		
Unknown	1	3		2
Grand Total	26586	211341	7112	18400

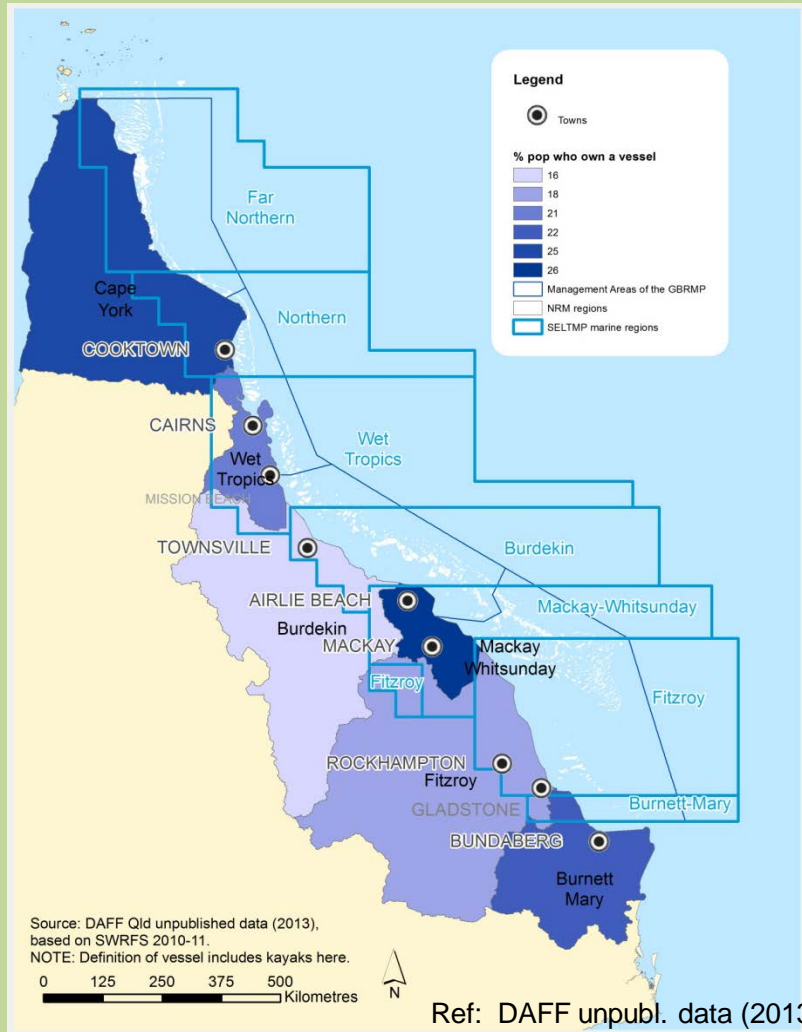
Ref: ⁵TMR unpublished data (2013)[#]

*DAFF data from 2010 SWRFS survey, rejigged within NRM regions. Included in graph. Definition of a 'boat' includes kayaks; [^]Coastal town residents; [#]2012 calendar year data. 2013 to be updated early 2014;

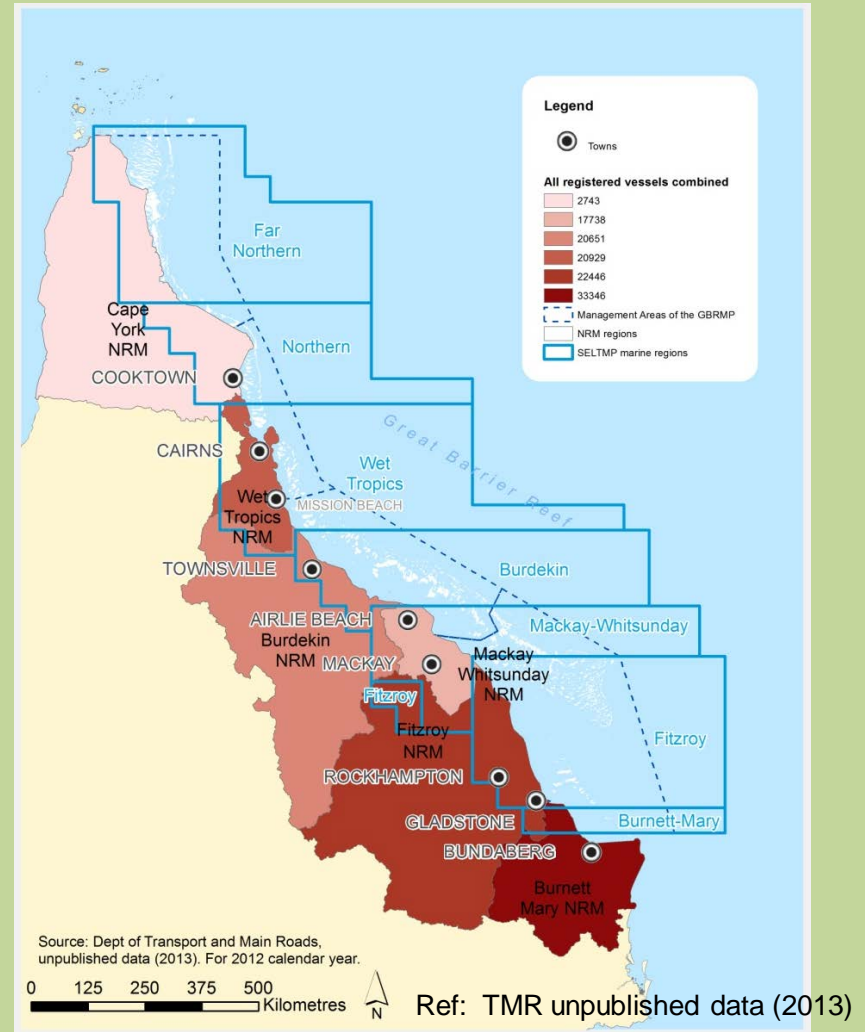
SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?

Proportion of population who own a vessel



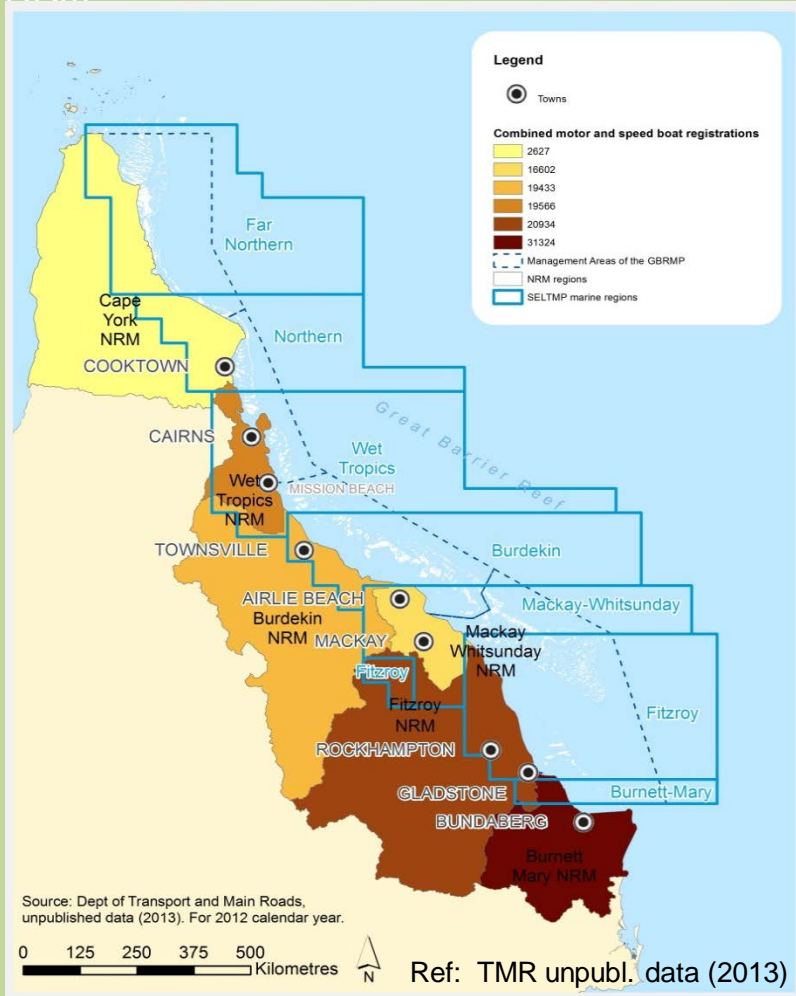
Number of registered vessels by NRM



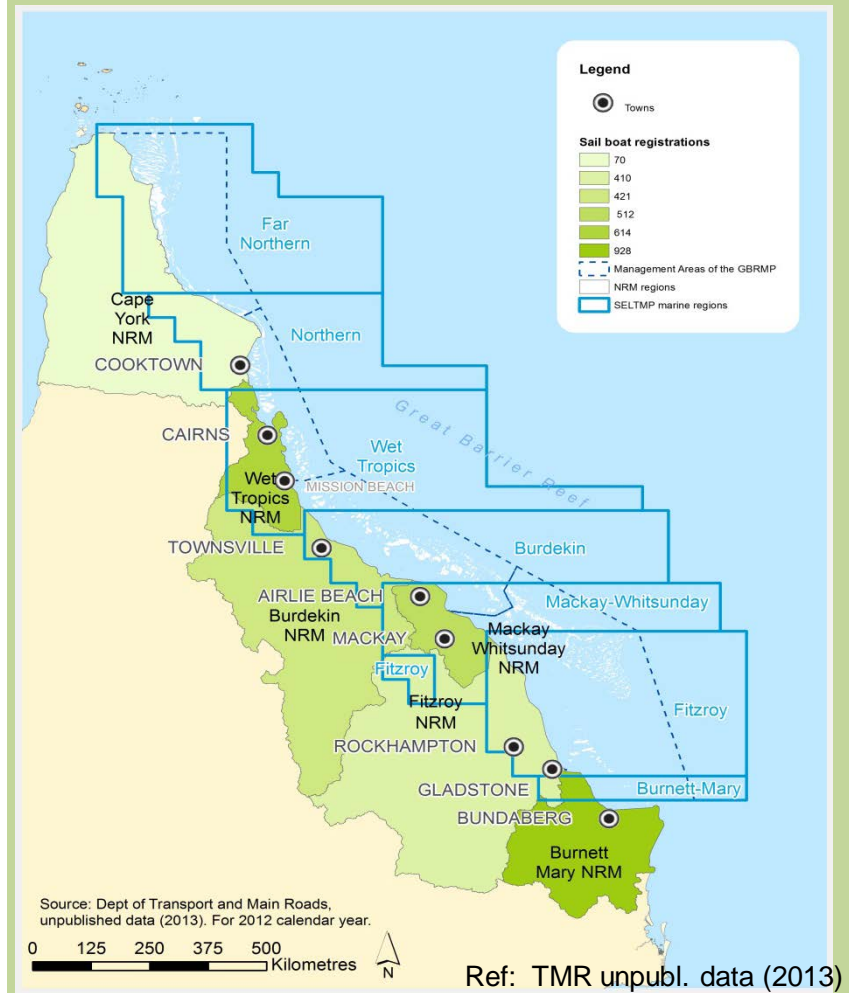
SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?

Combined motor + speed boat registrations by NRM

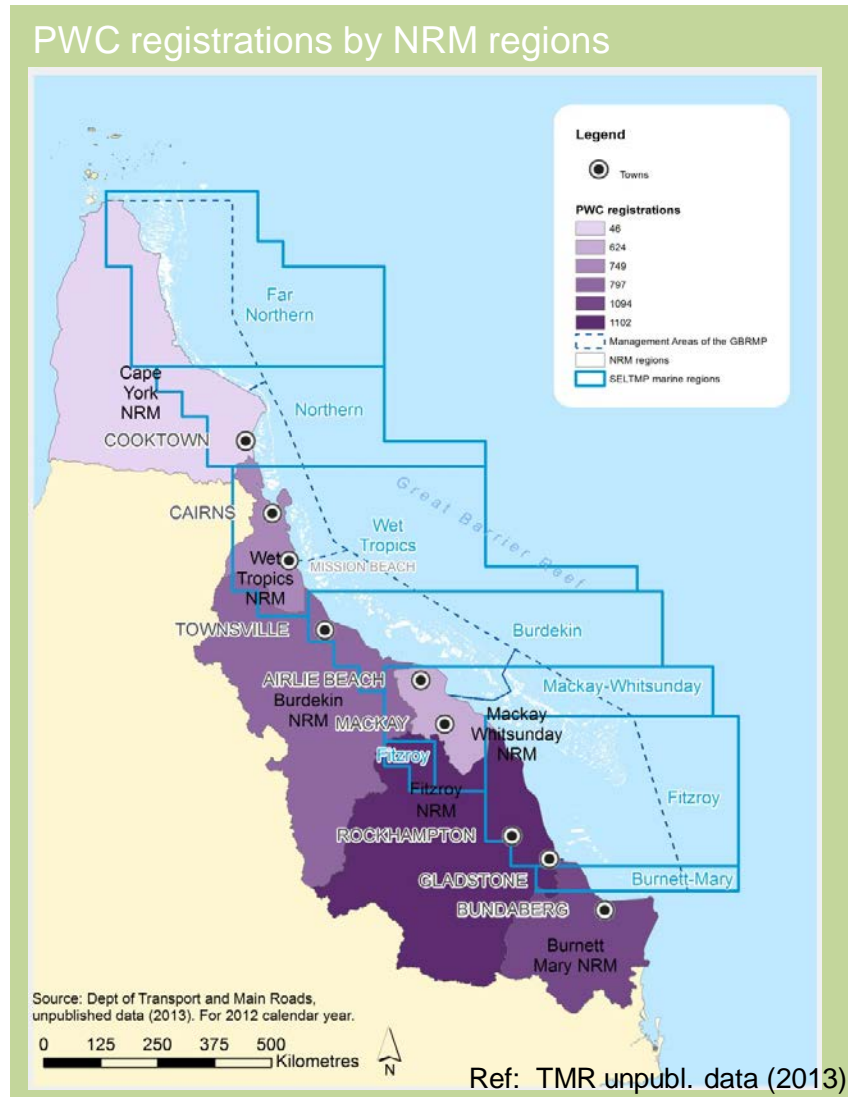


Sail boat registrations by NRM regions



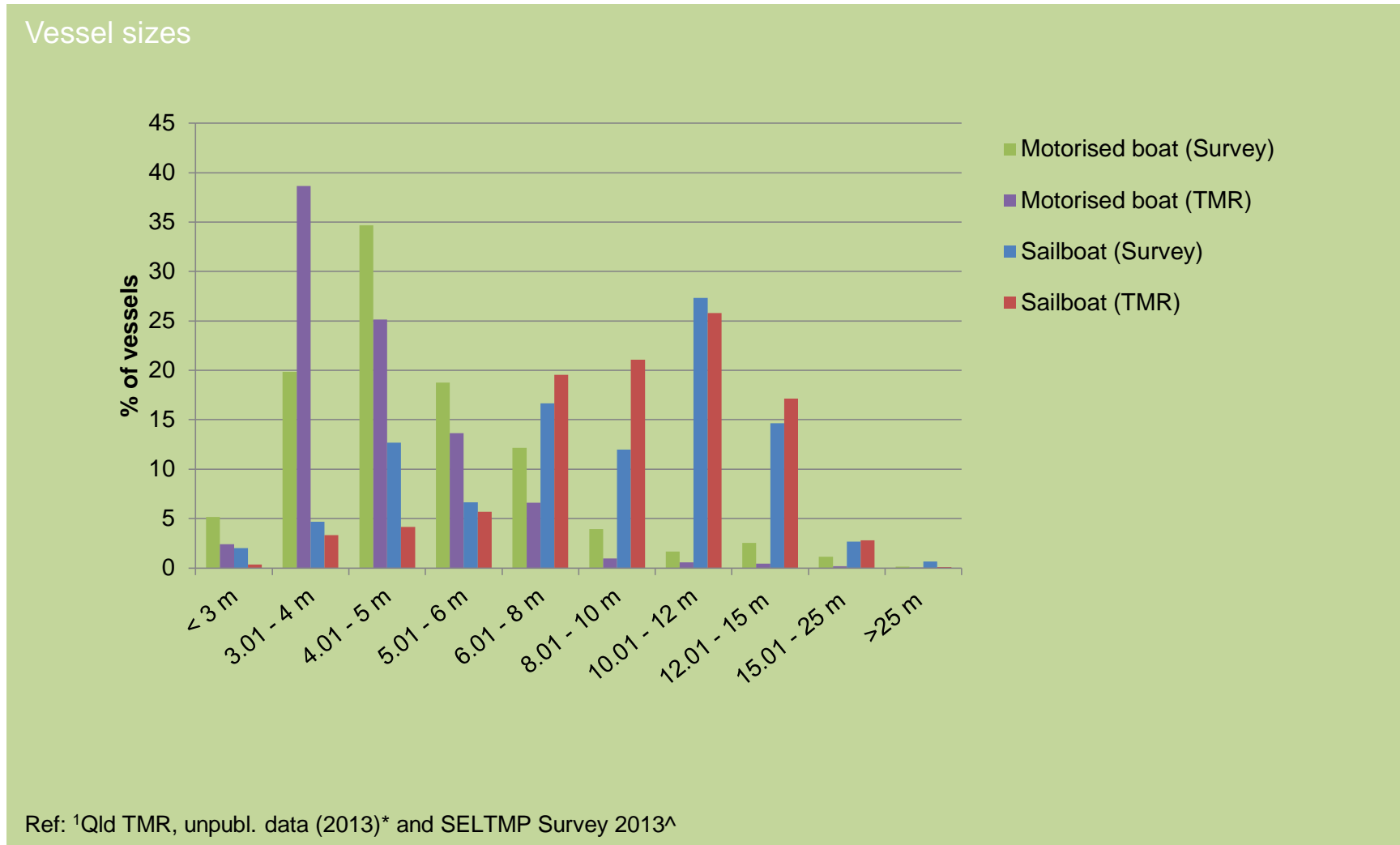
SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 1. Activities – HOW are people doing it?



SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 1. Activities – HOW are people doing it?



*2012 calendar year data. 2013 to be updated early 2014; ^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?

Trailer vs berth

% vessels 'trailerable'

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

% vessels kept in marina

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

Boaters	: xx
Sailers	: xx
Jetskiiers	: n/a
Fishers	: xx
Snork/Divers	: xx
Campers	: n/a
Hikers	: n/a
Swimmers	: n/a

Boaters	: xx
Sailers	: xx
Jetskiiers	: n/a
Fishers	: xx
Snork/Divers	: xx
Campers	: n/a
Hikers	: n/a
Swimmers	: n/a

GBR overall : xx

GBR overall : xx

Ref: xxx

Motor power

Average hp of motor/speed boats

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

GBR overall : xx

Motor size of Qld registered vessels*

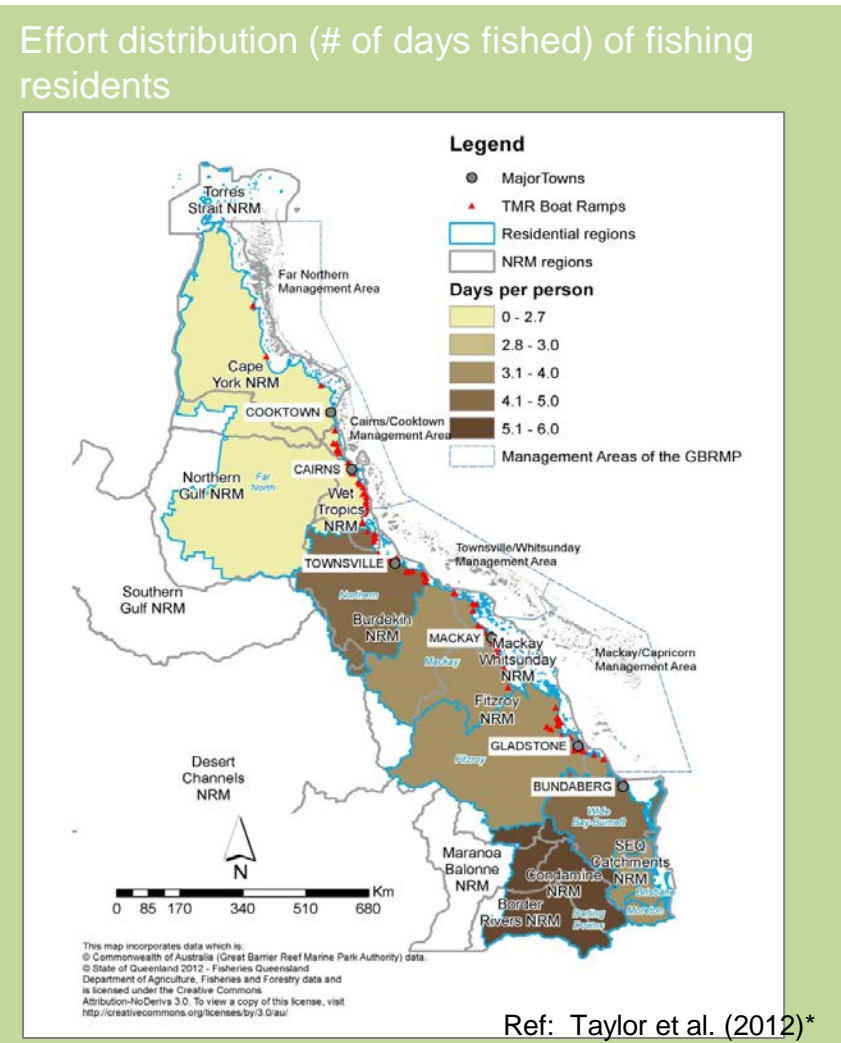
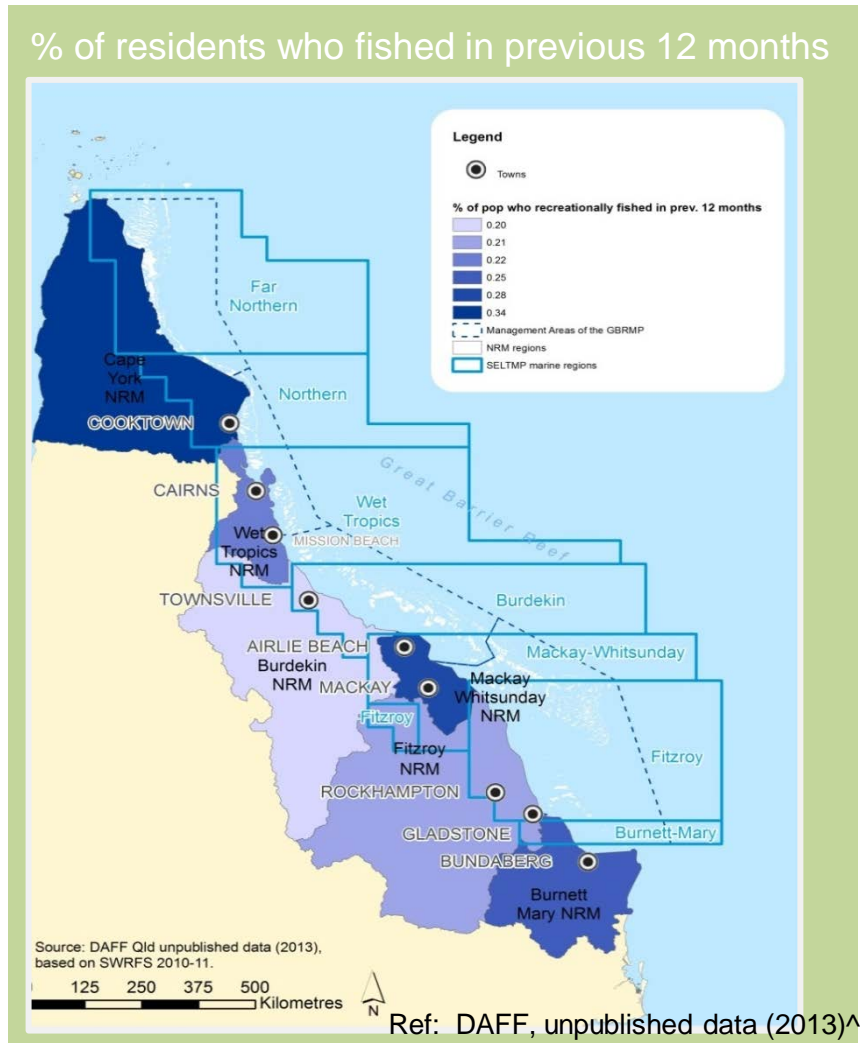
1-50 hp	: 55% ¹
51- 100 hp	: 20% ¹
101-150 hp	: 12% ¹
151+ hp	: 10% ¹
Non-response	: 3% ¹

Ref: ¹MSQ (2007)

*Opportunistically included due to data availability.

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW are people doing it?



^DAFF data from 2010 SWRFS survey, rejigged within NRM regions. Estimate for Cape York not considered reliable due to low sample sizes; *Based on SWRFS regions, 2010-11 data. Effort provided later by SELTMP Marine Regions

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW MUCH are people doing it?

Number of trips

Total estimated trip number per year

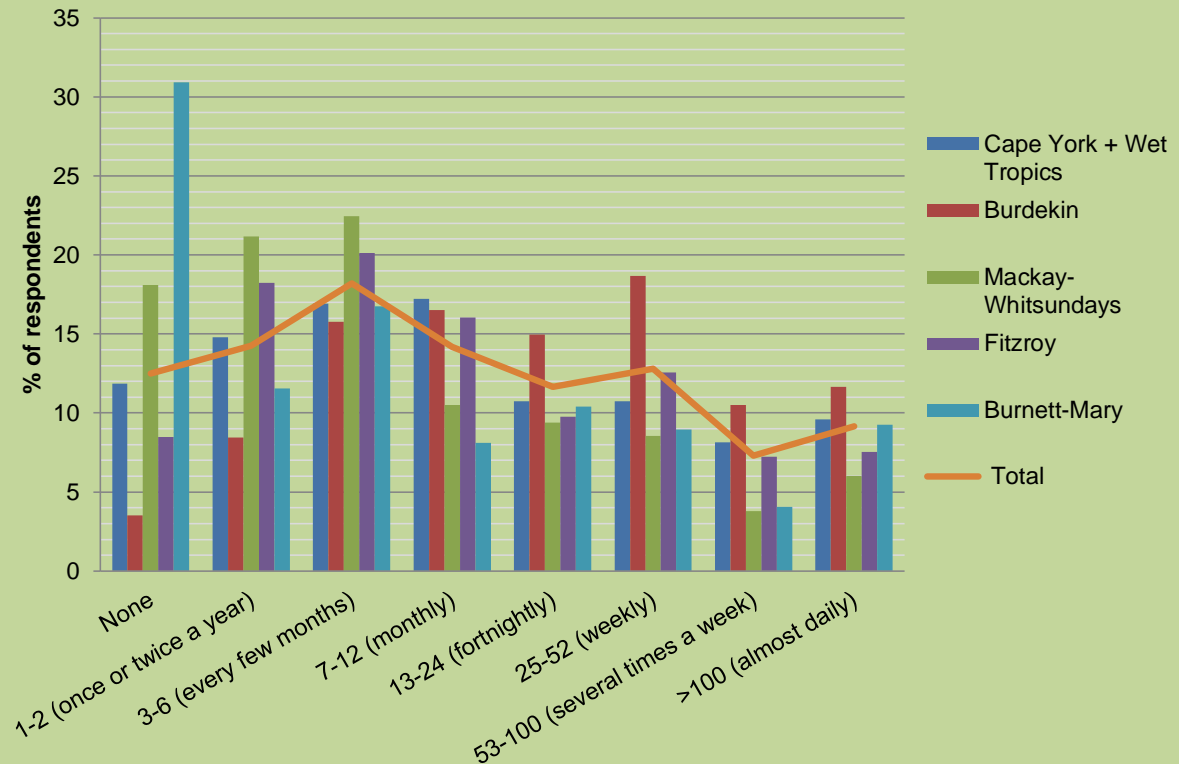
Cape York : xx
Wet Tropics : xx
Burdekin : xx
Mackay Whits : xx
Fitzroy Basin : xx
Burnett Mary : xx

Boaters : xx
Sailers : xx
Jetskiiers : xx
Fishers : Avg 4.5 trips per person (min 1, max 78)²; 3.4m trips in 2012³
Snork/Divers : xx
Campers : xx
Hikers : xx
Swimmers : xx

GBR overall : 348,505 people*, with 14.6 million visits in 2008¹

Ref: ¹Lawrence et al. (2010);
²DAFF unpublished data (2013)[#]; ³Deloitte Access Economics (2013)

Days residents visited the GBR for recreation in previous 12 months



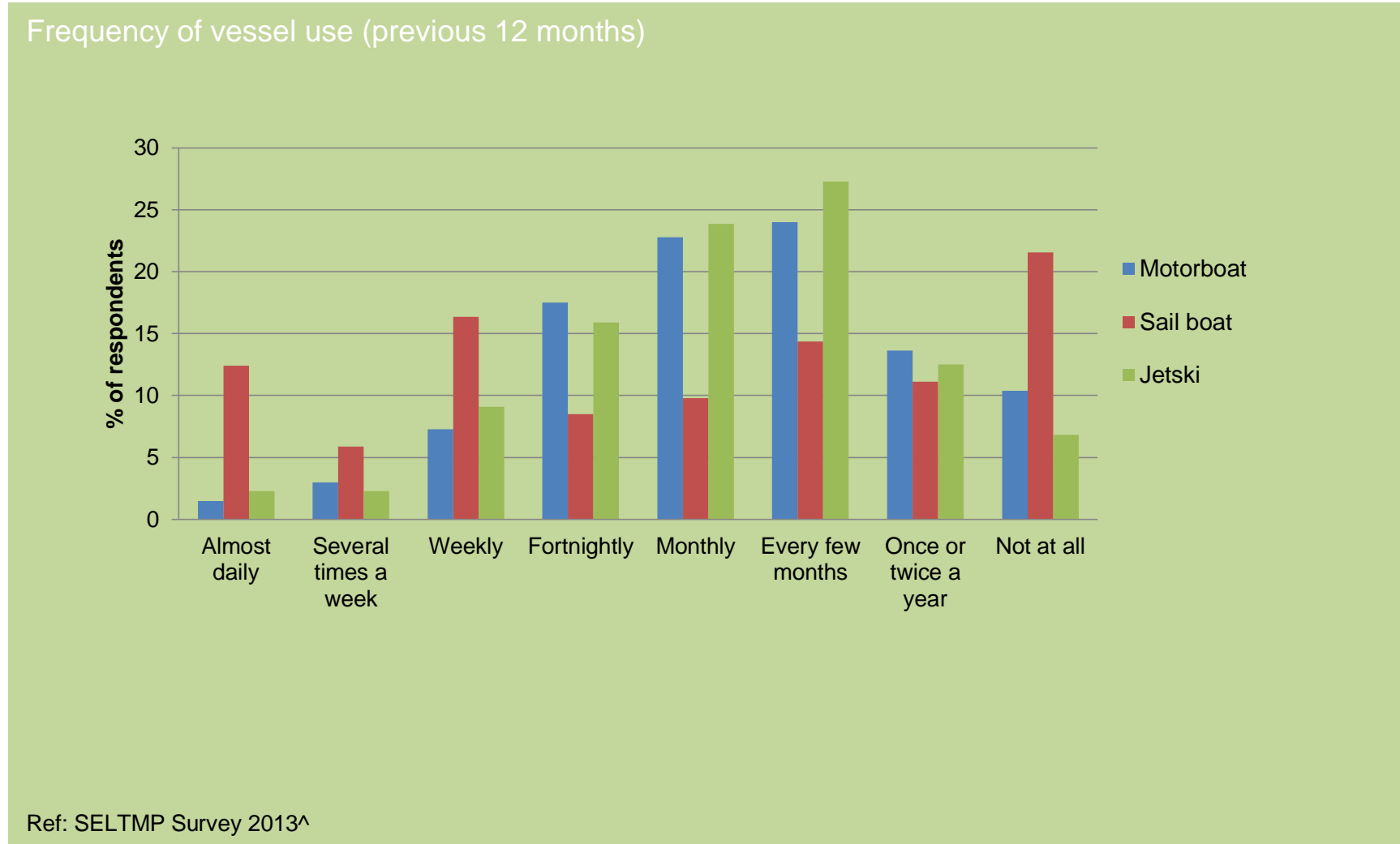
Ref: SELTMP Survey 2013[^]

*i.e. 2011 catchment population (total 732,154, ABS (2011)) x participation rate (based on a sample of 1139 residents within 50km of GBRMP coast).

[#]2010 SWRFS data provided for GBR region only; [^]Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment:* 1. Activities – HOW MUCH are people doing it?



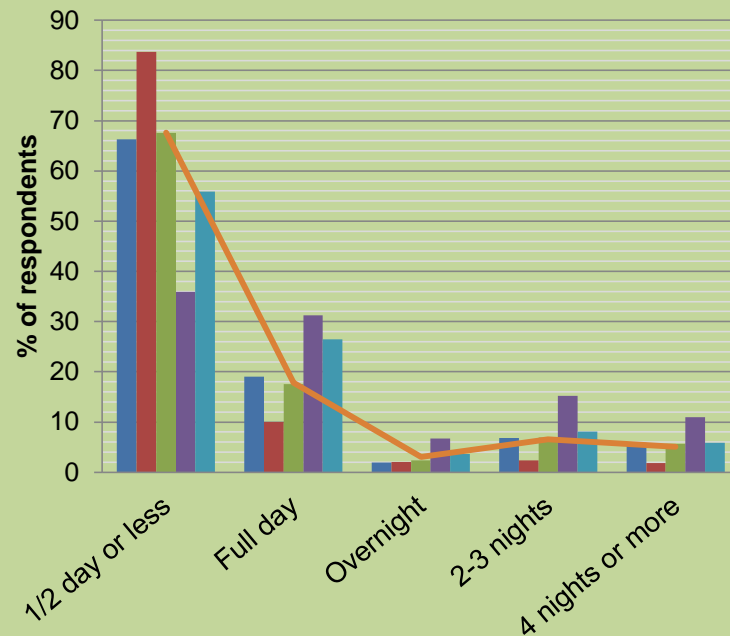
^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

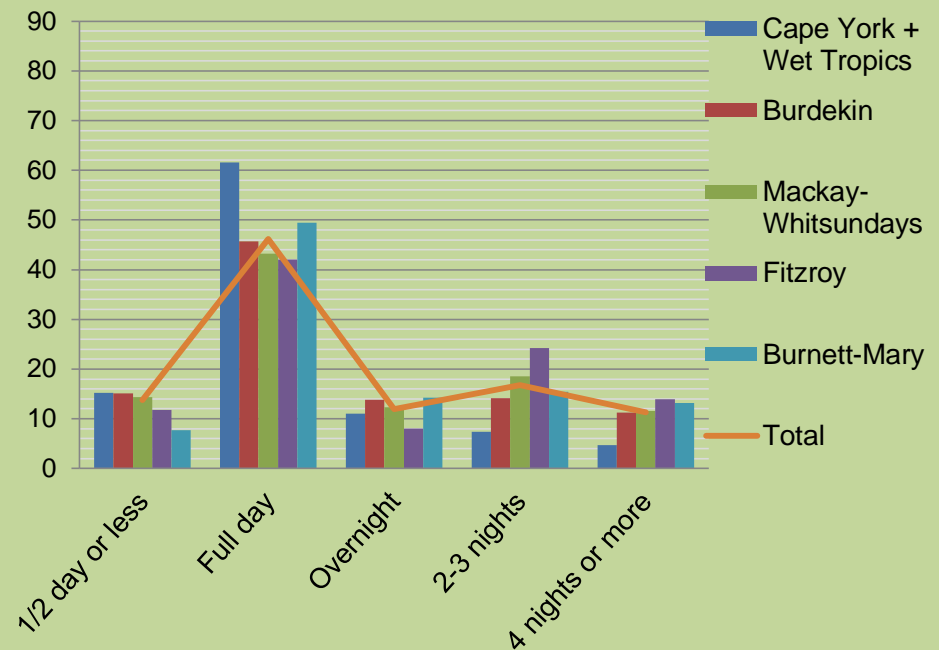
A) *Use of the Environment: 1. Activities* – HOW MUCH are people doing it?

Trip duration

Mainland Beach trip



'Beyond the Beach' trip



Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Use of the Environment: 1. Activities – HOW MUCH are people doing it?

Trip duration

% of trips half-day or less to beach

Boaters	: 10%
Sailers	: 67%
Jetskiiers	: 50%
Fishers	: 41%
Snork/Divers	: 25%
Campers	: Nil
Hikers	: 33%
Swimmers	: 64%

% of trips half-day or less 'beyond' beach

Boaters	: 27%
Sailers	: 61%
Jetskiiers	: 14%
Fishers	: 15%
Snork/Divers	: 4%
Campers	: Nil
Hikers	: 7%
Swimmers	: 11%

% of trips full day to beach

Boaters	: 40%
Sailers	: Nil
Jetskiiers	: 25%
Fishers	: 33%
Snork/Divers	: 75%
Campers	: 8%
Hikers	: 33%
Swimmers	: 23%

% of trips full day 'beyond' beach

Boaters	: 43%
Sailers	: 18%
Jetskiiers	: 71%
Fishers	: 51%
Snork/Divers	: 54%
Campers	: Nil
Hikers	: 43%
Swimmers	: 56%

Ref: SELTMP Survey 2013^

^Coastal town residents

Overnight trips

% of trips overnight to beach

Boaters	: 10%
Sailers	: Nil
Jetskiiers	: Nil
Fishers	: 2%
Snork/Divers	: Nil
Campers	: 20%
Hikers	: Nil
Swimmers	: 3%

% of trips overnight 'beyond' beach

Boaters	: 5%
Sailers	: 11%
Jetskiiers	: Nil
Fishers	: 16%
Snork/Divers	: 7%
Campers	: 15%
Hikers	: 21%
Swimmers	: 9%

% of trips >1 night to beach

Boaters	: 40%
Sailers	: 33%
Jetskiiers	: 25%
Fishers	: 23%
Snork/Divers	: Nil
Campers	: 72%
Hikers	: 33%
Swimmers	: 9%

% of trips >1 night 'beyond' beach

Boaters	: 24%
Sailers	: 49%
Jetskiiers	: 14%
Fishers	: 17%
Snork/Divers	: 35%
Campers	: 85%
Hikers	: 29%
Swimmers	: 24%

Ref: SELTMP Survey 2013^

SELTMP 2013: Recreation in the Great Barrier Reef

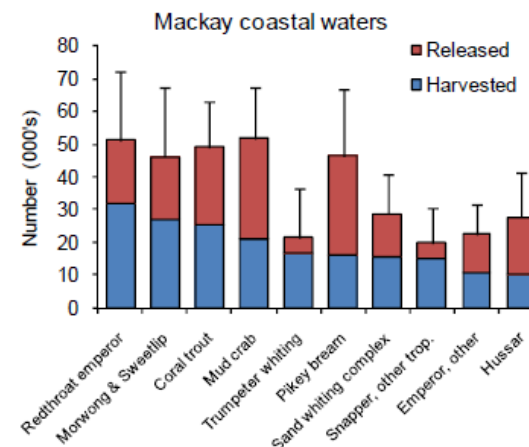
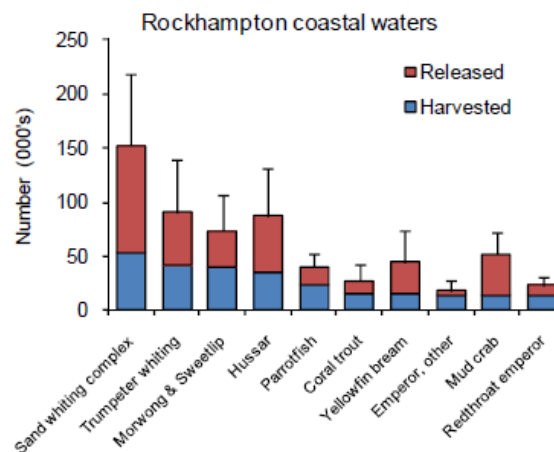
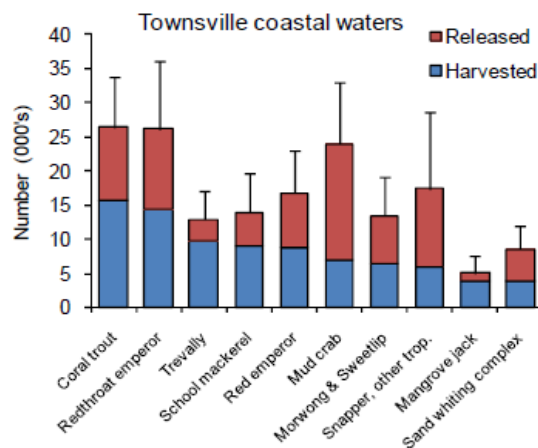
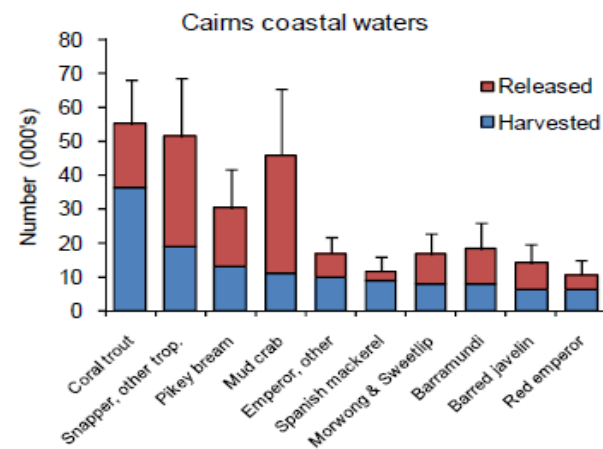
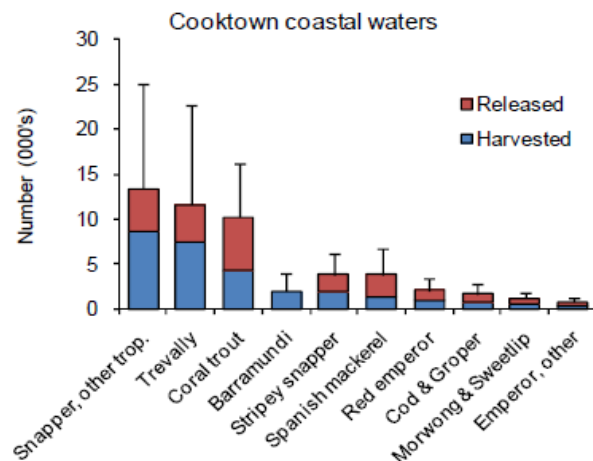
A) Use of the Environment: 1. Activities – HOW MUCH are they harvesting?

Harvest levels - fishing

Overall harvest (t) by Marine Region

Far northern	: xx
Northern	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

Ref: 1xxx

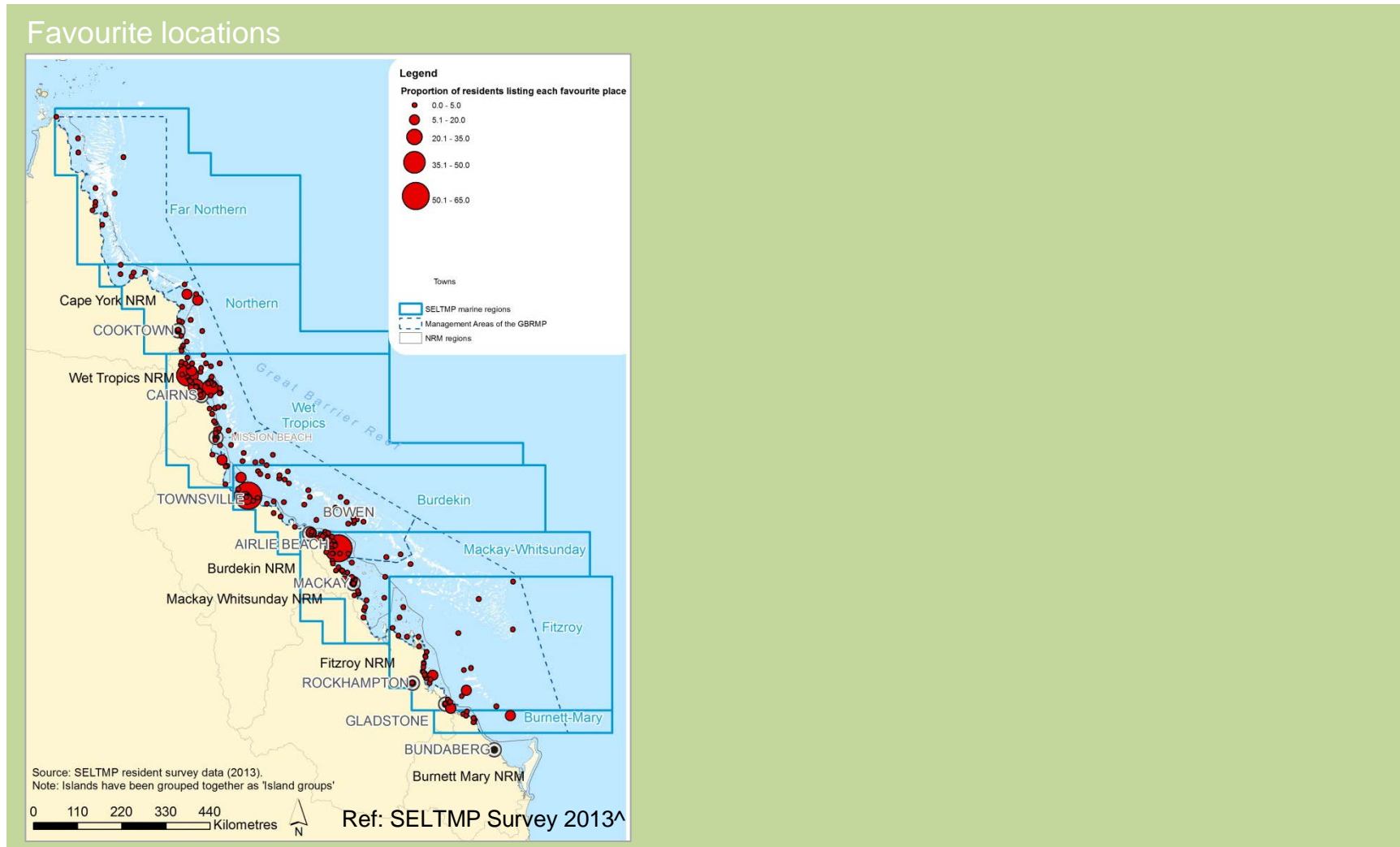


Ref: Taylor et al. (2012)*

*2010 SWRFS graphs based on SWRFS coastal water regions.

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 2. Spatial patterns – WHERE are they going?



^Coastal town residents. This is their 'favourite' location, not necessarily where they go the most

SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 2. Spatial patterns – WHERE are they going?

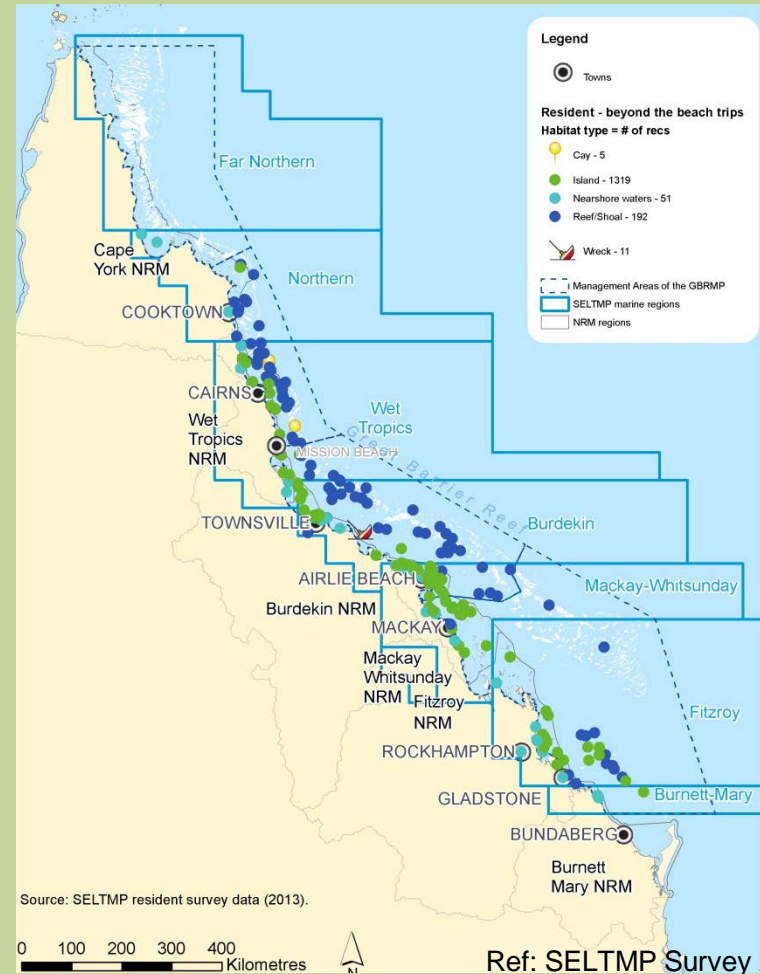
Most popular locations – Mainland beach

Place holder:
MAP of where people are visiting on their most recent trip to a mainland beach

Ref: SELTMP Survey 2013[^]

[^]Coastal town residents

Most popular locations – Beyond the beach



SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 2. Spatial patterns – WHERE are they going?

Most popular locations

Place holder:
MAP of where people are visiting - overall trend
Beach and non-beach combined
FREQUENCY of locations being listed

Ref: SELTMP Survey 2013^

Common departure points

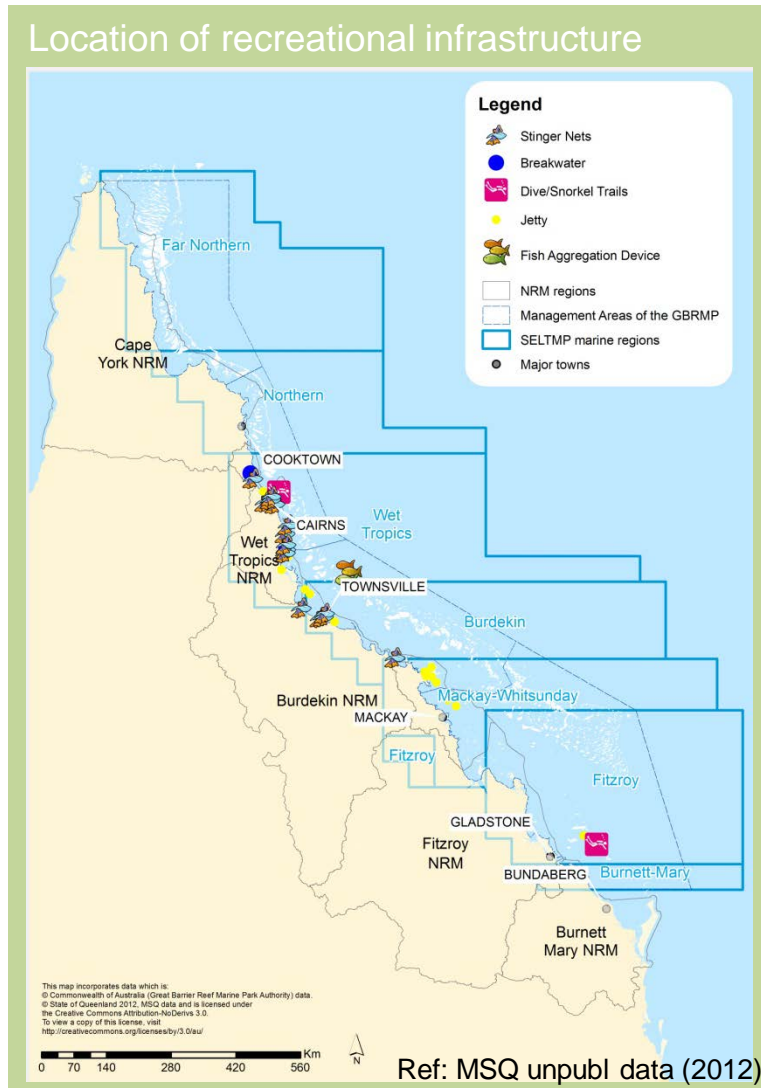
Place holder:
MAP of where people LEFT FROM for non-beach
trips

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 2. Spatial patterns – WHERE are they going?



SELTMP 2013:

Recreation in the Great Barrier Reef

A) Use of the Environment: 2. Spatial patterns – WHERE are they going?

% activity in each habitat type

% activity on beaches

Cape York +	
Wet Tropics	: 70
Burdekin	: 71
Mackay Whits	: 60
Fitzroy Basin	: 51
Burnett Mary	: 62
GBR overall	: 63

% activity inshore (bays, creeks)

Cape York +	
Wet Tropics	: 3
Burdekin	: 9
Mackay Whits	: 18
Fitzroy Basin	: 9
Burnett Mary	: 4
GBR overall	: 10

% activity on islands

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx
GBR overall	: xx

% activity on reefs

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx
GBR overall	: xx

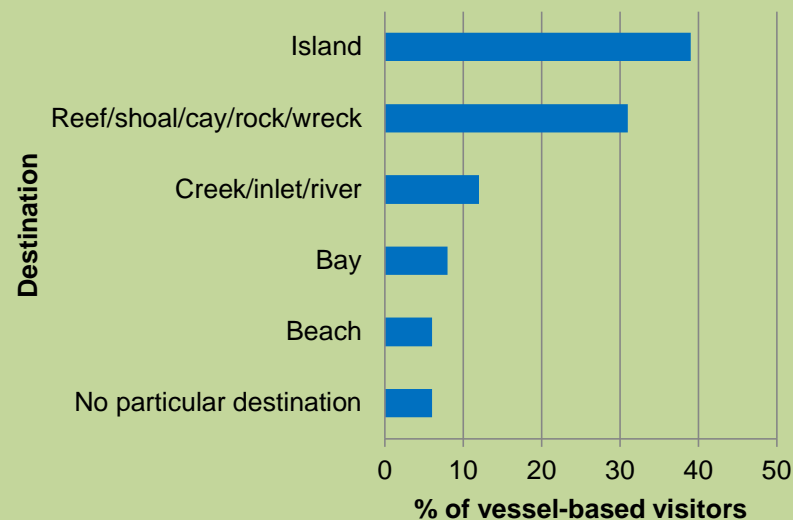
Tidbits:

- Of the coastal residents who went offshore in a vessel, an estimated 31% intended to go to a reef/ shoals/ cays/ rocks/ wrecks, and 28% intended to go to the islands¹.
- Boaters identify estuaries, rivers and bay (sheltered) waters as their preferred boating locations².

Ref: ¹OESR (2008); ²MSQ (2007)

*2008 data from OESR (2008)

% activity in each habitat type – vessel based



Ref: Modified from Lawrence et al. (2010)*

SELTMP 2013: Recreation in the Great Barrier Reef

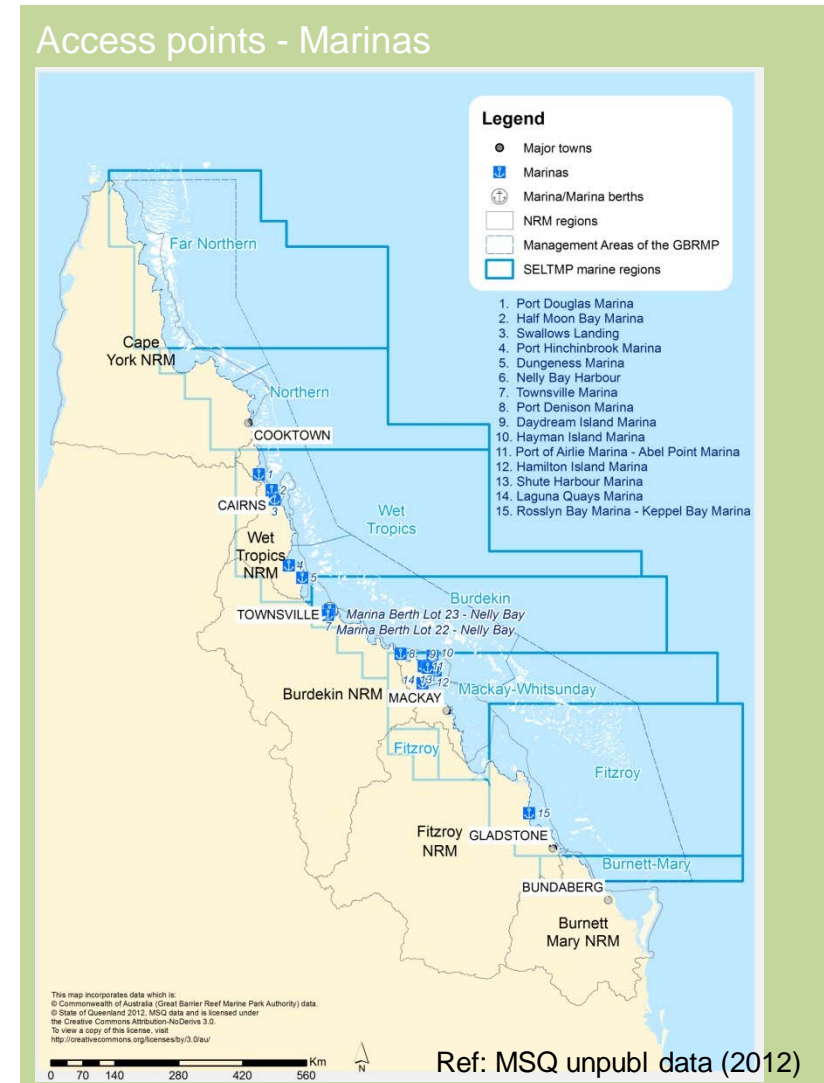
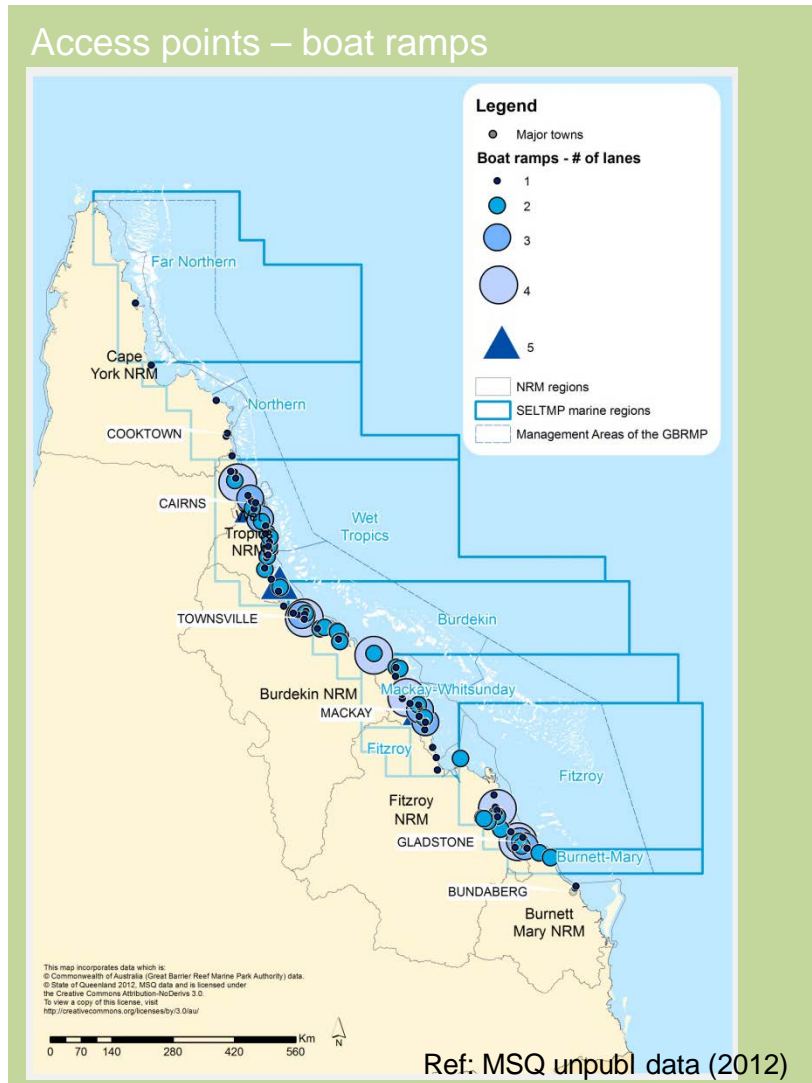
A) Use of the Environment: 2. Spatial patterns – WHERE are they going?

Distance from home (Beach trip)	Distance from home (non-Beach trip)	Distance from port	Return vs through trips
Average distance from place of residence (km) Cape York + Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	Average distance from place of residence (km) Cape York + Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	Average distance travelled from launch site Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	% trips return to the access point they left from Boaters : xx Sailers : xx Jetskiiers : xx Fishers : xx Divers : xx Campers : xx Hiking : xx Swimmers : n/a
Boaters : xx Sailers : xx Jetskiiers : xx Fishers : xx Divers : xx Campers : xx Hiking : xx Swimmers : xx	Boaters : xx Sailers : xx Jetskiiers : xx Fishers : xx Divers : xx Campers : xx Hiking : xx Swimmers : xx	Boaters : Most (43%) ~10 km from launch ¹ Sailers : xx Jetskiiers : xx Fishers : xx Divers : xx Campers : xx Hiking : xx Swimmers : n/a	
GBR overall : xx +/- xx	GBR overall : xx +/- xx	GBR overall : xx +/- xx	
Ref: SELTMP Survey 2013 [^]	Ref: SELTMP Survey 2013 [^]	Ref: ¹ MSQ (2007)	Ref: xxx

[^]Coastal town residents

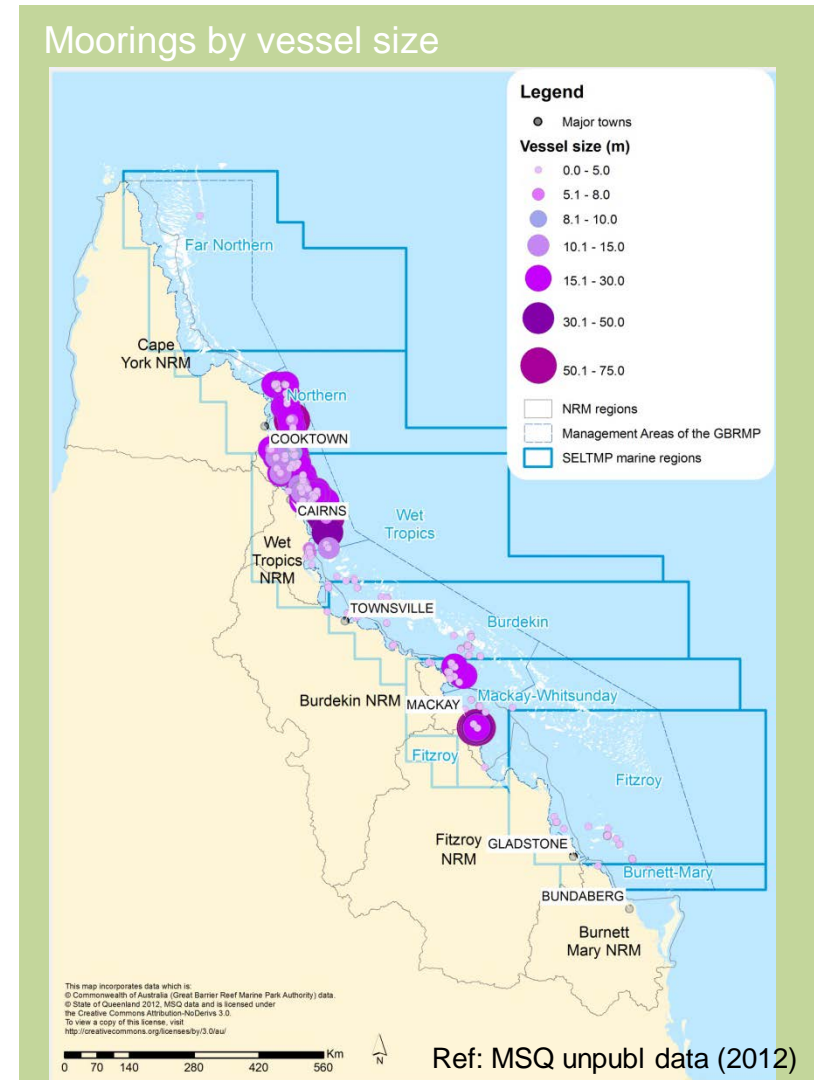
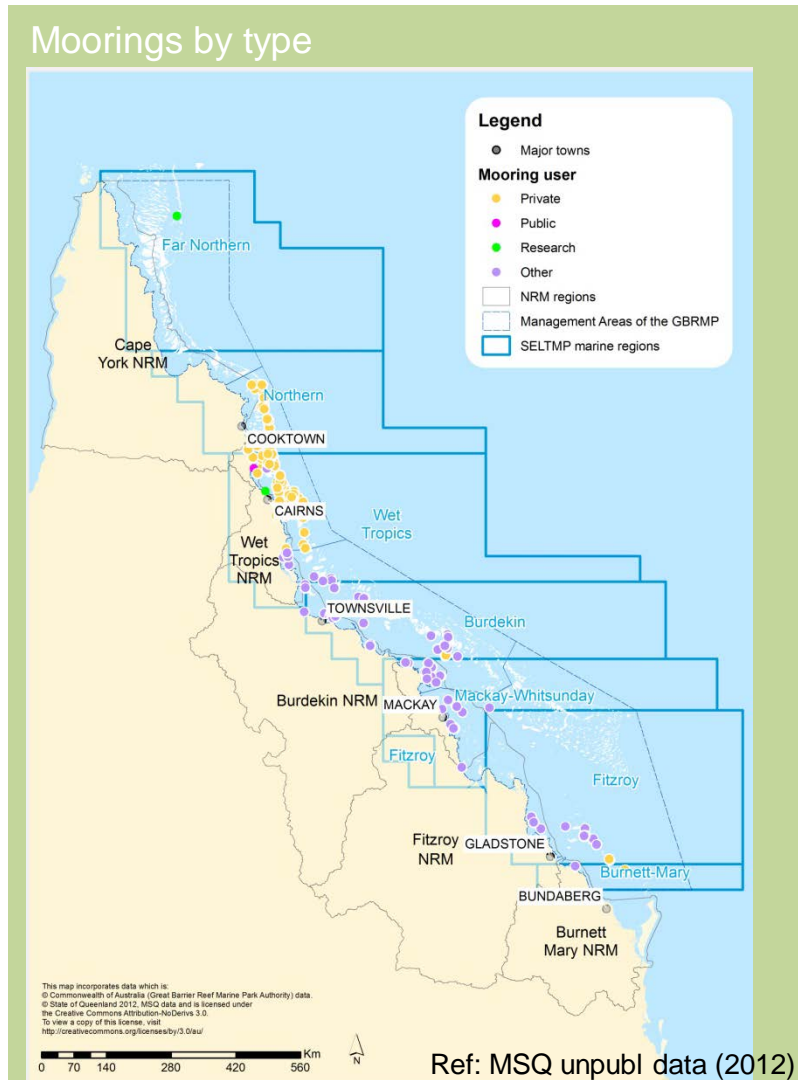
SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 2. Spatial patterns – WHERE are they going?



SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 2. Spatial patterns – WHERE are they going?



SELTMP 2013: Recreation in the Great Barrier Reef

A) Use of the Environment: 2. Spatial patterns – WHERE are they going?

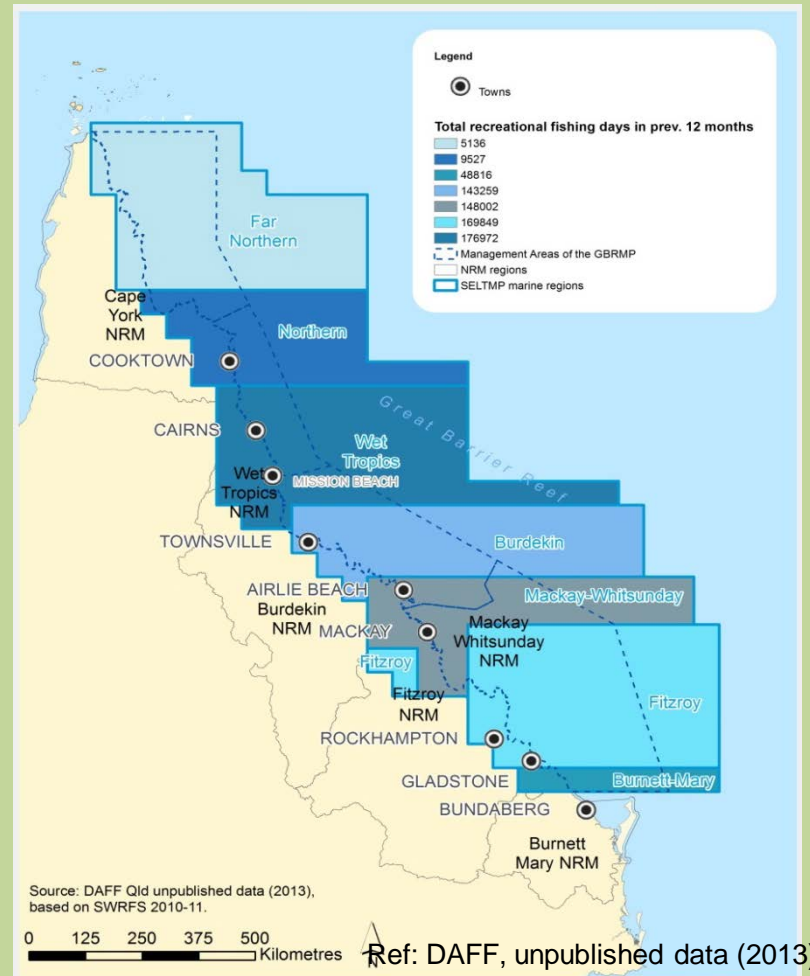
Distribution of fishing effort by residents

Effort days by SELTMP Marine Region²

Far north + Northern [^]	: 14,663 +/- 6,063
Wet Tropics	: 176,972 +/- 21,081
Burdekin	: 143,259 +/- 18,295
Mackay Whits	: 148,002 +/- 19,056
Fitzroy Basin	: 169,849 +/- 22,802
Burnett Mary	: 48,816 +/- 15,732

Ref: ²DAFF, unpublished data (2013)* - see map

Total fishing days by SELTMP NRM



*DAFF data from 2010 SWRFS survey, rejigged within NRM regions. [^]Far north and Northern regions combined due to low reliability of Far North estimates

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 2. Spatial patterns – WHERE are they going?

Most popular locations by activity type

Place holders: Multiple MAPS of listed sites where residents participated in activities such as fishing, boating, dive/snorkelling, camping, etc. To complete for 2014.

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Use of the Environment*: 2. Temporal patterns – WHEN are they going?

Seasonality of visitation

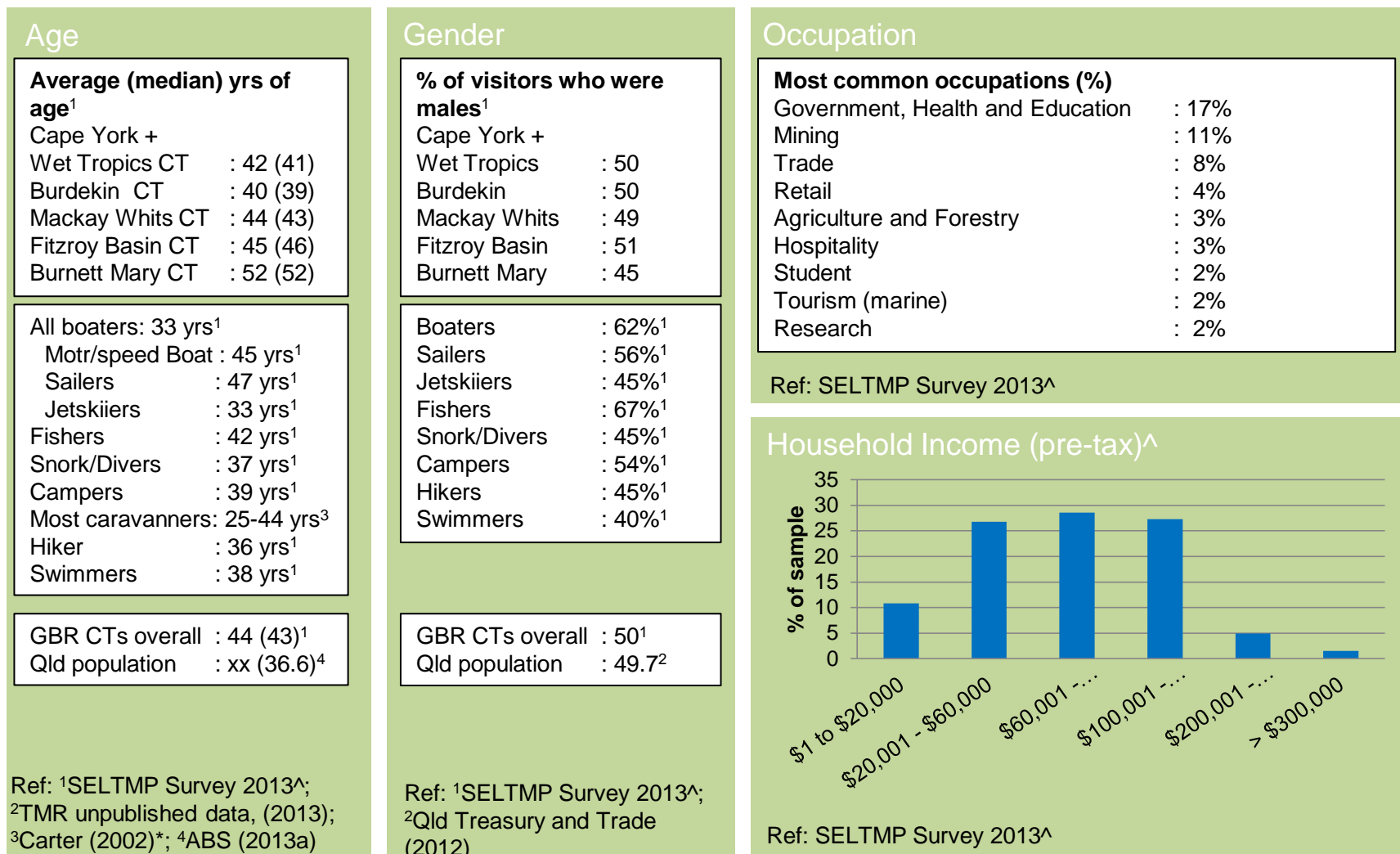
Graph of seasonality of visits by recreation type

Ref: xxx

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Social relationship: WHO is recreating in the GBR?



*Australia-wide data from National Visitor Survey; ^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Connection in terms of 'place'

What are the first words that come to mind when GBR residents think about the GBR?^



Coral	19%
Beautiful	19%
Fish	16%
Fishing	6%
Diving	5%
Tourism	5%
Colourful	4%
Snorkelling	3%
Endangered	3%
Vast	3%

13% mentioned 'negative' words. The majority referred to the condition of the reef and included endangered, dying, damaged, pollution, crown-of-thorns, bleaching, climate change

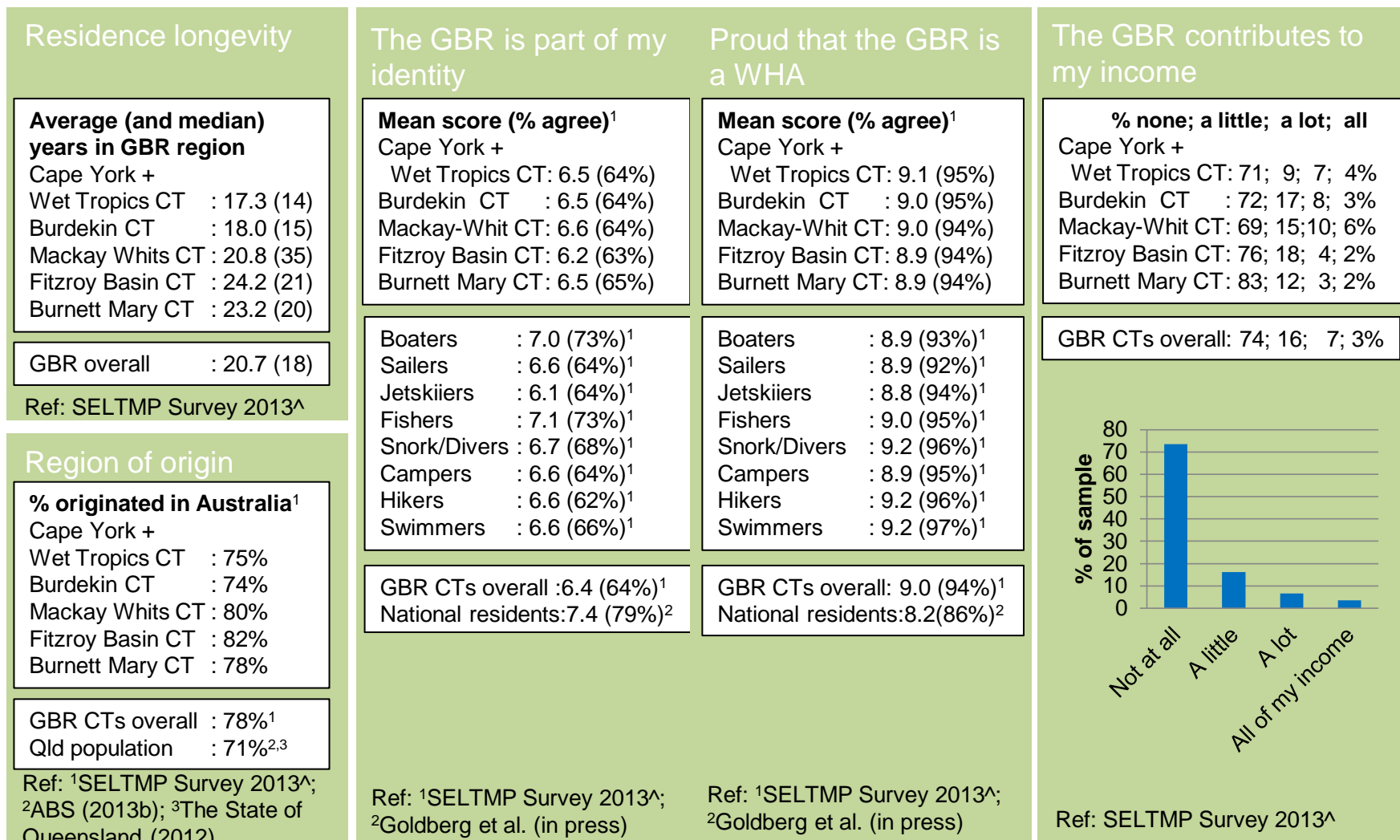
of residents surveyed = 3181
Total # of words/phrases listed = 5708
Total # of distinct words/phrases = 603

Ref: SELTMP Survey 2013

^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

A) Social relationship: WHY 3. Connection in terms of 'place'



^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Connection in terms of 'place'

GBR is the best place for the recreational activities I enjoy	Live in the region because of the GBR	Plan to remain in current town for next 5 years	Plan to remain despite more frequent extreme events
Mean score (% agree) Cape York + Wet Tropics CT: 6.4 (64%) Burdekin CT : 6.6 (70%) Mackay-Whit CT: 6.4 (65%) Fitzroy Basin CT: 6.4 (67%) Burnett Mary CT: 6.1 (62%)	Mean score (% agree) Cape York + Wet Tropics CT: 5.4 (47%) Burdekin CT : 4.9 (43%) Mackay-Whit CT: 4.9 (42%) Fitzroy Basin CT: 4.6 (37%) Burnett Mary CT: 4.5 (35%)	Mean score (% agree) Cape York + Wet Tropics CT: 7.9 (80%) Burdekin CT : 7.7 (77%) Mackay-Whit CT: 7.8 (78%) Fitzroy Basin CT: 7.4 (75%) Burnett Mary CT: 7.7 (79%)	Mean score (% agree) Cape York + Wet Tropics CT: 8.3 (82%) Burdekin CT : 8.5 (87%) Mackay-Whit CT: 8.5 (88%) Fitzroy Basin CT: 8.0 (85%) Burnett Mary CT: 7.8 (82%)
Boaters : 6.9 (70%) Sailers : 6.5 (65%) Jetskiiers : 6.3 (71%) Fishers : 7.1 (76%) Snork/Divers : 6.7 (69%) Campers : 6.8 (74%) Hikers : 6.4 (69%) Swimmers : 6.6 (71%)	Boaters : 6.1 (57%) Sailers : 5.5 (53%) Jetskiiers : 5.0 (45%) Fishers : 5.7 (53%) Snork/Divers : 5.6 (51%) Campers : 5.5 (51%) Hikers : 5.7 (52%) Swimmers : 5.1 (45%)	Boaters : 7.9 (79%) Sailers : 8.1 (82%) Jetskiiers : 7.8 (73%) Fishers : 8.3 (83%) Snork/Divers : 7.5 (75%) Campers : 8.4 (86%) Hikers : 7.9 (78%) Swimmers : 7.7 (77%)	Boaters : 8.8 (90%) Sailers : 8.4 (87%) Jetskiiers : 7.8 (83%) Fishers : 8.7 (89%) Snork/Divers : 8.1 (84%) Campers : 9.2 (95%) Hikers : 8.3 (84%) Swimmers : 8.3 (85%)
GBR CTs overall :6.4 (66%)	GBR CTs overall :4.8 (41%)	GBR CTs overall :7.7 (77%)	GBR CTs overall :8.3 (86%)
Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Connection in terms of 'identity'

Identity	Longevity of activity	Proportion of first timers visitors	Likelihood of continuing
% who consider their 1⁰ activity as essential to their identity Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	Average years individuals have been participating in their 1⁰ activity Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	% first time doing primary activity: Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	% who will continue 1⁰ activity over next 3 years Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx
Boaters : xx Sailability : xx Jetskiers : xx Fishers : xx Snork/Divers : xx Campers : xx Hikers : xx Swimmers : xx	Boaters : xx Sailability : xx Jetskiers : xx Fishers : xx Snork/Divers : xx Campers : xx Hikers : xx Swimmers : xx	Boaters : xx Sailability : xx Jetskiers : xx Fishers : xx Snork/Divers : xx Campers : xx Hikers : xx Swimmers : xx	Boaters : xx Sailability : xx Jetskiers : xx Fishers : 97% ¹ Divers : xx Campers : xx Hiking : xx Swimmers : xx
GBR overall : xx	GBR overall : xx	GBR overall : xx	GBR overall : xx
Ref: xxx	Ref: xxx	Ref: ¹ xxx	Ref: ¹ Tobin et al. (2010)

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Connection in terms of 'identity'

Relative importance

% who consider WHA recreation their most important recreation

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: 38% ¹
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: ¹Tobin et al. (2010)

Constraints

Key constraints to frequency of participation

Boaters	: Work/business ¹
Sailers	: xx
Jetskiiers	: xx
Fishers	: Work/Business ³
Snork/Divers	: xx
Campers	: xx
Hiker	: xx
Swimmers	: Weather ²

Ref: ¹Taylor et al. (2012); ²Rolfe et al. (2011); ³McInnes et al. (2013)

Drop outs

people who used to participate, but not in past 12 mths

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: 7.5% decrease in population % 1996-2004 ¹
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Key reason for drop out

Boaters	: xx
Sailers	: xx
Jetskiiers	: xx
Fishers	: Lack of time / other commitments ²
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: ¹McInnes 2006; ²Sutton et al. (2009)

SELTMP 2013: Recreation in the Great Barrier Reef

A) Social relationship: WHY 3. Connection in terms of 'aesthetics' and 'values'

The aesthetic beauty of the GBR is outstanding	Value the GBR for biological diversity	Value the GBR for lifestyle (desirable and active way of life)	Value the GBR for learning about the env through science
Mean score (% agree) Cape York + Wet Tropics CT: 9.0 (96%) Burdekin CT : 9.1 (97%) Mackay-Whit CT: 9.2 (98%) Fitzroy Basin CT: 9.0 (97%) Burnett Mary CT: 9.1 (96%)	Mean score (% agree) Cape York + Wet Tropics CT :9.0 (96%) Burdekin CT : 9.2 (97%) Mackay-Whit CT: 9.1 (97%) Fitzroy Basin CT: 8.9 (96%) Burnett Mary CT: 9.1 (96%)	Mean score (% agree) Cape York + Wet Tropics CT: 8.4 (92%) Burdekin CT : 8.6 (94%) Mackay-Whit CT: 8.6 (93%) Fitzroy Basin CT: 8.3 (93%) Burnett Mary CT: 8.2 (92%)	Mean score (% agree) Cape York + Wet Tropics CT: 8.3 (89%) Burdekin CT : 8.6 (93%) Mackay-Whit CT: 8.5 (91%) Fitzroy Basin CT: 8.4 (92%) Burnett Mary CT: 8.4 (94%)
Boaters : 9.2 (98%) Sailers : 9.3 (100%) Jetskiiers : 8.3 (88%) Fishers : 9.1 (97%) Snork/Divers : 9.2 (98%) Campers : 9.0 (97%) Hikers : 9.2 (99%) Swimmers : 9.1 (97%)	Boaters : 9.3 (97%) Sailers : 9.3 (99%) Jetskiiers : 8.7 (97%) Fishers : 9.2 (98%) Snork/Divers : 9.3 (98%) Campers : 9.0 (94%) Hikers : 9.2 (96%) Swimmers : 9.1 (98%)	Boaters : 9.0 (97%) Sailers : 8.6 (97%) Jetskiiers : 8.4 (97%) Fishers : 8.9 (97%) Snork/Divers : 8.6 (95%) Campers : 8.8 (94%) Hikers : 8.5 (93%) Swimmers : 8.5 (94%)	Boaters : 8.6 (94%) Sailers : 8.3 (88%) Jetskiiers : 8.4 (94%) Fishers : 8.4 (90%) Snork/Divers : 8.6 (94%) Campers : 8.6 (96%) Hikers : 8.7 (94%) Swimmers : 8.5 (92%)
GBR CTs overall :9.1 (97%)	GBR CTs overall: 9.1 (97%)	GBR CTs overall: 8.5 (93%)	GBR CTs overall: 8.5 (92%)
Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Social relationship: WHY 3. Connection in terms of 'aesthetics' and 'values'

Value the GBR for attracting people from all over the world	Value the GBR for the economy of region	Value the GBR for the fresh seafood it provides
Mean score (% agree) Cape York + Wet Tropics CT: 8.1 (84%) Burdekin CT : 8.0 (85%) Mackay-Whit CT: 8.4 (88%) Fitzroy Basin CT: 7.8 (85%) Burnett Mary CT: 8.1 (88%)	Mean score (% agree) Cape York + Wet Tropics CT: 9.0 (95%) Burdekin CT : 9.0 (95%) Mackay-Whit CT: 9.0 (96%) Fitzroy Basin CT: 8.7 (95%) Burnett Mary CT: 8.8 (95%)	Mean score (% agree) Cape York + Wet Tropics CT: 7.0 (71%) Burdekin CT : 7.2 (75%) Mackay-Whit CT : 7.5 (77%) Fitzroy Basin CT: 7.7 (83%) Burnett Mary CT: 8.0 (85%)
Boaters : 7.9 (83%) Sailers : 7.6 (81%) Jetskiiers : 8.3 (88%) Fishers : 7.8 (83%) Snork/Divers : 8.0 (86%) Campers : 7.8 (85%) Hikers : 8.1 (88%) Swimmers : 8.1 (87%)	Boaters : 8.9 (94%) Sailers : 8.8 (96%) Jetskiiers : 8.7 (94%) Fishers : 8.9 (96%) Snork/Divers : 9.0 (97%) Campers : 8.7 (96%) Hikers : 8.9 (95%) Swimmers : 8.9 (95%)	Boaters : 8.1 (85%) Sailers : 7.3 (80%) Jetskiiers : 6.8 (71%) Fishers : 8.5 (89%) Snork/Divers : 7.0 (71%) Campers : 8.0 (83%) Hikers : 6.9 (69%) Swimmers : 7.3 (75%)
GBR CTs overall: 8.0 (86%)	GBR CTs overall: 8.9 (95%)	GBR CTs overall: 7.5 (78%)
Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^	Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) Social relationship: WHY 3. Satisfaction with GBR and experiences

Motivations

Key motive (listed by % of visitors)

Boaters	: xx (xx%)
Sailers	: xx (xx%)
Jetskiers	: xx (xx%)
Fishers	: Relax/unwind (70% cited as very important) ³
Snork/Divers	: xx (xx%)
Campers	: social (22% caravanners, 36% campers) ¹
Hikers	: xx (xx%)
Swimmers	: Relaxation + to be with family & friends (95%) ²

Ref: ¹Carter (2002)*; ²Rolfe et al. (2011); ³McInnes et al. (2013)

Expectations

Key expectation from a trip (listed by % of visitors)

Boaters	: xx (xx%)
Sailers	: xx (xx%)
Jetskiers	: xx (xx%)
Fishers	: xx (xx%)
Snork/Divers	: xx (xx%)
Campers	: xx (xx%)
Hikers	: xx (xx%)
Swimmers	: xx (xx%)

Ref: xxx

Satisfaction

Satisfied with most recent BEACH trip[^]

Mean score (% satisfied)**1

Cape York +	
Wet Tropics	: 8.6 (83%)
Burdekin	: 8.4 (77%)
Mackay Whits	: 8.5 (72%)
Fitzroy Basin	: 7.9 (62%)
Burnett Mary	: 8.1 (65%)

Satisfied with most recent trip 'beyond' the beach[^]

Mean score (% satisfied)**1

Cape York +	
Wet Tropics	: 8.5 (79%)
Burdekin	: 8.7 (83%)
Mackay Whits	: 8.7 (85%)
Fitzroy Basin	: 8.5 (79%)
Burnett Mary	: 8.4 (74%)

For main activity

Boaters	: 8.1 (xx%) ¹
Sailers	: 8.7(xx%) ¹
Jetskiers	: xx (xx%) ¹
Fishers	: 8.0 (xx%) ¹
Snork/Divers	: 8.0 (xx%) ¹
Campers	: 8.2 (xx%) ¹
Hikers	: 9.0 (xx%) ¹
Swimmers	: 8.4 (xx%) ¹

For main activity

Boaters	: 8.9 (xx%) ¹
Sailers	: 9.2 (xx%) ¹
Jetskiers	: xx (xx%)
Fishers	: 8.3 (77.5% quite/very satisfied with experience ²)
Snork/Divers	: 8.8 (xx%) ¹
Campers	: 8.9 (xx%) ¹
Hikers	: 8.6 (xx%) ¹
Swimmers	: 8.7 (xx%) ¹

GBR overall : 8.3 (75%)¹

GBR overall : 8.6 (82%)¹

Ref: ¹SELTMP Survey 2013[^]; ²McInnes et al. (2013)

*Australia wide data from National Visitor Survey; [^]Coastal town residents; **Satisfaction scale differs to normal 10 point scale - >7 indicates satisfaction due to positivity bias.

SELTMP 2013: Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Satisfaction with GBR and experiences

Satisfaction

Key influence on satisfaction with 'beyond the beach' trip

Cape York +	
Wet Tropics CT	: Habitat quality
Burdekin CT	: Visual quality
Mackay Whits CT	: Visual quality
Fitzroy Basin CT	: Weather
Burnett Mary CT	: Fish number

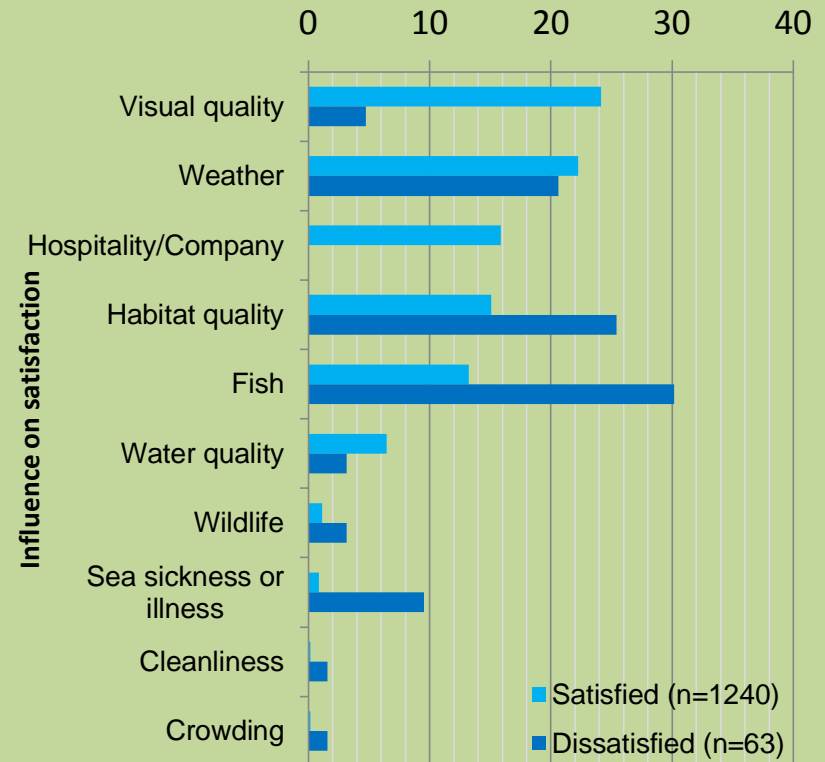
Boaters	: Fish
Sailers	: Weather
Jetskiers	: Visual quality
Fishers	: Fish
Snork/Divers	: Habitat quality
Campers	: Habitat quality
Hikers	: Habitat quality
Swimmers	: Visual quality

GBR overall	: Visual quality
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Ref: SELTMP Survey 2013^

^Coastal town residents

% of respondents dissatisfied vs satisfied with 'beyond' beach trip^



Ref: SELTMP Survey 2013^

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Social relationship*: WHY 3. Satisfaction with GBR and experiences

The place that I most visited in the GBR is NOT in great condition

Mean score (% agree)

Cape York +

Wet Tropics CT: 4.0 (30%)

Burdekin CT : 4.4 (36%)

Mackay-Whit CT: 4.5 (37%)

Fitzroy Basin CT: 4.6 (39%)

Burnett Mary CT: 4.7 (39%)

Boaters : 4.3 (37%)

Sailers : 4.5 (37%)

Jetskiers : 4.4 (31%)

Fishers : 4.2 (34%)

Snork/Divers : 4.8 (42%)

Campers : 4.0 (33%)

Hikers : 4.6 (38%)

Swimmers : 4.4 (36%)

GBR CTs overall: 4.5 (37%)

Ref: SELTMP Survey 2013^

Feel optimistic about the future of the GBR

Mean score (% agree)¹

Cape York +

Wet Tropics CT: 6.4 (63%)

Burdekin CT : 6.0 (58%)

Mackay-Whit CT: 6.3 (60%)

Fitzroy Basin CT: 6.1 (60%)

Burnett Mary CT: 6.5 (70%)

Boaters : 6.4 (66%)¹

Sailers : 5.9 (57%)¹

Jetskiers : 6.6 (64%)¹

Fishers : 6.4 (64%)¹

Snork/Divers : 5.7 (53%)¹

Campers : 6.0 (59%)¹

Hikers : 5.1 (44%)¹

Swimmers : 6.1 (59%)¹

GBR CTs overall: 6.2 (61%)¹

National residents

: 5.9 (55%)²

Ref: ¹SELTMP Survey 2013^;

²Goldberg et al. (in press)

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Economic relationship:* 4. Employment, value...

Direct employment (FTE)	Estimated value
<p>Cape York : 22¹</p> <p>Wet Tropics : 417¹</p> <p>Burdekin : 385¹</p> <p>Mackay Whits : 206¹</p> <p>Fitzroy Basin : 292¹</p> <p>Burnett Mary : 436¹</p> <p>Indirect catchment: 397¹</p> <p>Indirect rest of Qld: 101¹</p> <p>Indirect rest of Aus: 519¹</p> <p>GBR overall : 2,785 (1,767 direct; 1,118 indirect)¹</p> <p><i>Tid-bit</i> Recreational fishing provides an economic benefit to a variety of businesses in Queensland such as tackle shops, camping and sporting goods stores and accommodation providers.²</p> <p>Ref: ¹Deloitte Access Economics (2013); ²McInnes et al. (2013)</p>	<p>Direct value added:</p> <p>Cape York : \$1.6m¹</p> <p>Wet Tropics : \$29.7m¹</p> <p>Burdekin : \$27.4m¹</p> <p>Mackay Whits : \$14.7m¹</p> <p>Fitzroy Basin : \$20.7m¹</p> <p>Burnett Mary : \$31.0m¹</p> <p>Boating : xx</p> <p>Sailing : xx</p> <p>Jetskiing : xx</p> <p>Fishing : \$183 (per trip/pp for fishing, boating and sailing)²</p> <p>Diving : xx</p> <p>Camping : \$5b (to Aus economy – includes caravanning and camping)³</p> <p>Hiking : xx</p> <p>Swimmers: \$35 for beaches¹</p> <p>GBR overall: \$125.7m direct ; \$243.9m total value added¹</p> <p>Ref: ¹Deloitte Access Economics (2013)**; ²Rolfe et al (2011)*; ³Fincham, (2011)</p>

¹Based on sample of residents from Bundaberg to Cairns describing activity for past 2 years (from 2010). Utilises a primary valuation exercise, with travel cost method applied to assess consumer surplus values.** Value-added estimate for GBR catchment area, not including Torres Strait in this value

SELTMP 2013:

Recreation in the Great Barrier Reef

A) *Economic relationship: 4. Investment...*

Cost recovery

Management fees

Boating	: \$17.75 from vessel registration to Fisheries Qld for enhancing recreational fishing ¹
Sailing	: xx
Jetskiing	: xx
Fishing	: xx
Snork/Diving:	xx
Camping	: xx
Hiking	: xx
Swimmers	: Nil

Ref: ¹MSQ (2012)

Research and Development

\$ invested in R&D in recreation in GBRWHA

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

Boaters	: xx
Sailers	: xx
Jetskiers	: xx
Fishers	: xx
Divers	: xx
Campers	: xx
Hiking	: xx
Swimmers	: n/a

GBR overall : xx

Ref: xxx

Technology

% vessels using GPS

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx
GBR overall	: xx
Qld overall	: ~60%
fishing vessels ¹ ; 53% of Qld owned vessels ²	

% vessels using AIS

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx
GBR overall	: xx
Qld overall	: xx

Ref: ¹Taylor et al. (2012); ²MSQ (2007)

% vessels using Echo sounder

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx
GBR overall	: xx
Qld overall	: ~75%
fishing vessels ¹	

SELTMP 2013: Recreation in the Great Barrier Reef

A) Economic relationship: 4. Value, Investment...

Expenditure

Average expenditure per trip per person

Boaters	: \$129 ¹
Sailers	: \$139 ¹
Jetskiers	: xx
Fishers	: \$99 ¹
Divers	: xx
Campers	: \$90/night (campers); : \$83/night (caravanners) ²
Hiking	: xx
Swimmers	: xx

Median expenditure /trip / pp

Boaters	: \$80 ¹
Sailers	: \$75 ¹
Jetskiers	: xx
Fishers	: \$65 ¹
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

GBR overall	: \$330.7m ^{3#}
GBR median	: xx +/- xx

Total expenditure for the GBR catchment (\$m)³

NRM	Equipment	Fishing	Boating	Sailing	Visiting an island	Total (\$m)
Cape York	2.4	0.8	0.3	0.2	0.5	4.2
Wet Tropics	48.6	13	4.6	3.1	9.2	78.5
Burdekin	42.4	12.2	4.3	2.9	10.7	72.4
Mackay-Whitsundays	24.5	7.2	2.6	0.7	2.8	38.8
Fitzroy	34.8	10.1	3.6	2.4	4	54.8
Burnett-Mary	53.9	14.2	5	3.3	5.6	82
TOTAL	206.6	57.5	20.4	12.6	32.8	330.7

Tid-bit

“A relatively large proportion of recreational expenditure (about 62%) consisted of purchases of recreational equipment such as the purchase, registration and insurance of boats, including parts and operations, fishing equipment, water sports equipment and repair.”³

Ref: ¹Rolfe et al. (2011) ; ²Carter (2002)[^]; ³Deloitte Access Economics (2013)**

Investment in equipment

Average investment

Cape York	: xx
Wet Tropics	: xx
Burdekin	: xx
Mackay Whits	: xx
Fitzroy Basin	: xx
Burnett Mary	: xx

Boaters	: vessels \$8,000 median, \$16K mean ¹
Sailers	: vessels \$20K med, \$55K mean ¹
Jetskiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

GBR overall	: xx +/- xx
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Ref: ¹Rolfe et al. (2011)

** Value-added estimate for GBR catchment area, not including Torres Strait in this value; #Covers both trip-related expenditure for fishing, boating, sailing and visiting islands and household expenditure on recreational equipment; ^Australia wide from National Visitor Survey

SELTMP 2013:

Recreation in the Great Barrier Reef

B) *Human well-being:*

The GBR contributes
to my quality of life and
well-being

Mean score (% agree)

Cape York +

Wet Tropics CT: 7.5 (78%)

Burdekin CT : 7.7 (84%)

Mackay-Whit CT: 7.5 (79%)

Fitzroy Basin CT: 7.2 (78%)

Burnett Mary CT : 7.2 (76%)

Boaters : xx (xx%)

Sailers : xx (xx%)

Jetskiiers : xx (xx%)

Fishers : xx (xx%)

Snork/Divers : xx (xx%)

Campers : xx (xx%)

Hikers : xx (xx%)

Swimmers : xx (xx%)

GBR CTs overall: 7.5 (80%)

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

B) *Human well-being: Opportunity*

Opportunities AVERAGES ON A 10 POINT SCALE (10 = VERY STRONGLY AGREE) OR % OF RESPONDENTS	
The GBR is a great asset for the economy of this region	8.9
I value the GBR because It supports a desirable and active way of life	8.5
Respondents who depend on the GBR for at least some of their income	26%
Residents who agree “there is not a better place for the recreation activities they enjoyed than the GBR.”	66%

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

B) *Human well-being*: Empowerment

Empowerment AVERAGES ON A 10 POINT SCALE (10 = VERY STRONGLY AGREE) OR % OF RESPONDENTS	
I value the GBR because we can learn about the environment	8.5
I would like to do more to help protect the GBR	7.1
Residents who indicate that they believe they have “fair access compared to other user groups”	80%
Residents who would like to do more to protect the GBR	78%

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

B) *Human well-being: Security*

Security	
AVERAGES ON A 10 POINT SCALE (10 = VERY STRONGLY AGREE) OR % OF RESPONDENTS	
Aesthetic beauty of the GBR is outstanding	9.1
I value the GBR because it supports a variety of life such as fish, corals	9.0
I feel optimistic about the future of the GBR	6.2
I feel proud that the GBR is a World Heritage Area	8.8

Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 1. Employability

Age

Average age (years)⁷

Cape York +	
Wet Tropics	: 42
Burdekin	: 40
Mackay Whits	: 44
Fitzroy Basin	: 45
Burnett Mary	: 52

All boaters	: 48.7 yrs ¹
Motor/speed Boat	: 48.9 yrs ¹
Sailers	: 56.1 yrs ¹
Jetskiers	: 40.3 yrs ¹
Fishers	: 30-44 yrs most dominant ³
Snorkel/Divers	: xx
Campers	: Most campers 15-24 ⁴ / 25-44 ⁵ ; Most
caravanners 25-44 yrs ⁵	
Hikers	: xx
Swimmers	: xx

GBR overall : 44⁷+/ xx
 Most residents in 18-24, or 24-45 (57% of each age group) participated^{2*}
 Qld population : In 2012, Largest group = 25-29 years⁶;
 Median age = 36.2 years⁶

Ref: ¹TMR unpublished data, (2013); ²OESR (2008); ³Taylor et al. (2012); ⁴Synergies Economic Consulting (2012); ⁵Carter (2002); ⁶Govt statistician (2013); ⁷SELTMP Survey 2013[^]

[^]Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 2. Environmental Stewardship

Confident the GBR is well managed	Support current rules and regulations	I have fair access to the GBR compared to other groups^	Participation in management
Mean score (% agree)¹ Cape York + Wet Tropics CT: 6.0 (60%) Burdekin CT : 6.2 (66%) Mackay-Whit CT: 6.0 (59%) Fitzroy Basin CT: 5.8 (58%) Burnett Mary CT: 6.0 (60%)	Mean score (% agree)¹ Cape York + Wet Tropics CT: 7.2 (74%) Burdekin CT : 7.5 (83%) Mackay-Whit CT: 7.4 (77%) Fitzroy Basin CT: 7.1 (78%) Burnett Mary CT: 6.8 (70%)	Mean score (% agree) Cape York + Wet Tropics CT: 7.6 (81%) Burdekin CT : 7.9 (85%) Mackay-Whit CT: 7.6 (80%) Fitzroy Basin CT: 7.0 (76%) Burnett Mary CT: 6.8 (71%)	% participated / consulted Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx
Boaters : 6.0 (55%) ¹ Sailers : 5.9 (56%) ¹ Jetskiiers : 6.0 (66%) ¹ Fishers : 5.9 (59%) ¹ Snork/Divers : 6.0 (62%) ¹ Campers : 5.9 (57%) ¹ Hikers : 5.6 (57%) ¹ Swimmers : 6.0 (62%) ¹	Boaters : 7.1 (73%) ¹ Sailers : 7.3 (79%) ¹ Jetskiiers : 8.0 (88%) ¹ Fishers : 7.2 (77%) ¹ Snork/Divers : 7.3 (79%) ¹ Campers : 7.3 (77%) ¹ Hikers : 7.1 (77%) ¹ Swimmers : 7.4 (81%) ¹	Boaters : 7.5 (79%) Sailers : 8.4 (88%) Jetskiiers : 7.8 (84%) Fishers : 7.4 (79%) Snork/Divers : 7.9 (85%) Campers : 7.6 (82%) Hikers : 7.8 (84%) Swimmers : 7.7 (82%)	Boaters : xx Sailers : xx Jetskiiers : xx Fishers : 28% ¹ Snork/Divers : xx Campers : xx Hikers : xx Swimmers : n/a
GBR CTs overall: 6.0 (61%) ¹ National residents : 5.9 (53%) ²	GBR CTs overall : 7.3 (78%) ¹	GBR CTs overall: 7.5 (80%)	GBR overall : xx
	Tidbit: - the majority of recreational fishers (90%) comply with no-take zones in the GBRMP ² .		
Ref: ¹ SELTMP Survey 2013^; ² Goldberg et al. (in press)	Ref: ¹ SELTMP Survey 2013^; ² Arias & Sutton 2013	Ref: SELTMP Survey 2013	Ref: ¹ Sutton (2006b)

^Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

C) *Indirect Drivers*: 2. Environmental Stewardship

Compliance with regulations	
% compliance Cape York : xx Wet Tropics : xx Burdekin : xx Mackay Whits : xx Fitzroy Basin : xx Burnett Mary : xx	# of offences* Far Northern : 2 Cairns/Cook town : 51 Tsv/Whitsundays : 245 Mackay/Capricorn : 182 Total : 480
Boaters : xx Sailers : xx Jetskiiers : xx Fishers : 94-97% ¹⁻³ Snork/Divers : xx Campers : xx Hikers : xx Swimmers : n/a	
Tidbits: - 95% of recreational fishers were found to be 'very' to 'moderately' knowledgeable of the location of no-take zones in the GBRMP ⁴ . - the most important driver of compliance in no-take zones was concern about receiving a penalty i.e. fines ⁴ .	
Ref: ¹ Fisheries Queensland (2011a-c); ² Fisheries Queensland (2013); ³ GBRMPA unpublished data (2012); ⁴ Arias & Sutton 2013	

* Data from GBRMPA for all Commonwealth and State offences recorded in 2012. Grouped by GBRMPA regions.

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 2. Environmental Stewardship

Non-compliance						
Activity / Offence		Far Northern	Cairns/ Cooktown	Townsville/ Whitsunday	Mackay/ Capricorn	Total
Breach of Permit		0	0	0	3	3
Fishing	Bait Netting	0	0	0	0	0
	Crabbing	0	1	1	0	2
	Line Fishing	0	35	120	127	282
	Netting	0	0	3	2	5
	Spearfishing	0	5	7	25	37
Maritime Incident	Groundings	2	2	0	1	5
	Pollution/Discharge	0	1	0	0	1
	Sinkings	0	0	2	1	3
Moorings Offence	Unpermitted	0	1	50	0	51
Plan of Management	Cairns	0	3	0	0	3
	Whitsunday	0	0	1	0	1
Unpermitted Activity	Camping	0	0	13	6	19
	Collecting	0	1	0	0	1
	Domestic Animals in Protected Area	0	0	10	2	12
	Fire	0	0	27	1	28
	Generator Use	0	0	3	0	3
	Restricted Access Areas	0	0	1	11	12
	Unlawful Take	0	0	0	0	0
	Other	0	2	4	0	6
	Interaction with Cetacean	0	0	2	3	5
Other		0	0	1	0	1

Ref: ⁵GBRMPA unpublished data (2012)*

* Data from GBRMPA for all Commonwealth and State offences recorded in 2012. Grouped by GBRMPA regions.

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 2. Environmental Stewardship

I would like to do more to protect the GBR	Would be personally affected if health if GBR declined	Would like to learn more about the condition of the GBR
Mean score (% agree) Cape York + Wet Tropics CT: 7.6 (80%) Burdekin CT : 7.2 (78%) Mackay-Whit CT: 7.3 (77%) Fitzroy Basin CT: 6.9 (77%) Burnett Mary CT: 6.8 (75%)	Mean score (% agree)¹ Cape York + Wet Tropics CT: 8.0 (83%) Burdekin CT : 8.2 (85%) Mackay-Whit CT: 8.0 (85%) Fitzroy Basin CT: 7.4 (78%) Burnett Mary CT: 7.1 (72%)	Mean score (% agree) Cape York + Wet Tropics CT: 7.1 (73%) Burdekin CT : 7.0 (76%) Mackay-Whit CT: 7.0 (70%) Fitzroy Basin CT: 6.9 (74%) Burnett Mary CT: 6.9 (74%)
Boaters : 7.4 (85%) Sailers : 7.5 (79%) Jetskiiers : 6.9 (79%) Fishers : 7.4 (82%) Snork/Divers : 7.6 (84%) Campers : 7.5 (82%) Hikers : 7.8 (84%) Swimmers : 7.4 (81%)	Boaters : 8.5 (90%) ¹ Sailers : 8.1 (85%) ¹ Jetskiiers : 7.5 (76%) ¹ Fishers : 8.3 (87%) ¹ Snork/Divers : 8.3 (86%) ¹ Campers : 8.4 (88%) ¹ Hikers : 8.6 (88%) ¹ Swimmers : 8.1 (85%) ¹	Boaters : 7.2 (79%) Sailers : 7.1 (77%) Jetskiiers : 6.4 (70%) Fishers : 7.1 (75%) Snork/Divers : 7.4 (80%) Campers : 7.0 (75%) Hikers : 7.7 (84%) Swimmers : 7.1 (76%)
GBR CTs overall: 7.1 (78%)	GBR CTs overall: 7.8 (82%) ¹ National residents : 5.2 (63%) ²	GBR CTs overall: 7.0 (74%)
Ref: SELTMP Survey 2013 [^]	Ref: ¹ SELTMP Survey 2013 [^] ; ² Goldberg et al. (in press)	Ref: SELTMP Survey 2013 [^]

[^]Coastal town residents

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 2. Environmental Stewardship

Personal motivation / strength of belief in action

I can make a personal difference in improving GBR health

Mean score (% agree)

Cape York +
Wet Tropics CT: 7.1 (75%)
Burdekin CT : 7.4 (78%)
Mackay-Whit CT: 7.2 (75%)
Fitzroy Basin CT: 7.0 (75%)
Burnett Mary CT: 6.4 (65%)

I try to encourage others to reduce impacts on GBR

Mean score (% agree)

Cape York +
Wet Tropics CT: 7.0 (70%)
Burdekin CT : 6.8 (70%)
Mackay-Whit CT: 7.1 (72%)
Fitzroy Basin CT: 6.8 (71%)
Burnett Mary CT: 6.6 (69%)

Boaters : 6.6 (70%)
Sailers : 6.6 (56%)
Jetskiiers : 6.2 (60%)
Fishers : 7.1 (76%)
Snork/Divers : 6.7 (33%)
Campers : 8.1 (87%)
Hikers : 8.0 (100%)
Swimmers : 7.1 (70%)

Boaters : 7.6 (82%)
Sailers : 7.6 (82%)
Jetskiiers : 6.1 (56%)
Fishers : 7.5 (79%)
Snork/Divers : 7.3 (78%)
Campers : 7.4 (77%)
Hikers : 7.5 (80%)
Swimmers : 7.0 (74%)

GBR CTs overall: 7.1 (75%)

GBR CTs overall: 6.9 (71%)

Ref: SELTMP Survey 2013^

^Coastal town residents

Social norms

Mean score (% agree) it is the responsibility of ... to protect the GBR¹

	themselves	other residents	All Australians
Cape York +			
Wet Tropics CT	: 8.4 (91%)	8.5 (90%)	9.0 (94%)
Burdekin CT	: 8.5 (92%)	8.6 (93%)	8.9 (94%)
Mackay Whits CT	: 8.4 (90%)	8.4 (91%)	9.0 (95%)
Fitzroy Basin CT	: 7.8 (85%)	8.3 (91%)	8.7 (94%)
Burnett Mary CT	: 7.8 (84%)	8.4 (90%)	8.9 (96%)

	themselves ¹	other residents ¹	All Australians ¹
Boaters	: 8.1 (90%)	8.5 (92%)	8.9 (94%)
Sailers	: 8.8 (93%)	8.6 (91%)	9.2 (95%)
Jetskiiers	: 8.4 (91%)	8.3 (91%)	8.5 (88%)
Fishers	: 8.7 (93%)	8.3 (89%)	9.0 (96%)
Snork/Divers	: 8.6 (92%)	8.7 (94%)	9.0 (97%)
Campers	: 8.6 (96%)	8.2 (90%)	8.5 (90%)
Hikers	: 8.9 (96%)	8.6 (94%)	9.1 (95%)
Swimmers	: 8.5 (91%)	8.5 (92%)	9.0 (95%)

GBR overall ¹	: 8.2 (89%)	8.5 (92%)	8.9 (95%)
National residents ²	5.5 (68%)	-	7.7 (80%)

Ref: ¹SELTMP Survey 2013^; ²Goldberg et al (in press)

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Recreation in the Great Barrier Reef

C) *Indirect Drivers*: 2. Environmental Stewardship

Barriers to behaviours

Mean score (% agree) that their ability to reduce any impact they might have on the GBR is limited by:

	skills & knowledge	time & opportunity	money
Cape York +			
Wet Tropics CT	: 4.5 (38%)	4.2 (29%)	3.4 (20%)
Burdekin CT	: 4.4 (35%)	3.9 (26%)	3.1 (16%)
Mackay Whits CT	: 4.7 (38%)	4.1 (28%)	3.2 (16%)
Fitzroy Basin CT	: 4.8 (37%)	4.6 (34%)	3.7 (19%)
Burnett Mary CT	: 4.7 (37%)	4.8 (39%)	3.9 (24%)

	skills & knowledge	time & opportunity	money
Boaters	: 3.9 (26%)	3.8 (26%)	3.0 (15%)
Sailers	: 4.0 (26%)	3.8 (28%)	2.6 (7%)
Jetskiers	: 4.8 (42%)	4.9 (39%)	3.9 (25%)
Fishers	: 4.0 (27%)	3.9 (25%)	3.1 (15%)
Snork/Divers	: 4.3 (31%)	3.9 (25%)	3.0 (13%)
Campers	: 4.0 (24%)	3.9 (25%)	3.0 (11%)
Hikers	: 4.4 (30%)	3.6 (22%)	2.7 (13%)
Swimmers	: 4.5 (35%)	4.0 (28%)	3.2 (15%)

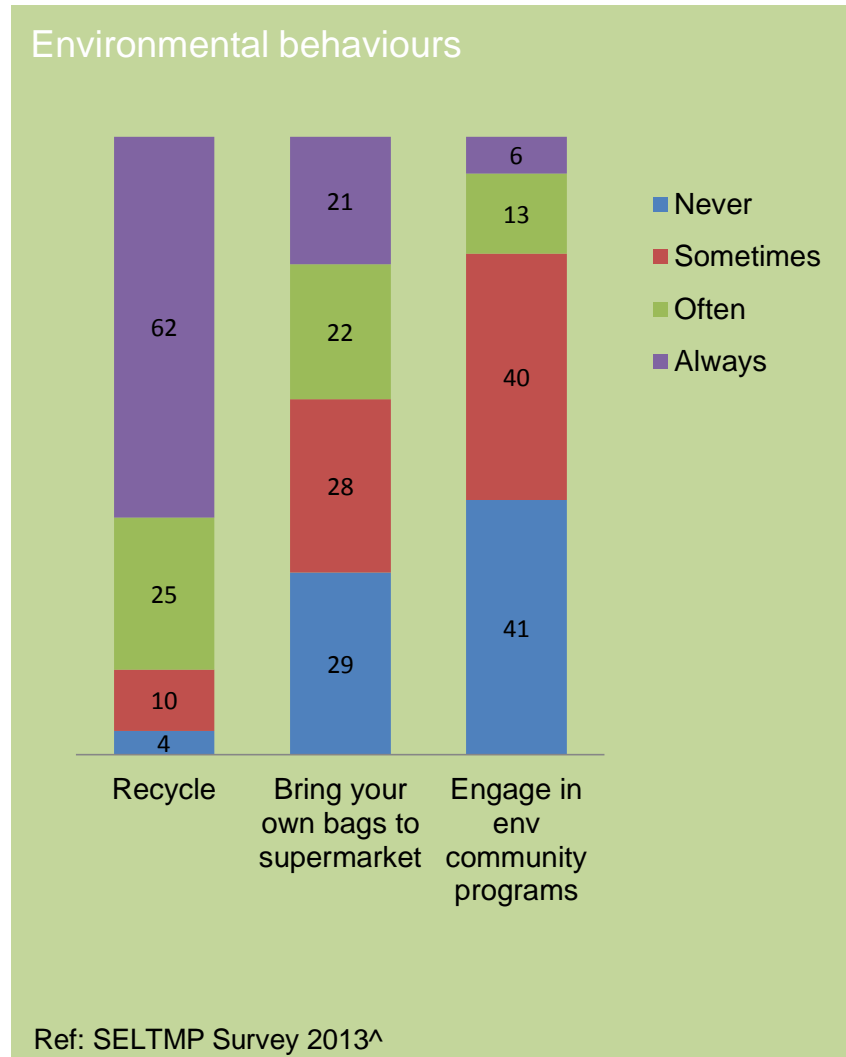
GBR overall	: 4.6 (37%)	4.2 (30%)	3.4 (18%)
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Ref: SELTMP Survey 2013^

^Coastal town residents

SELTMP 2013: Recreation in the Great Barrier Reef

C) Indirect Drivers: 2. Environmental Stewardship



^Coastal town residents

Environmental behaviours

% who Recycle:	Never	Sometimes	Often	Always
Cape York +				
Wet Tropics CT:	4	13	24	59
Burdekin CT:	4	10	27	60
Mackay Whits CT:	8	13	21	58
Fitzroy CT:	1	8	28	63
Burnett Mary CT:	2	6	20	73
OVERALL:	4	10	25	62

% who bring their own bags to the supermarket	Never	Sometimes	Often	Always
Cape York +				
Wet Tropics CT:	33	25	20	22
Burdekin CT:	29	27	23	21
Mackay Whits CT:	33	28	16	23
Fitzroy CT:	30	31	24	15
Burnett Mary CT:	22	28	25	25
OVERALL:	29	28	22	21

% who engage in environmental community programs	Never	Sometimes	Often	Always
Cape York +				
Wet Tropics CT:	44	39	10	7
Burdekin CT:	43	39	13	5
Mackay Whits CT:	46	36	13	5
Fitzroy CT:	33	45	15	7
Burnett Mary CT:	40	41	11	8
OVERALL:	41	40	13	6

Ref: SELTMP Survey 2013^

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Recreation in the Great Barrier Reef

C) *Indirect Drivers*: 2. Environmental Stewardship

Environmental behaviours

% who have solar power in their home

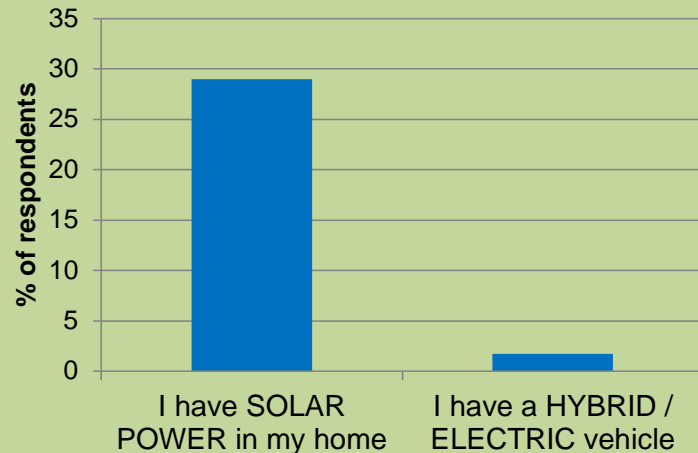
Cape York +	
Wet Tropics CT	: 25%
Burdekin CT	: 25%
Mackay-Whit CT	: 24 %
Fitzroy Basin CT	: 37%
Burnett Mary CT	: 37%

% who have a hybrid / electric vehicle

Cape York +	
Wet Tropics CT	: 2%
Burdekin CT	: 1%
Mackay-Whit CT	: 2%
Fitzroy Basin CT	: 2%
Burnett Mary CT	: 2%

GBR overall : 29%

GBR overall : 2%



Ref: SELTMP Survey 2013^

^Coastal town residents

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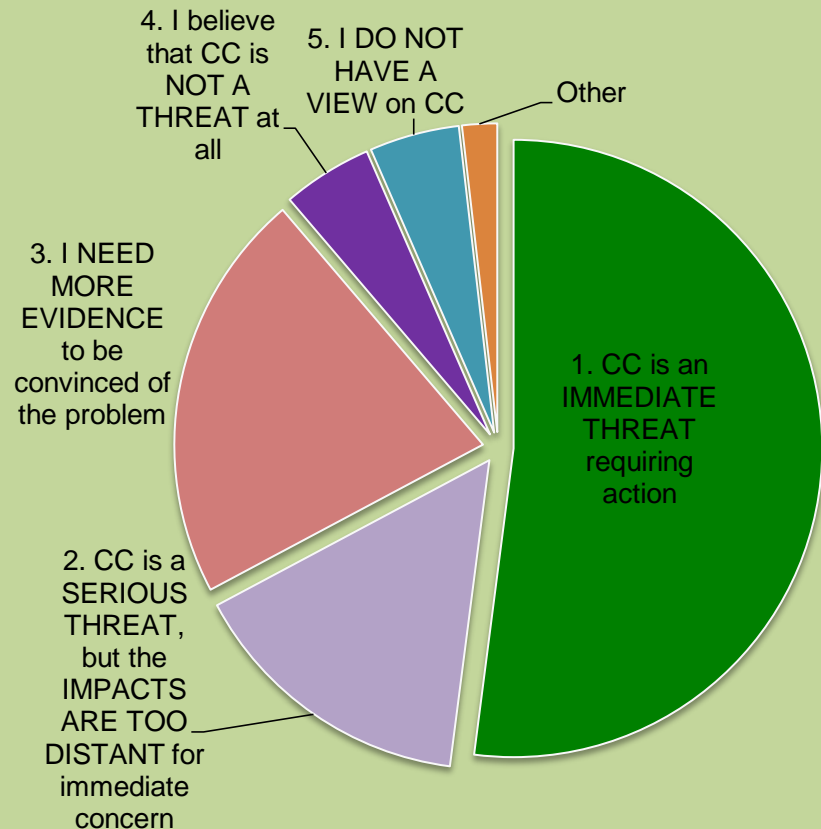
C) Indirect Drivers: 2. Environmental Stewardship

Perceptions about climate change (CC)

% who agree with statement:	1	2	3	4	5	Other
Cape York + Wet Tropics CT:	51	14	21	5	5	4
Burdekin CT:	57	14	21	4	4	1
Mackay Whits CT:	48	16	24	5	5	3
Fitzroy CT:	51	17	21	5	6	1
Burnett Mary CT:	51	14	22	7	6	1

	1	2	3	4	5	Other
Boaters:	xx	xx	xx	xx	xx	xx
Sailers:	xx	xx	xx	xx	xx	xx
Jetskiers:	xx	xx	xx	xx	xx	xx
Fishers:	xx	xx	xx	xx	xx	xx
Snork/Divers:	xx	xx	xx	xx	xx	xx
Campers:	xx	xx	xx	xx	xx	xx
Hikers:	xx	xx	xx	xx	xx	xx
Swimmers:	xx	xx	xx	xx	xx	xx

GBR CTs overall:	52	15	22	5	5	2
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Ref: SELTMP Survey 2013^

^Coastal town residents

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Recreation in the Great Barrier Reef

C) *Indirect Drivers*: 3. Information and networks

Information sources

Primary information source about the GBRWHA

Boaters	: xx
Sailers	: xx
Jetskiers	: xx
Fishers	: newspaper+ TV ¹ ; Govt internet and social media for fisheries info ²
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: ¹Sutton (2006); ²McInnes et al (2013)

Memberships

% who are members of peak bodies

Boaters	: xx
Sailers	: xx
Jetskiers	: xx
Fishers	: 3% ¹
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: ¹Taylor et al. (2012)

Formal networks

% who communicate regularly with managers

Boaters	: xx
Sailers	: xx
Jetskiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: xxx

Informal networks

% consider themselves well networked

Boaters	: xx
Sailers	: xx
Jetskiers	: xx
Fishers	: xx
Snork/Divers	: xx
Campers	: xx
Hikers	: xx
Swimmers	: xx

Ref: xxx

SELTMP 2013: Recreation in the Great Barrier Reef

C) Indirect Drivers: 3. Information and networks

Trusted information sources for information received about the GBR

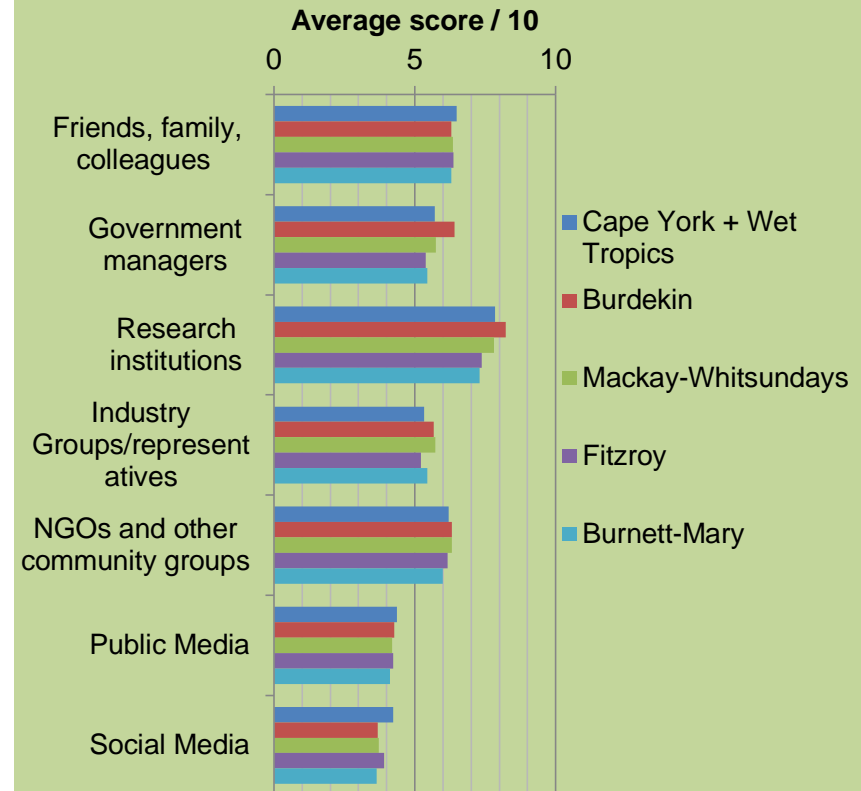
Information source: mean score (% who trust them)

Friends, family and colleagues	: 6.3 (61%)
Government managers	: 5.8 (57%)
Research institutions	: 7.8 (85%)
Industry groups / representatives	: 5.5 (51%)
NGOs / community groups	: 6.2 (63%)
Media (TV, radio, newspapers)	: 4.2 (28%)
Social media (facebook, twitter)	: 3.8 (23%)

Ref: SELTMP Survey 2013^

^Coastal town residents

Trusted information sources



Ref: SELTMP Survey 2013^

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Recreation in the Great Barrier Reef

C) Indirect Drivers: 3. Information and networks

Perception of management agencies

% with positive opinion of GBRMPA

Cape York : xx
Wet Tropics : xx
Burdekin : xx
Mackay Whits : xx
Fitzroy Basin : xx
Burnett Mary : xx

Boaters : xx
Sailers : xx
Jetskiiers : xx
Fishers : ~56%¹
(44% did not trust GBRMPA to consider their needs)¹
Snork/Divers : xx
Campers : xx
Hikers : xx
Swimmers : n/a

GBR overall : xx

% with positive opinion of DAFF

Cape York : xx
Wet Tropics : xx
Burdekin : xx
Mackay Whits : xx
Fitzroy Basin : xx
Burnett Mary : xx

Boaters : xx
Sailers : xx
Jetskiiers : xx
Fishers : xx
Snork/Divers : xx
Campers : xx
Hikers : xx
Swimmers : n/a

GBR overall : xx

% with positive opinion of NPRSR

Cape York : xx
Wet Tropics : xx
Burdekin : xx
Mackay Whits : xx
Fitzroy Basin : xx
Burnett Mary : xx

Boaters : xx
Sailers : xx
Jetskiiers : xx
Fishers : xx
Snork/Divers : xx
Campers : xx
Hikers : xx
Swimmers : n/a

GBR overall : xx

Ref: ¹Sutton (2008)

SELTMP 2013:

Recreation in the Great Barrier Reef

C) Indirect Drivers: 4. Sector specific drivers

Population growth and change

Increasing coastal population

NRMs impacted:
All, (less so Cape York)
(see coastal communities chapter)

Key impacts/concerns:

- More people accessing the Marine Park¹
- More coastal marine facilities and access points¹
- Coastal marine facilities and access points in new areas¹
- Increasing vessel ownership^{1,2}
- Increasing user conflict¹
- increased crowding

Shift in demographic due to industry change (resource boom)

NRMs impacted:
Mackay Whitsunday and Fitzroy

Key impacts: / concerns:

- Increasing leisure time associated with expanding mining and exploration sector¹
- Increasing vessel ownership (including larger vessels)^{1,2} (see vessel registration data earlier)
- Potential changes in stewardship behaviour (no data)

Tidbit:

“Feedback from Local Marine Advisory Group members and the Reef Advisory Committees consistently identified increasing population and its flow-on effects as fundamental issues for future recreation management.”¹

Ref: ¹GBRMPA (2012); ²Qld Transport, unpubl data (2011)

Economic drivers

Fuel price

Key changes:

- Increased fuel price in recent years

Recreation affected:

- Boating, fishing

Key impacts:

- Potential impact on number of visits, distance travelled, and satisfaction with trip (no data)

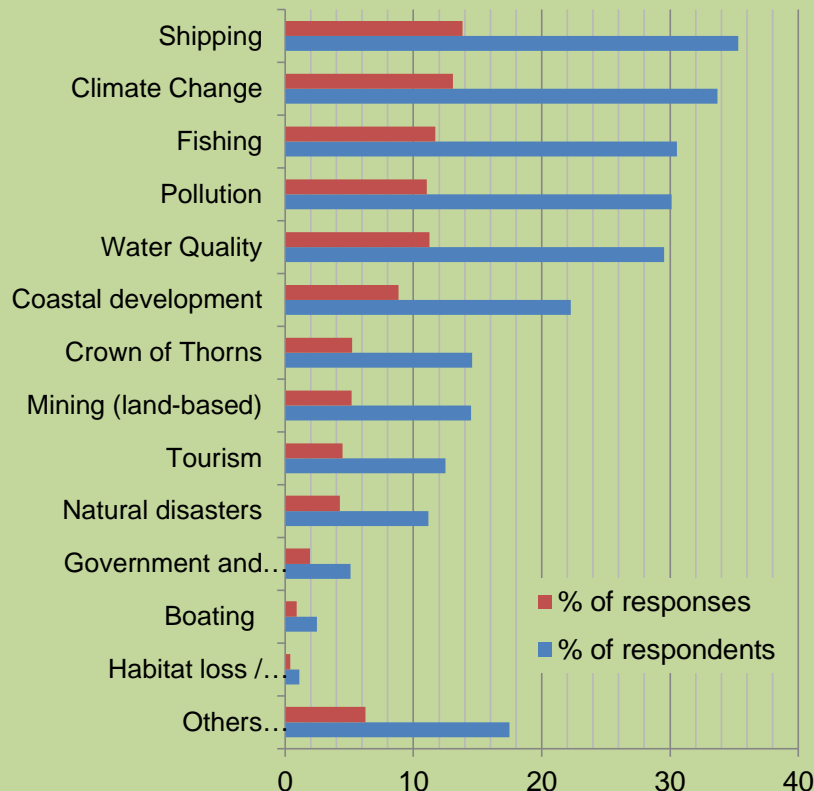
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SELTMP 2013:

Recreation in the Great Barrier Reef

D) *Direct Drivers*: 1. Threats to the GBR

Perceived threats to the GBR^{^*}



Ref: SELTMP Survey 2013[^]

Perceived threats to the GBR by region and activity type^{^*}

Most commonly listed threat¹

Cape York +
 Wet Tropics CT : Climate Change
 Burdekin CT : Climate Change
 Mackay Whits CT : Shipping
 Fitzroy Basin CT : Shipping
 Burnett Mary CT : Shipping

Boaters : xx
 Sailers : xx
 Jetskiiers : xx
 Fishers : xx
 Snork/Divers : xx
 Campers : xx
 Hikers : xx
 Swimmers : xx

Ref: ¹SELTMP Survey 2013[^]

[^]Coastal town residents. See next page for what is included in categories; ^{*}Results of an open ended question asking respondents to list the 3 biggest threats to the GBR.

SELTMP 2013:

Recreation in the Great Barrier Reef

D) Direct Drivers: 1. Threats to the GBR

Perceived threats to the GBR*

Level 1: Key threat group	Level 2: Threats within group	% of respondents	% of responses
Shipping	GROUPED	35.3	13.8
	Shipping	26.6	
	Oil spills	11.8	
	Ballast / pollution from ships	0.1	
Climate Change	GROUPED	33.7	13.1
	Climate change	16.1	
	Global warming	12.2	
	Sea level rise	0.1	
	Ocean warming	0.4	
	Ocean acification	0.6	
	Coral bleaching	6.9	
	Ozone layer / depletion	0.1	
Fishing	GROUPED	30.5	11.7
	Commercial fishing	19.8	
	Recreational fishing	3.3	
	Unspecified / all fishing	7.3	
	Illegal fishing (incl foreign)	2.2	
Pollution	GROUPED	30.1	11.0
	Pollution (multiple / undefined)	14.0	
	Marine debris / litter	15.9	
	Marine pollutants (chemicals)	0.8	
Water Quality	GROUPED	29.5	11.3
	Water Quality (including sedimentation)	5.1	
	Urban run-off (incl. sewerage)	4.6	
	Agricultural run-off (including erosion)	20.8	
	Mining run-off	0.1	
	Run-off (not defined / all)	0.9	

Level 1: Key threat group	Level 2: Threats within group	% of respondents	% of responses
Coastal development	GROUPED	22.3	8.8
	Coastal development	7.6	
	Dredging	3.5	
	Industrial development	1.7	
	New ports and port expansions	10.9	
	Overpopulation	0.9	
Crown of Thorns	COTs	14.6	5.2
Mining (land-based)	Mining (land-based)	14.5	5.2
Tourism	Tourism (all)	12.5	4.5
Natural disasters	GROUPED	11.2	4.3
	Natural disasters	0.9	
	Floods	1.6	
	Cyclones	9.2	
	Storms	0.1	
	Earthquakes	0.0	
Government and regulations	Tsunamis	0.1	
	GROUPED	5.1	2.0
	Government / departments	0.8	
	Mis-/poor-management	0.6	
	Zoning	0.3	
	Beauracracy / politics	0.5	
Boating	Enforcement / policing	0.1	
	Conservationists	0.3	
	Boating (including too many, anchor damage, etc)	2.5	0.9
	Habitat loss / degredation	1.1	0.4
	Habitat loss / degredation		
Others (uncategorised)	GROUPED	17.5	6.3
	Those listed by >2%Humans	6.4	

Ref: SELTMP Survey 2013

*Results of an open ended question asking respondents to list the 3 biggest threats to the GBR.

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Recreation in the Great Barrier Reef

D) *Direct Drivers*: 2. Sector specific drivers

Resource access

Gladstone Port development

NRMs impacted:
Fitzroy and Burnett-Mary

Key impacts:

- Physical loss of access to fishing and boating areas surrounding construction and dredging area
- Water quality issues potentially affecting fish health
- Potential impact on aesthetics of region affected

During the SWRFS (2010-11), Fisheries Queensland closed Gladstone Harbour and the surrounding area to fishing, while Biosecurity Queensland investigated a condition affecting some locally-caught fish. Less than 3% of all fishing related concerns listed in open ended questions were related to this.¹

Ref: ¹McInnes et al (2013)

^Coastal town residents

I have fair access to the GBR compared to other groups

Mean score (% agree)

Cape York +

Wet Tropics CT: 7.6 (81%)
Burdekin CT : 7.9 (85%)
Mackay-Whit CT: 7.6 (80%)
Fitzroy Basin CT: 7.0 (76%)
Burnett Mary CT : 6.8 (71%)

Boaters : 5.3 (44%)
Sailers : 8.0 (88%)
Jetskiers : 6.0 (50%)
Fishers : 7.2 (77%)
Snork/Divers : 7.8 (100%)
Campers : 7.7 (83%)
Hikers : 8.5 (100%)
Swimmers : 7.6 (62%)

GBR CTs overall : 7.5 (80%)

Ref: SELTMP Survey 2013^

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References

- Arias, A. and S. G. Sutton (2013). Understanding Recreational Fishers' Compliance with No-take Zones in the Great Barrier Reef Marine Park. *Ecology and Society*. 18(4): 18
- Australian Bureau of Statistics, Population by Age and Sex, Regions of Australia, 2011, cat. no. 3235.0
- Australian Bureau of Statistics (a). 3101.0 - Australian Demographic Statistics, Jun 2013. Queensland.
<http://www.abs.gov.au/ausstats/abs@.nsf/Latestproducts/3101.0Feature%20Article1Jun%202013?opendocument&tabname=Summary&prodno=3101.0&issue=Jun%202013&num=&view=>.
- Australian Bureau of Statistics (b). National Regional Profile: Queensland. 23 May 2013.
<http://www.abs.gov.au/AUSSTATS/abs@nrp.nsf/Latestproducts/3Population/People12007-2011?opendocument&tabname=Summary&prodno=3&issue=2007-2011>
- Carter, P (2002). Domestic caravanning and camping: Results from the 2000 National Visitor Survey. BTR Tourism Research Report. 4(2): 7-20
- Curnock, M., Marshall, N., Tobin, R., Stone-Jovicich, S., Bohensky, E., Pert, P., Goldberg, J., Gooch, M., Gillet, S., Scherl, L. (2014) The Social and Economic Long Term Monitoring Program (SELTMP) 2013, Tourism in the Great Barrier Reef. Report to the National Environmental Research Program. Reef and Rainforest Research Centre Limited, Cairns (55pp.).
- Deloitte Access Economics (2013). Economic Contribution of the Great Barrier Reef. Great Barrier Reef Marine Park Authority, Townsville.
- Falco-Mammone, F and King, LM (2009). Whitsunday Islands National Park & Marine Park: Visitor Monitoring Project. Report to Queensland Parks and Wildlife Service.
- Fincham, C (2011). Come back caravanners, urges Queensland. <http://www.caravancampingsales.com.au/news/2011/come-back-caravanners-urges-queensland-23560>
- Fisheries Queensland (2011a). Annual Status Report 2010. Coral Reef Fin Fish Fishery. State of Queensland
- Fisheries Queensland (2011b). Annual Status Report 2010. East Coast Inshore Fin Fish Fishery. The State of Queensland, Department of Employment, Economic Development and innovation
- Fisheries Queensland (2011c). Annual Status Report 2010. East Coast Spanish Mackerel Fishery. The State of Queensland, Department of Employment, Economic Development and innovation
- Fisheries Queensland (2013). Mud Crab Fishery. 2011 fishing year report. State of Queensland
- Great Barrier Reef Marine Park Authority (2009). Great Barrier Reef Outlook Report 2009. Great Barrier Reef Marine Park Authority, Townsville, Qld, Australia.

SELTMP 2013:

Recreation in the Great Barrier Reef

References

- Great Barrier Reef Marine Park Authority (2012). Draft Recreation Management Strategy for the Great Barrier Reef Marine Park. Great Barrier Reef Marine Park Authority, Townsville, Qld.
- Goldberg, J, Bihensky, E, Curnock, M, Gooch, M, Marshall, N, Parry-Husbands, H, Pert, P, Stone-Jovicich, S, Tobin, RC, Villani, C. (in press). *SELTMP 2013: The Great Barrier Reef National Survey*.
- Government Statistician (2013). *Population Growth Highlights and Trends, Queensland 2013*. Government Statistician, Queensland Treasury and Trade.
- Lawrence, K, van Putten, I and Fernbach, M (2010). Profiles of Recreational Use of the Great Barrier Reef Marine Park. Research Publication No. 101, Great Barrier Reef Marine Park Authority.
- Maritime Safety Queensland (2007). 2006 Recreational Boating Survey Report. Maritime Safety Queensland.
- Maritime Safety Queensland (2012). Recreational Ships. <http://www.msq.qld.gov.au/Registration/Recreational-ships.aspx>
- McInnes, KL (2006). 2004 biennial recreational fishing telephone survey of Queensland residents. Department of Primary Industries and Fisheries, Brisbane, Qld.
- McInnes, K, Taylor, S and Webley, J (2013). *Social, attitudinal and motivational recreational fishing survey*. State of Queensland, Department of Agriculture, Fisheries and Forestry.
- Office of Economic and Statistical Research (2008). Queensland Household Survey 2008. Summary Report prepared for the Great Barrier Reef Marine Park Authority, Office of Economic and Statistical Research.
- Queensland Transport (2011). Unpublished data, accessed via http://www.gbrmpa.gov.au/corp_site/key_issues/tourism/management/gbr_visitation/rec_vessels/
- Queensland Treasury and Trade (2012). Population Age and Gender: Regional Queensland, 2011. Australian Bureau of Statistics.
- Recreational Vehicle Manufacturers Association of Australia (2012). Industry Stats. http://www.rvmaa.com.au/6154/INDUSTRY_STATS/
- Rolfe, J, Gregg, D and Tucker, G (2011). Valuing local recreation in the Great Barrier Reef, Australia. Environmental Economics Research Hub Research Report No. 102, Crawford School of Economics and Government, Australian National University, Canberra.
- Stoeckl, N., Birtles, A., Valentine, P., Farr, M., Curnock, M., Mangott, A., & Sobotzick, S. (2010). Understanding the social and economic values of key marine species in the Great Barrier Reef. MTSRF Project 4.8.6(a) Final Report, June 2010 with a section focusing on marine turtles. Final Project Report to the Marine and Tropical Sciences Research Facility (MTSRF): James Cook University, Townsville (76pp.).

SELTMP 2013:

Recreation in the Great Barrier Reef

References

- Sutton, SG (2006). An Assessment of the Social Characteristics of Queensland's Recreational Fishers. CRC Reef Research Centre Technical Report No. 65, CRC Reef Research Centre, Townsville.
- Sutton, SG (2006b). Understanding Recreational Fishers' Participation in Public Consultation Programs. *Human Dimensions of Wildlife*. 11(5): 329-341.
- Sutton, SG (2008). Recreational fishers' perceptions about the costs and benefits of the 2004 Great Barrier Reef Marine Park Zoning Plan. Report to the Marine and Tropical Sciences Research Facility, Reef and Rainforest Research Centre Limited, Cairns.
- Sutton and Tobin (2009) Recreational fishers' attitudes towards the 2004 rezoning of the Great Barrier Reef Marine Park. *Environmental Conservation* 36(3): 245-252
- Sutton, SG, Dew, K and Higgs, J (2009). Why do people drop out of recreational fishing? A study of lapsed fishers from Queensland, Australia. *Fisheries*. 34(9): 443-452
- Synergies Economic Consulting Pty Ltd (2012). Measuring the contribution of the Outdoor Recreation Sector in Queensland. A report prepared for the Queensland Outdoor Recreation Federation.
- Taylor, S, Webley, J and McInnes, K (2012). 2010 Statewide Recreational Fishing Survey. State of Queensland, Department of Agriculture, Fisheries and Forestry, Brisbane.
- The State of Queensland (Queensland Treasury and Trade) 2012. Census 2011: Diversity in Queensland. <http://www.oesr.qld.gov.au/products/bulletins/diversity-qld-c11/diversity-qld-c11.pdf>.
- Tobin, RC, Beggs, K, Sutton, SG and Penny, A (2010). Baseline Socio-Economic Data for Queensland East-Coast Inshore and Rocky Reef Fishery Stakeholders. Part C: Recreational Fishers. Technical Report No. 7. FRDC Project No. 2007/048, Fishing and Fisheries Research Centre, Townsville, Australia.

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