



Cooloola Recreation Area Sustainable Visitor Capacity and Management Study

Technical Appendices

May 2022

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Disclaimer

The information and recommendations provided in this document are made on the basis of information available at the time of preparation and the assumptions outlined throughout the document. While all care has been taken to check and validate material presented in this report, independent research should be undertaken before any action or decision is taken on the basis of material contained in this report. This report does not seek to provide any assurance of project viability and EarthCheck accepts no liability for decisions made or the information provided in this report.

1. Introduction

This document contains a consolidated summary of detailed research conducted during the study including reports of the community, permit holder and business & tourism surveys. Subject matter is incorporated under a series of individual appendices.

Appendix 1: Key issues emerging from stakeholder consultation

User Demand

- A consistent trend of growing day visitor and camping usage, particularly at Teewah Beach, Rainbow Beach and Double Island Point. VAP and camping permits numbers are showing consistent growth.
- How the area is used – surveys suggest that 4WD, camping, scenic drive, fishing, swimming are the main activities/drivers of demand.
- Who is using the area – a wide range of users from SEQ postcodes but the area has become dominated by a younger demographic for day visitors and camping. There has been strong feedback from stakeholders that current types/scale of activity is not consistent with a National Park setting. Domination by this demographic is thought to be a principal reason for growing behavioural issues.
- Peak demand is not limited to public and school holidays at Cooloola – many weekends generate a similar range of management challenges.
- Some evidence from stakeholder surveys of conflicts between user groups and expectations, for instance, those seeking quite enjoyment of the natural setting, family groups, local residents whose concerns are in part about quality of life/amenity, and younger demographics seeking to have a good time in a beach setting.
- Without getting tied up in the semantics of what is defined as tourist activity, peak usage is predominantly an SEQ recreation issue rather than a tourism issue – demand is predominantly from SEQ from visitors who know the region well. The incentive to visit for the vast majority of these visitors is unlikely to be driven in large part by tourism promotions or marketing initiatives – existing knowledge, word of mouth, social media are more likely to be the drivers. The issue is predominantly one of local/regional demand.

How is Cooloola Recreation Area valued by stakeholders/ what is important?

- Consensus across community, business and permit holder stakeholder groups is that conservation and enhancement of environments and habitats, followed by maintaining community access for leisure/immersion in nature are the most important attributes. Economic attributes were ranked lowest.
- Teewah/ Noosa Northshore communities feel strongly that peak capacity and visitor behaviour is detrimental to their amenity. Scale of activity on the beach, inappropriate behaviour (partying, noise), speeding and dangerous driving, and queuing traffic/noise nuisance are the main issues identified.
- Rainbow Beach stakeholders recognise the issues associated with large visitor volumes but are concerned that capacity constraints would be detrimental to economic wellbeing.
- Conservation stakeholders have expressed a range of concerns, focusing on excessive peak period visitor numbers, and environmental damage to habitats and species.
- Consensus across QPWS internal stakeholders that the current situation is not sustainable and that management actions supported by senior management are required to achieve a more appropriate balance across conservation, cultural, social, and economic objectives.

- Traditional Owners have not commented on detail on individual sites but have made a clear statement that volume of visitor usage and visitor behaviour is a concern – they are supportive of measures that address these issues.
- Business input is broadly in line with community and permit holders regarding capacity and management issues. Businesses/CTOs do not contribute significantly to the capacity/volume of issues compared to camping and day visitor usage, but there is discomfort from both QPWS and businesses perspectives on how aspects of the commercial permitting system are working. There is recognition from business stakeholder of capacity issues at peak times.
- While volume/capacity issues generated by businesses are not as pressing as the issues associated with peak day visitation, latent or unmet demand from commercial permits in place does need to be considered within over sustainable management,
- There is a fundamental issue about types of activities that are compatible with a national park setting - from the party style feeling now associated with beach camping, to jet skis, and the types of commercial activities that are compatible, including scenic flights as well as other activities that generate vehicle movements

Environmental issues

- Annual QPWS site health checks indicate a growing number of serious concerns noted at sites - littering, bush toileting, dune damage etc. It is reasonable to suppose that behavioural issues and visitor volumes are both contributing factors to the issues identified.
- Some concerns noted on impact of vehicle traffic on invertebrates on the beach
- Stakeholder surveys strongly noted damage to habitats and littering as an issue at peak times, while also being prevalent throughout the year at Teewah Beach/ camping zones and Double Island Point.

Behavioural Issues

- Stakeholder surveys indicate universal recognition for a range of behavioural issues at peak times. Sentiment from project research has been stronger on the need to address behavioural issues than capacity issues.
- Strong recognition from stakeholders on a range of traffic and non-traffic related safety and behavioural issues, noise, user conflict, speeding, dangerous driving etc at peak times.

Compliance Issues

- Review of the number plate recognition camera system indicates significant levels of non-compliance (VAPs).
- Consensus among stakeholders that compliance measures need to be implemented as part of overall sustainable management. Ideally, technological improvements in the camera system should allow automated issuing of penalties.

Capacity and Visitor Volumes

- Strong QPWS staff, community, permit holder and business recognition of capacity issues/ too many visitors, particularly at peak times for the area and particularly at Teewah Beach, Teewah camping zones, and Rainbow Beach/lagoons. The impact of peak volumes is perceived to be felt in terms of local amenity, visitor experience and degradation of habitat/conservation values. The ferry from Noosa North Shore is a particular pinch point, where backlogs of traffic and associated behavioural issues are readily visible, although

these issues can be prevalent outside peak weekends – the ferry at peak daily times act as a natural pinch point.

Support for management actions

Stakeholder sentiment provides a credible basis to consider a range of additional measures which address capacity, usage, and visitor behaviour. From the perspective of achieving an appropriate balance across economic, environmental, cultural, and social factors.

Appendix 2: Summary of Community, Business and Permit Holders Surveys

This section of the report presents a summary of survey responses, highlighting areas where there was consensus or differentiation in views across the three stakeholder groups¹. Individual reports for the three surveys provide additional detail.

The results of the three surveys can be described as pro-management in sentiment, with strong recognition of the values and attributes of Cooloola Recreation Area, an overall recognition that management action is required, and being supportive of a range of potential management options, including examining capacity limits for daily visitor/vehicle numbers at peak periods. There is a stronger degree of consensus across the three respondent groups than envisaged pre-survey.

Survey Timing

For a 4-week period over September and October, three surveys were distributed to local stakeholders:

- Cooloola User Survey (vehicle and camping permit holders over the previous 2 years).
- Cooloola Business and Tourism Survey (Commercial Tourism Operators (CTOs) in the area and broader tourism business community); and
- Cooloola Community Survey (residents – Gympie and Noosa Council areas).

The surveys have been instigated to fill gaps in evidence required to develop well-informed recommendations on carrying capacities and visitor management options.

The surveys cover overall sentiment towards Cooloola Recreation Area, as well as perspectives on a number of identified sites:

- Teewah Camping Area
- Double Island Point, Beach, and Lighthouse
- Rainbow Beach/ lagoon area
- Teewah Beach
- Upper Noosa River

Survey Response Levels

Across the three surveys, a total of 2,270 responses were received:

- Community survey 1,490
- Business and tourism survey 63
- Permit holders/ user survey 717

Survey Questions

The surveys aimed to identify stakeholder values and views regarding current visitation and sentiment towards visitor management options and priorities.

The surveys had 4 principal components:

¹ NB: The Business and Tourism Survey has a different set of questions – comparison has been provided where relevant.

Table 1 - The four key areas within each of the three different surveys.

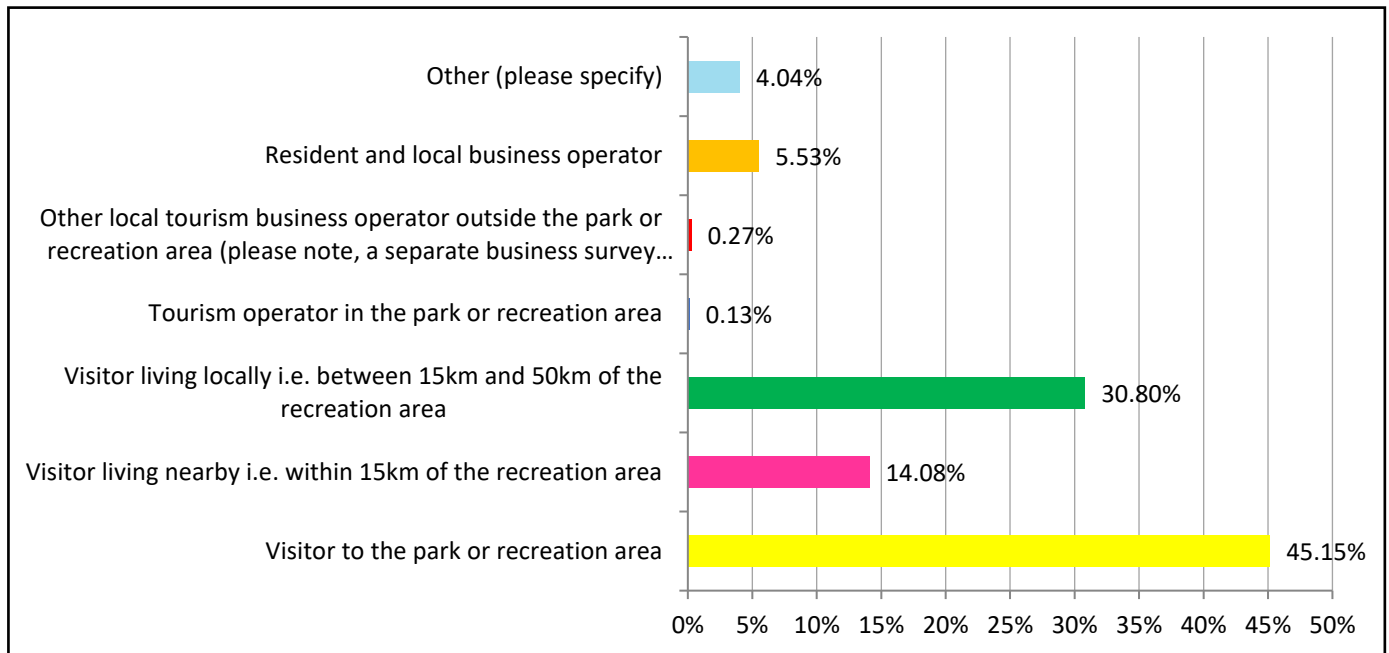
	Community	Business and Tourism	User
Section 1	About you	About Your Business	About You
Section 2	Your visits to Cooloola Recreation Area.	Your thoughts on current tourism activity in Cooloola Recreation Area.	Your visits to Cooloola Recreation Area.
Section 3	Your thoughts on current tourism activity in Cooloola Recreation Area.	Your thoughts on future management of visitor activity in Cooloola Recreation Area.	Your thoughts on current tourism activity in Cooloola Recreation Area.
Section 4	Your thoughts on future management options for Cooloola Recreation Area.	Business opportunities in Cooloola Recreation Area.	Your thoughts on future management options for Cooloola Recreation Area.

SECTION 1 – ABOUT YOU

Q1

Description - The first question in each survey seeks information on the type of respondent completing the survey.

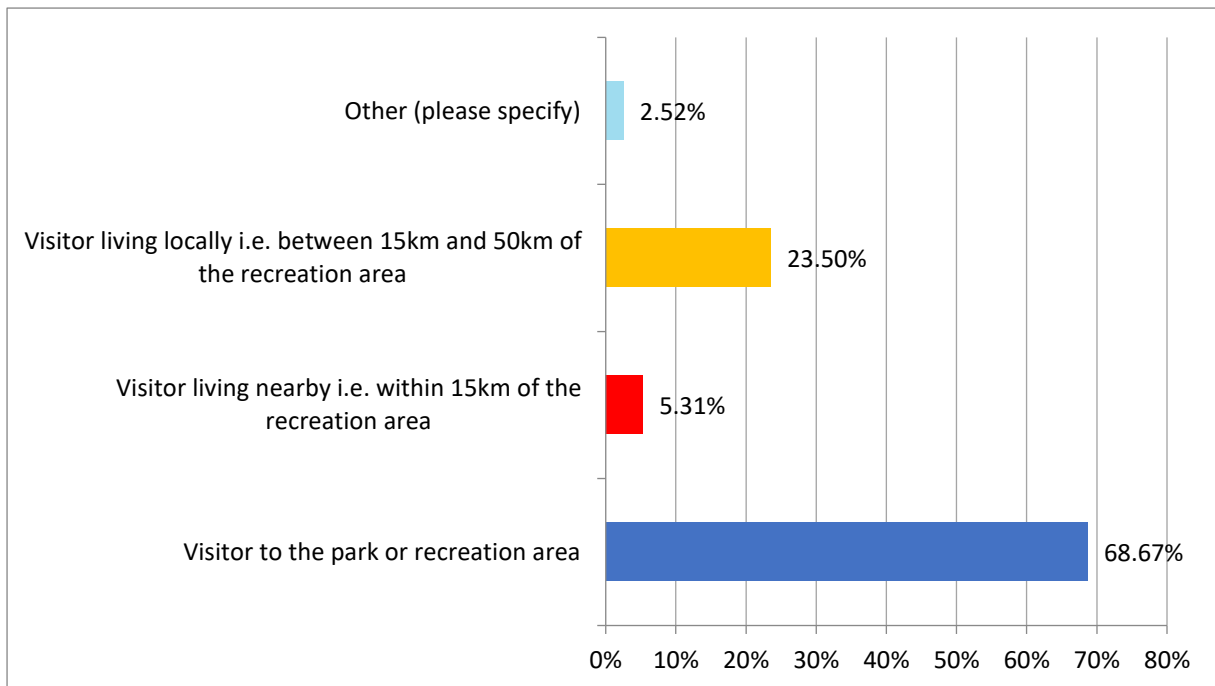
Community Survey - Q1. *Please select the category that best describes you.*



60 respondents (4.04%) selected “Other” as the category that best suited them. The main sub-categories within “Other” were identified as:

- Resident
- Environmental Group
- Volunteer
- Works in region
- Visitors from over 50km away from the recreation area.
- Friend or family member of resident
- Owns a holiday house in region
- Traditional Owner and Custodian

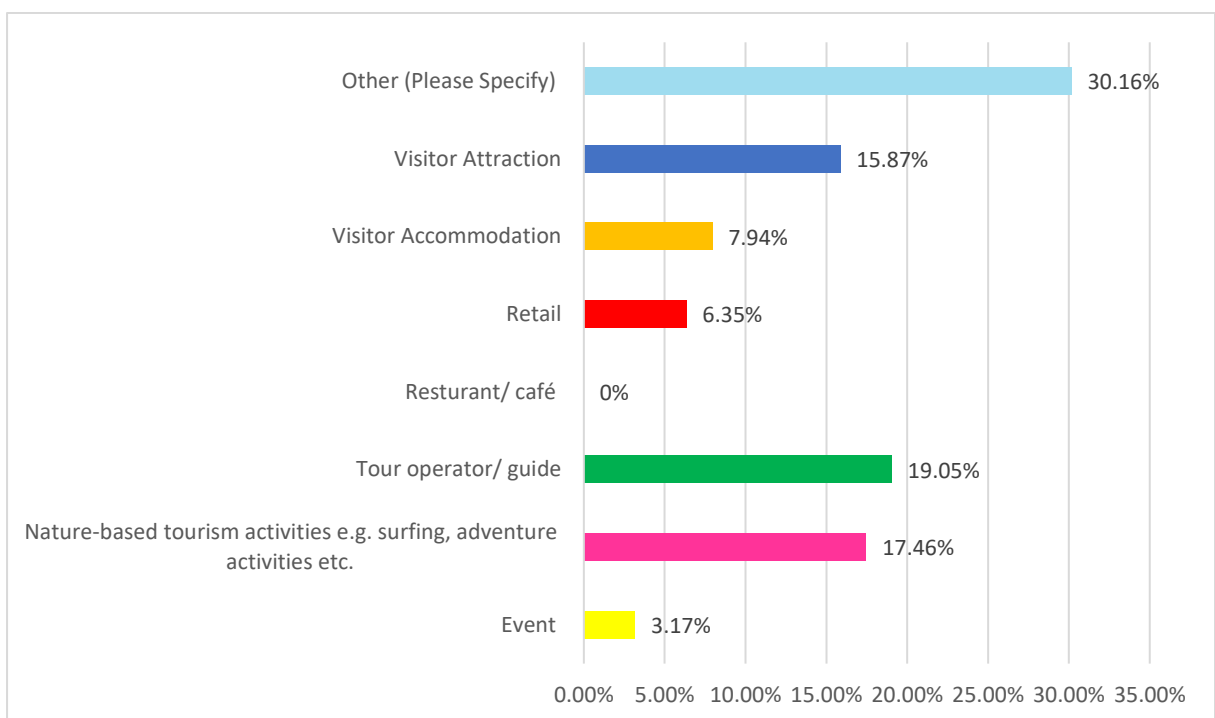
User Survey- Q1. Please select the category that best describes you.



There were 18 respondents (2.52%) that selected “Other” as the category that best suited them. The two sub-categories within the “Other” responses are identified as:

- Visitors living more than 50km away
- Resident

Business Survey - Q1. Please select the category that best describes your business.



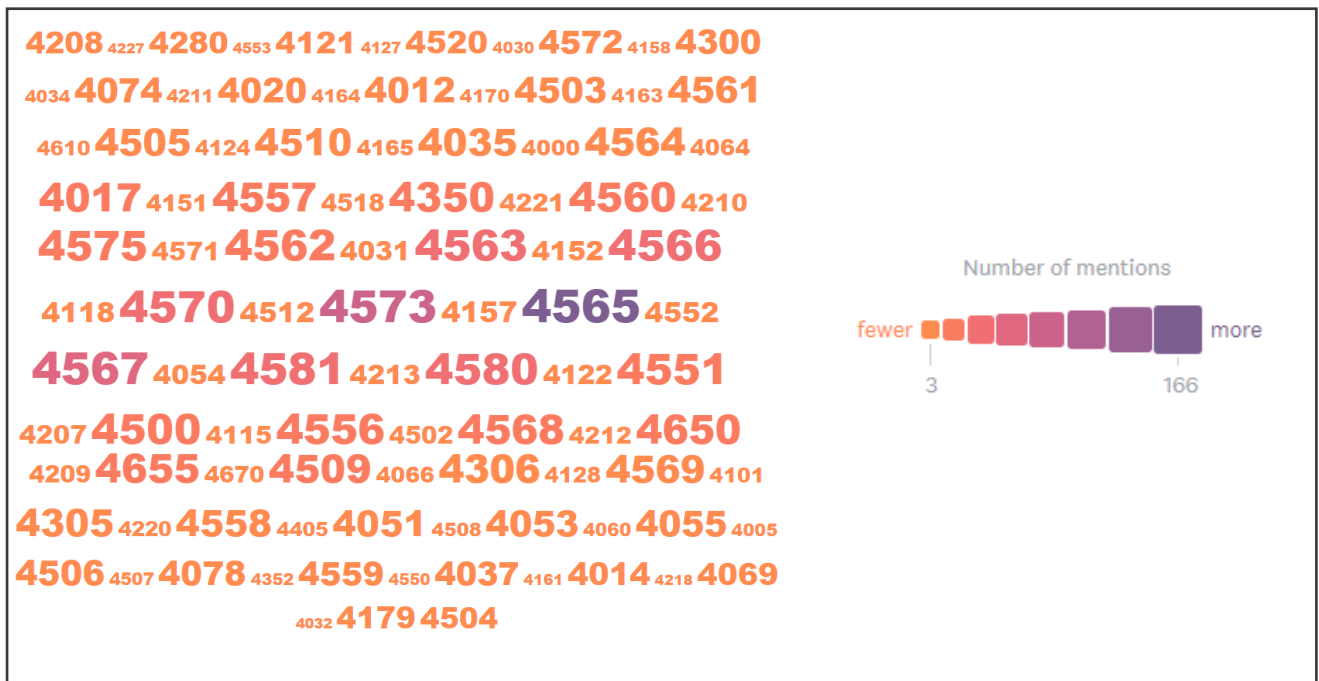
There were 19 respondents (30.16%) who selected “Other” as the category that best suited them. Table 2, below, summaries the categories that best describe these businesses.

Weddings	Retail sales on the beach	Driver Education	Artist	Cleaning
Not for Profit	Retiree	Shipping	Service	Teacher
Property management	Water-based			

————— Q2 —————

Description – This question aims to gain a better understanding of where respondents are located.

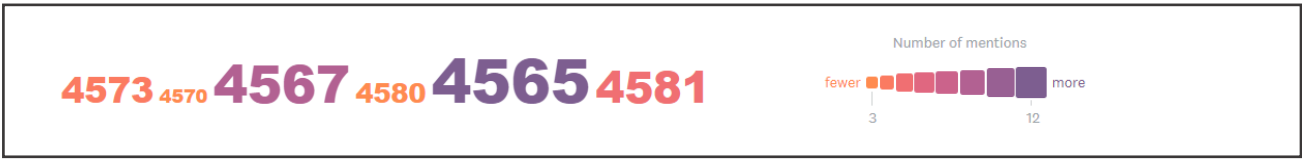
Community Survey - Q2. *What is the post code for your normal place of residence?*



User Survey - Q2. *What is the post code for your normal place of residence?*



Business Survey - Q2. *What is the post code for your business's principal location?*



Overview of Responses - For both the community survey and the business survey, the postcode with the most responses is 4565 (with 166, and 12 responses, respectively). This postcode includes the areas of: Tewantin, Teewah, Ringtail Creek, Noosa North Shore, Lake Cootharaba, Coorharaba, Cooroibah, Boreen Point and Boreen. For the user survey, the postcode with the largest response is 4551, with 26 responses. This postcode includes the areas of: Aroona, Battery Hill, Bells Creek, Caloundra, Currimundi, Dicky beach, Golden Beach, Kings Beach, Little Mountain, Meridan Plains, Moffatt Beach, Pelican Waters and Shelly Beach.

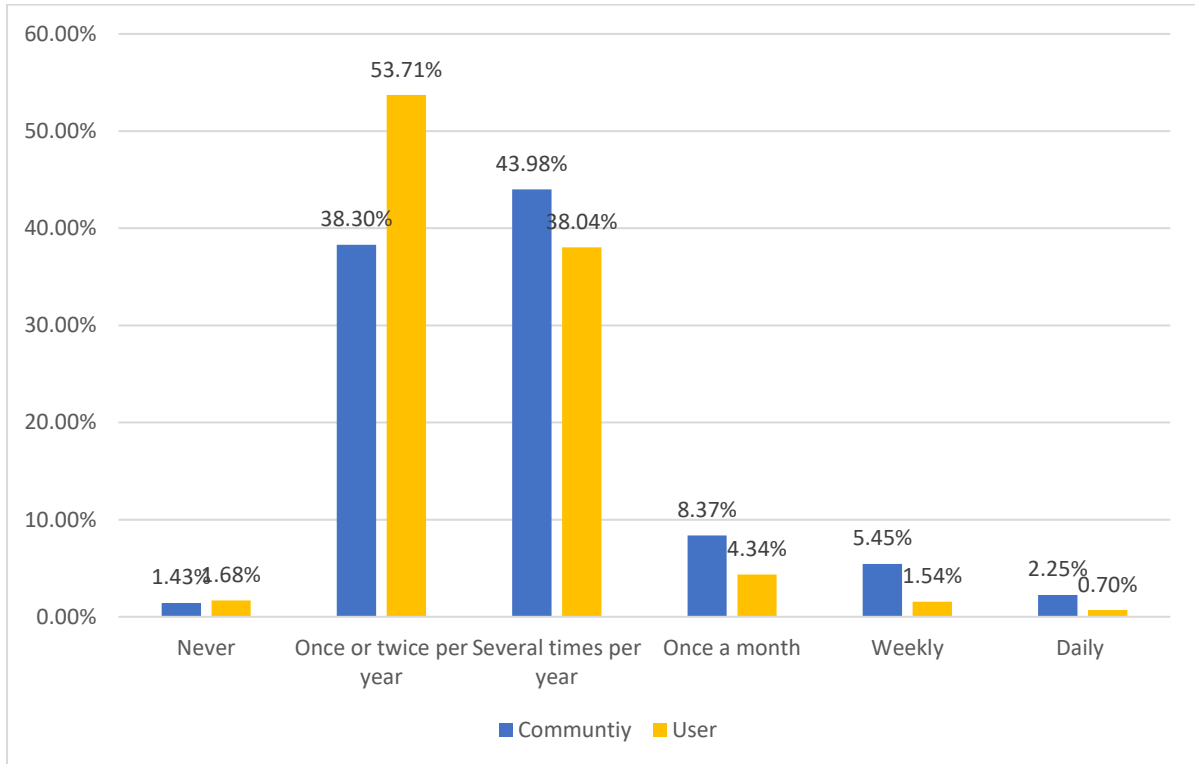
There was a wide spread of SEQ respondent locations, albeit the vast majority were from local Sunshine Coast and Noosa areas.

SECTION 2 - YOUR VISITS TO COOLOOLA RECREATION AREA

Q3

Description – A visit frequency question.

Community and User Survey – Q3. How often do you visit Cooloola Recreation area?



Please note that for the purpose of comparison, the Community and User survey results for Question 3 have been combined.

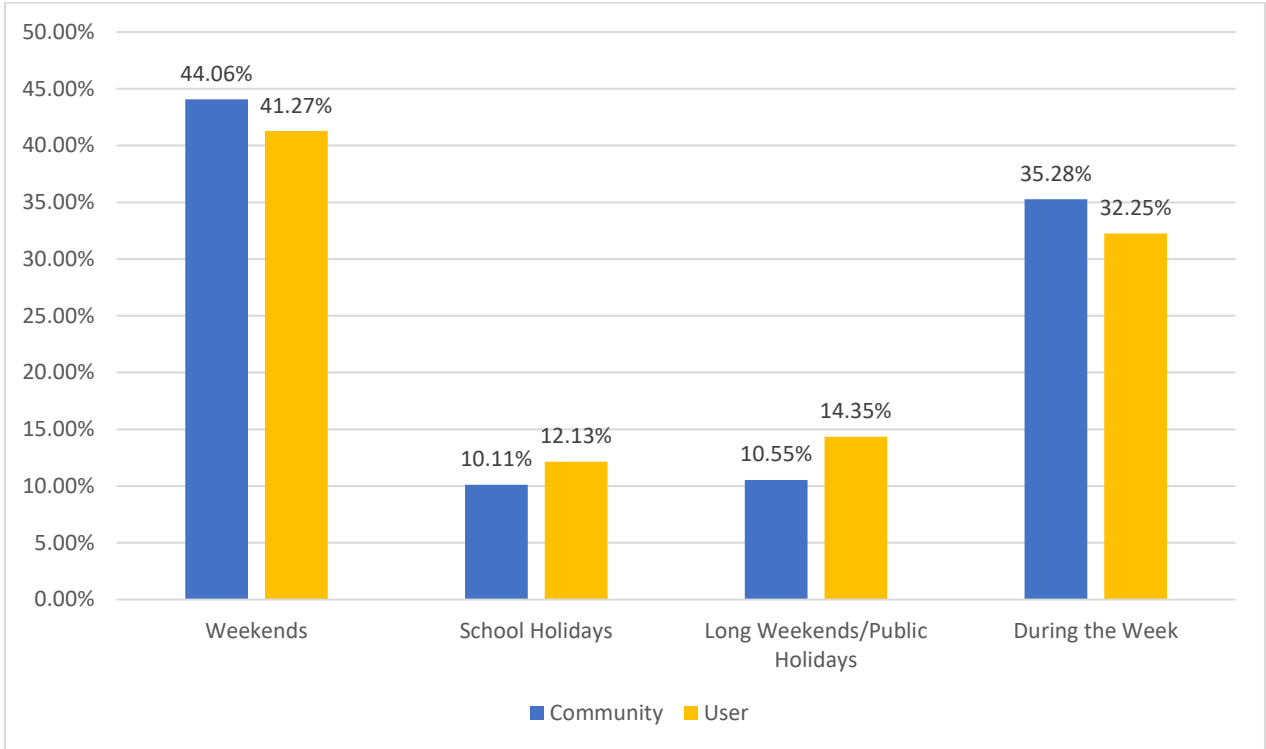
Overview of Responses – There was some differentiation between the Community and User surveys, with the largest community response being visiting ‘Several times per year’ (646 responses) followed by ‘Once or twice a year’ (566 responses).

For the user survey, the largest response was ‘Once or twice a year’ (384 responses) followed by ‘Several times a year’ (272 responses). This profile follows expectations, given the wider geographic spread of permit holder/user respondents.

Q4

Description – This question focuses on the typical time of visits to Cooloola Recreation Area.

Community and User Survey – Q4. When do you usually visit Cooloola Recreation Area? Please select the option where you visit most often.



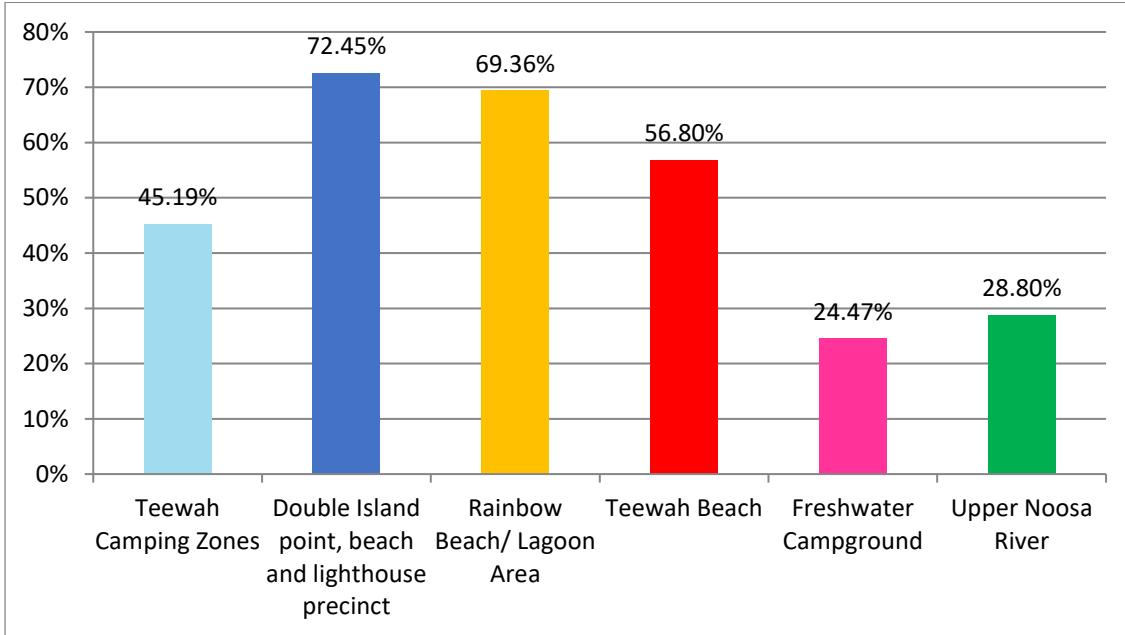
Please note that for the purpose of comparison, the Community and User survey results for Question 4 have been combined.

Overview of Responses - Both surveys had a similar response profile with the largest proportion of visitors at the weekends, following by during the week. The large proportion of mid-week visits is typical of a visitor base with many local visitors/ residents. In the “Weekends” and “During the Week” categories, the Community survey had higher results, whereas for the “School Holidays” and “Long Weekends/Public Holidays” the User respondents had a higher percentage. These results are likely because Community respondents are located closer to the recreation area, therefore have better access during the week, compared to users that are located further away and need to visit during holiday times.

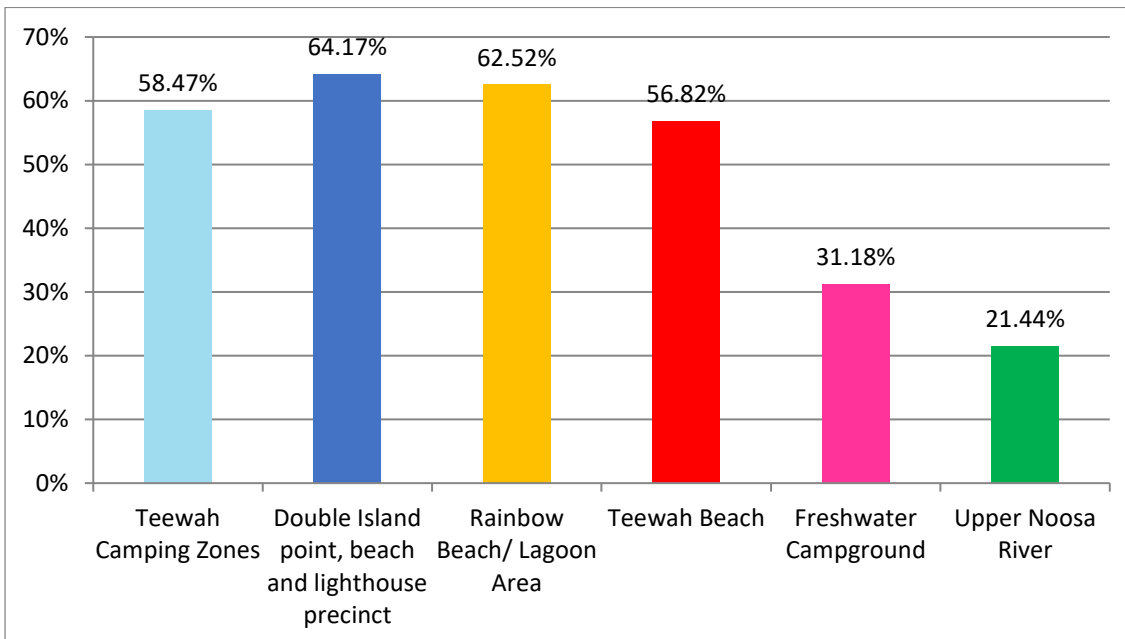
Q5

Description – This question seeks information on the Cooloola Recreation Area locations which respondents visited regularly.

Community Survey – Q5. Do you regularly visit any of the following locations in Cooloola Recreation Area? Please select all options that apply.



User Survey– Q5. Do you regularly visit any of the following locations in Cooloola Recreation Area? Please select all options that apply.

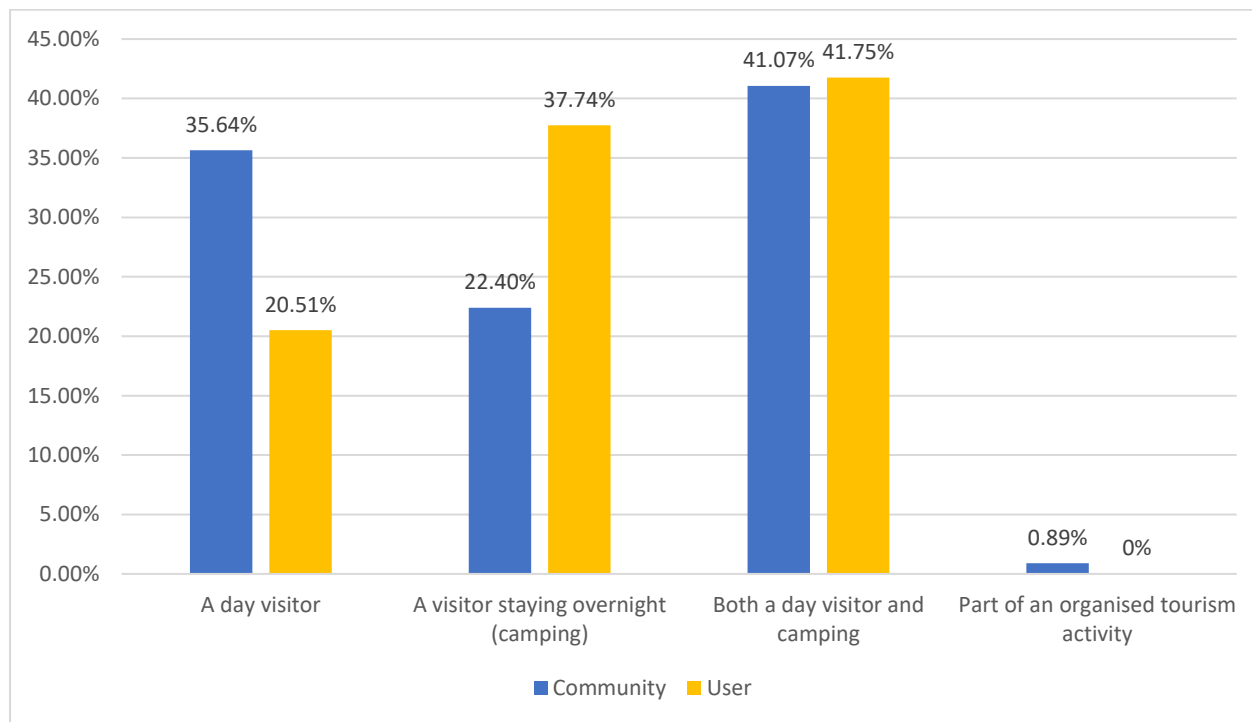


Overview of Responses - the Community and User surveys generated similar response profiles, with Double Island Point, Rainbow Beach/lagoons area and Teewah Beach being the most popular locations. As expected, Teewah Beach Camping Zone was popular with permit holders/users, given greater propensity to camp in this group.

Q6

Description – This question seeks information on whether respondents were day visitors or campers.

Community and User Survey - Q6. *When you visit Cooloola Recreation Area, is it usually as?*



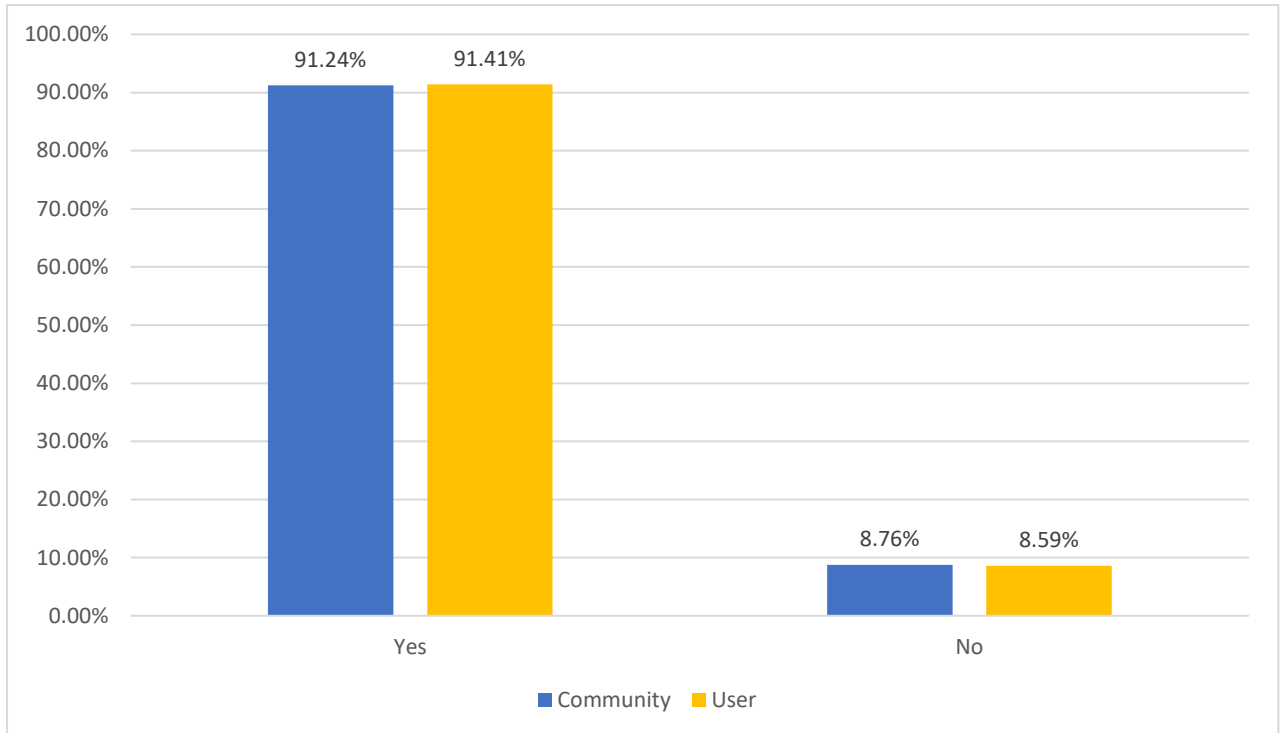
Please note that for the purpose of comparison, the Community and User survey results for Question 6 have been combined

Overview of Responses – The most prevalent type of respondent group in the Community and User surveys was those who are both day visitors and campers. Unsurprisingly, the permit holders/users group contained a larger proportion of campers, with day visits being more typical among community respondents.

Q7

Description – Awareness of beach driving speed limits

Community and User Survey – Q7. Do you know the speed limits on the beach at Cooloola Recreation Area?



Please note that for the purpose of comparison, the Community and User survey results for Question 7 have been combined

Overview of Responses – Over 91% of respondents in the Community and User surveys indicated that they were aware of beach driving speed limits.

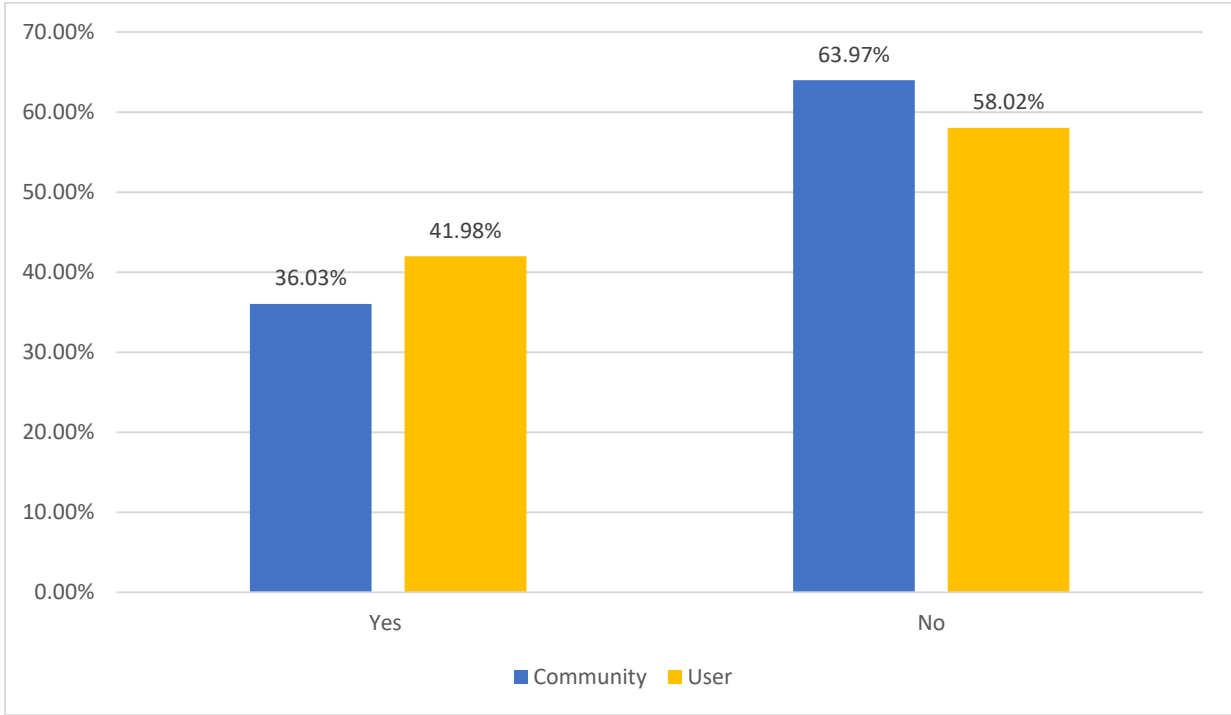
In open responses to the question, there were several frequently mentioned perspectives:

- Insufficient signage of speed limits.
- Respondents who had completed the Great Walk indicated that they felt unsafe walking along the beach due to the speed of the passing vehicles.
- The general sentiment of comments indicated that respondents felt that beach speed limits were too high.

Q8

Description – A question relating to a potential increase in frequency of visits to Cooloola Recreation Area over the previous 12-month period (COVID-19 impact).

Community and User Survey – Q8. *Have you visited Cooloola Recreation Area more often in the last 12 months?*



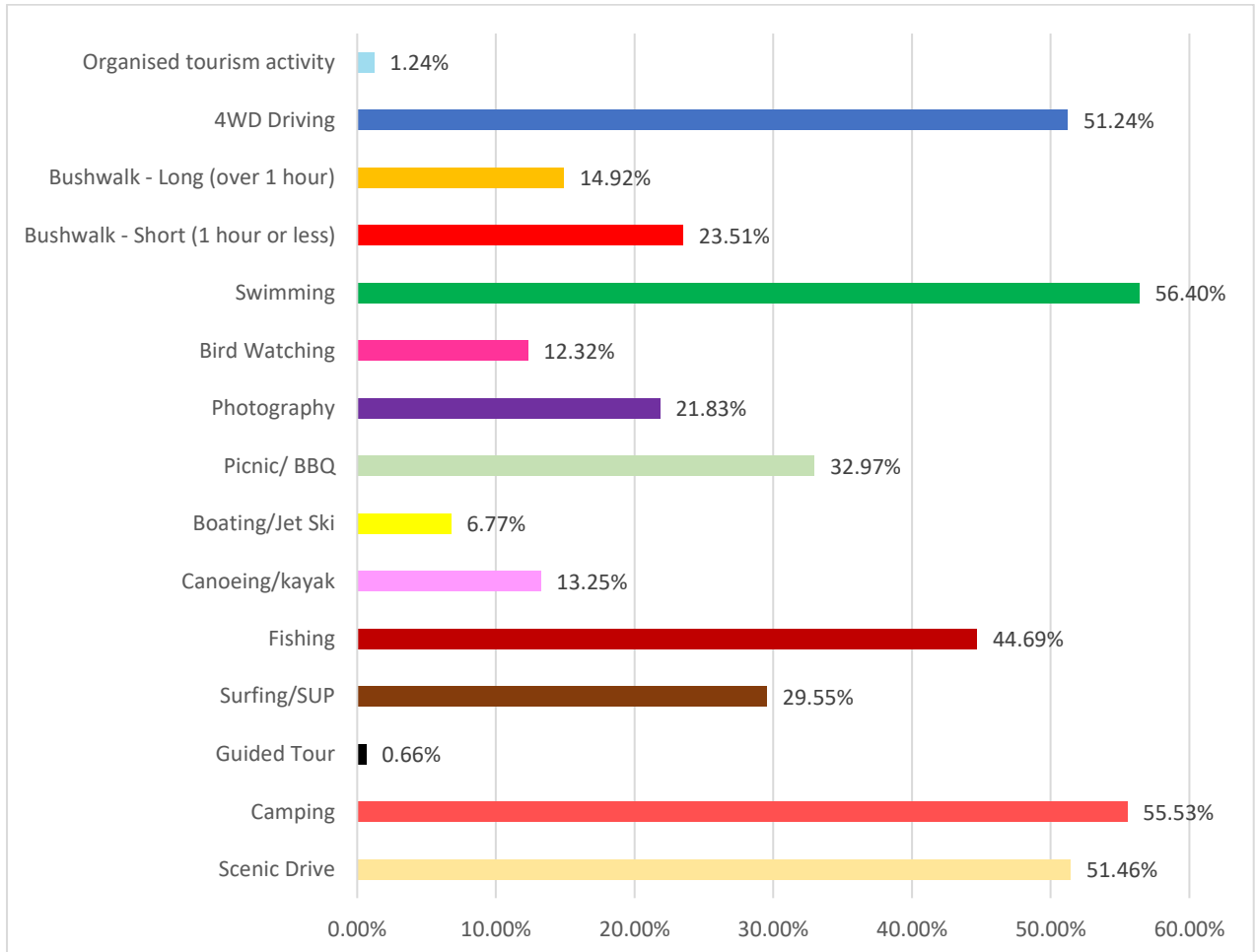
Please note that for the purpose of comparison, the Community and User survey results for Question 8 have been combined

Overview of Responses – Both the Community and the User survey results indicated that 63.97% and 58.02 % respectively, did not visit the Recreation Area more often in the last 12 months. Of the approximate 35% - 40% of visitors that did visit more frequently, there is a strong likelihood that was influenced by COVID travel restrictions and the related practicality of taking leisure trips which are closer to home.

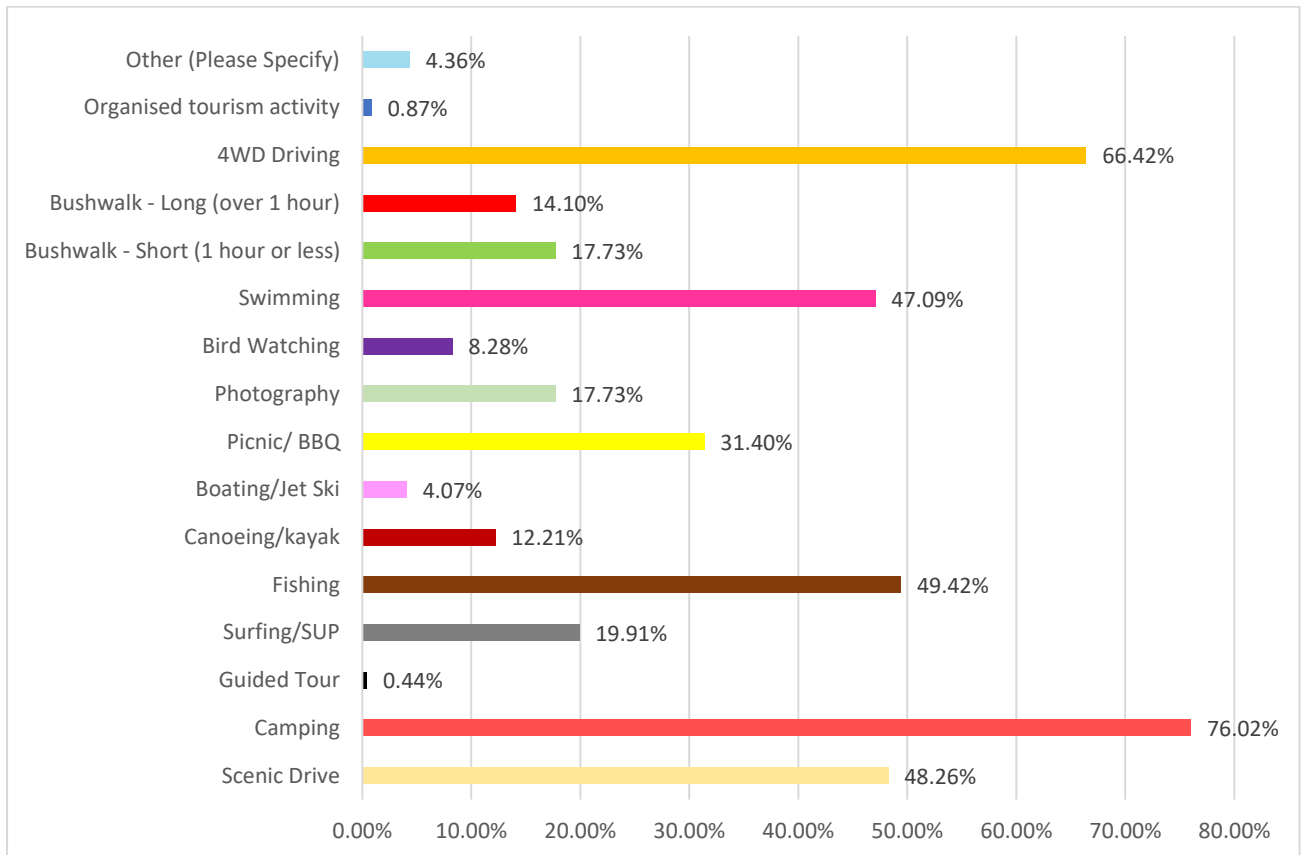
Q9

Description – Principal reason for visiting Cooloola Recreation Area

Community Survey – Q9. What are your main reasons for visiting Cooloola Recreation Area? Please select all options that apply.



User Survey – Q9. What are your main reasons for visiting Cooloola Recreation Area? Please select all options that apply.



Overview of Responses – For the community survey, the main reasons to visit were Swimming (56.4%), Camping (55.53%), Scenic Drive (51.46%) and 4WD Driving (51.14%). For the user survey, Camping was the most popular activity (76.02%) followed by 4WD Driving (66.42%) and Fishing (49.42%). The most notable difference is that camping is a more important activity driver for users/permit holders.

For the Community survey 12.01% selected “Other” and in the User survey the percentage that selected “Other” was 4.36%. Key sub-categories identified in this category (as respondents had to provide a comment) were:

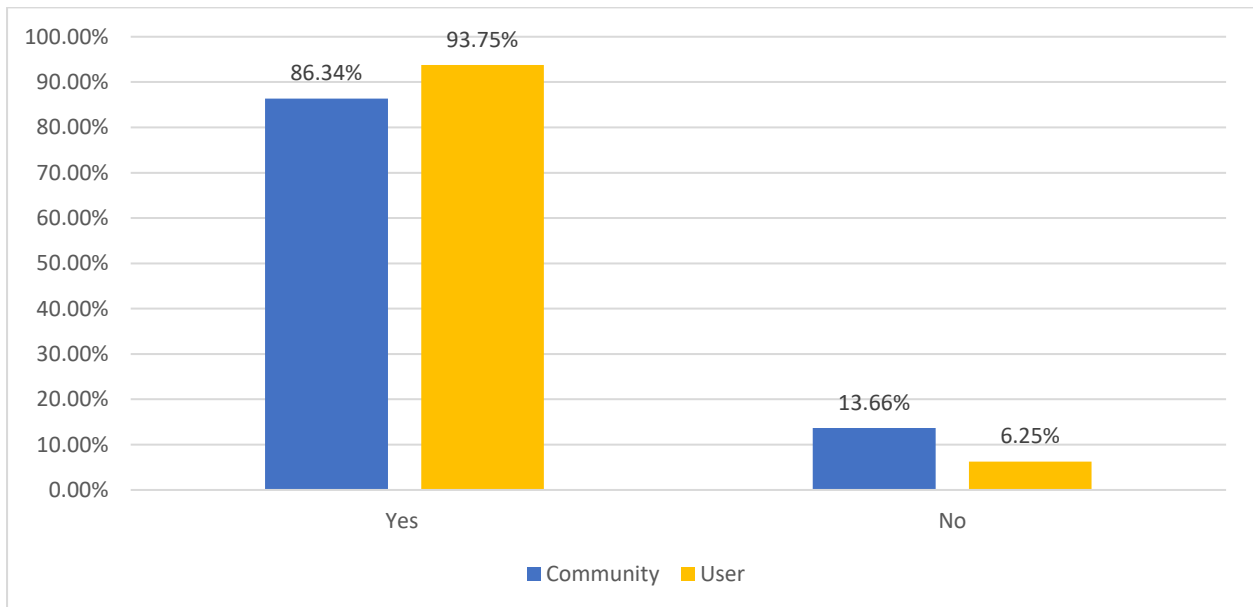
- Volunteering
- The Cooloola Great Walk
- Scouts
- Flora and Fauna
- Relaxation, Family time
- Stay in Holiday House
- Lighthouse maintenance with National Parks Association
- Educational groups
- For art (inspiration from landscape)
- Adventure activities e.g., paragliding and kitesurfing

SECTION 3 – YOUR THOUGHTS ON CURRENT TOURISM ACTIVITY IN COOLOOLA RECREATION AREA

Q10

Description – A question asking respondents if they would recommend Cooloola Recreation Area as a place to visit.

Community and User Survey – Q10. *Would you recommend Cooloola Recreation Area as a place to visit?*



Please note that for the purpose of comparison, the Community and User survey results for Question 10 have been combined

Overview of Responses – Both the Community and User surveys showed strong support for Cooloola Recreation Area as a place to visit – 86.34% for the Community Survey and 93.75% for the User Survey.

Participants were given the option to comment after answering this question. In the Community Survey 313 people chose to comment and, in the User Survey 108 chose to comment. The comments were from both people who answered “Yes” and “No” The dot points below illustrate the frequently mentioned perspectives in the comment section.

- Cooloola is recommended but only during the week, and not for families nor on weekends, public holidays, or school holidays.
- For the people who replied ‘no’ to the question, the most common reasons were due to the ban on fires and the overcrowding that is often experienced on the beach: “It has become too crowded, not enough facilities, it’s too expensive (commenting on combined price of camping and vehicle access) for what you get.”
- The overcrowding is making locals and visitors feel unsafe, especially families with children, and many visitors are disturbing the land making it hard for future guests to enjoy the landscape.
- Several residents said they would no longer recommend the area simply due to the fact there are already too many visitors, and that it should be enjoyed by residents.
- Concerns about the volume of inexperienced P-plate drivers.

- One suggestion noted that the area should be managed by the First Nations people to make sure it is sustained locally and environmentally.

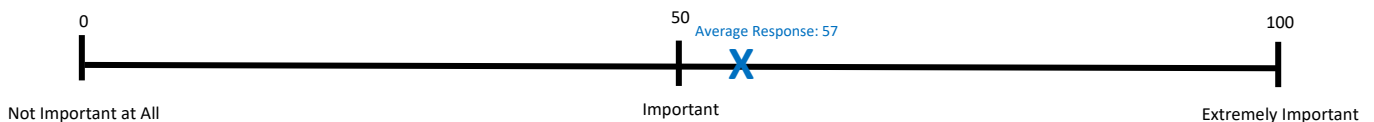
Q11-16²

Description – The following set of questions asked respondents’ views on the importance of a series of Cooloola Recreation Area attributes/values. Respondents were asked to note their responses on sliding scale – from ‘Not important at all’ to ‘Extremely important.’

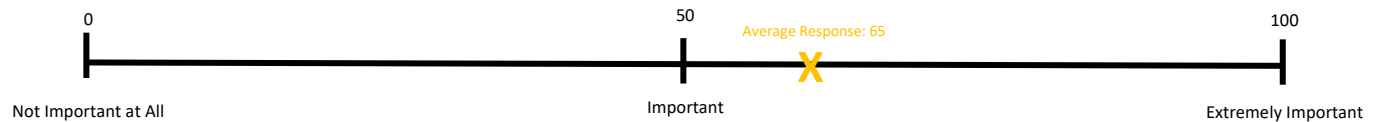
Economic Benefits

How important are the economic benefits to local communities generated by tourism visits to Cooloola Recreation Area? Please use the sliding scale to select the level of importance.

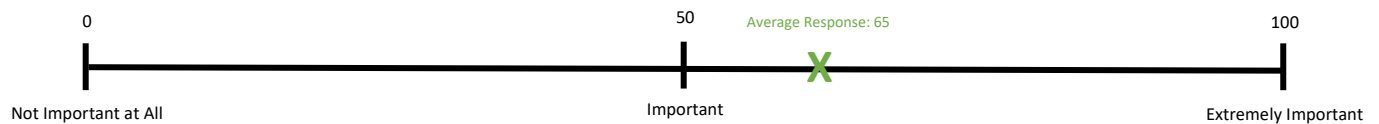
Community Survey (Q11)



User Survey (Q11)



Business Survey (Q3)



Overview of responses – there were moderate levels of support (57-65 on a 100-point scale) for the economic benefits of tourism – support at 65 was higher in the user and business surveys than with community stakeholders.

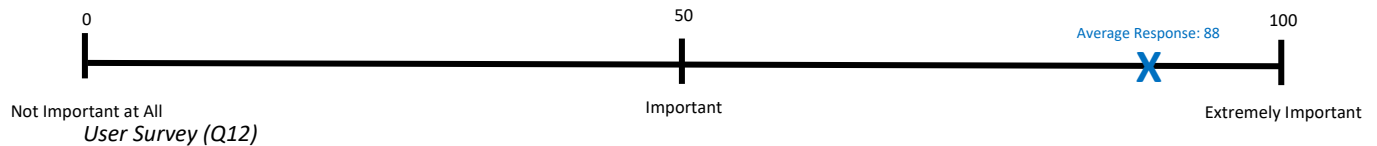
Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, the average number was 75, with 10 of 15 respondents rating the economic benefits as Very important to Extremely important (70-100).

² Please note that for the Business and Tourism Survey this set of Questions are Question 3 – 8.

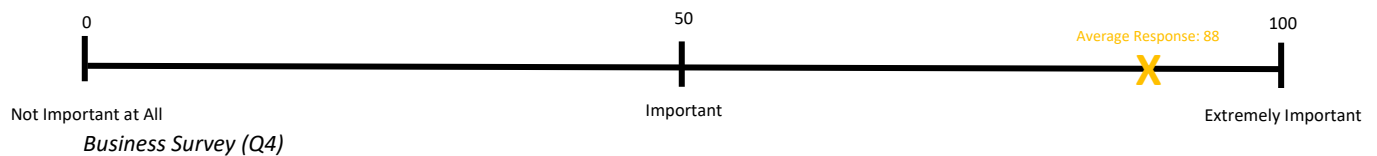
Conservation and enhancement of environments and habitats

How important is the conservation and enhancement of environments and habitats (such as coastal dunes, the beach etc.) in Coolooloa Recreation Area? Please use the sliding scale to select the level of importance.

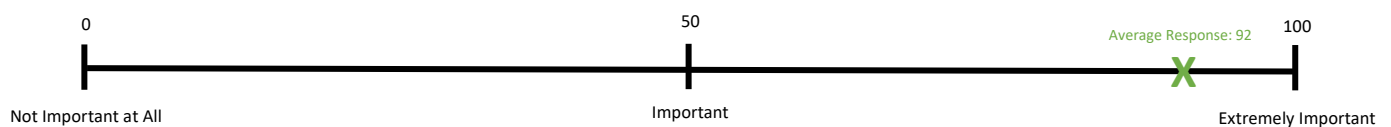
Community Survey (Q12)



User Survey (Q12)



Business Survey (Q4)



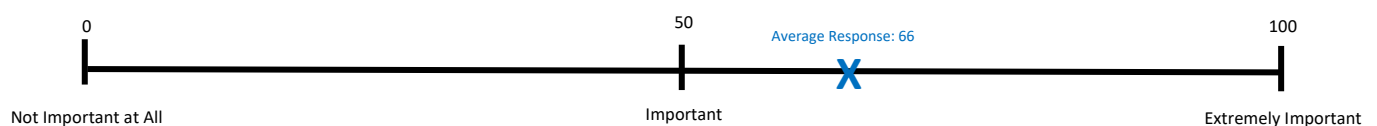
Overview of responses - All three surveys recorded strong support for enhancement of environment and habitats, with businesses recording the strongest support at 92 on the range 0 (Not important at all) to 100 (Extremely important). Among the 15 businesses holding a permit to operate a commercial tourism activity in Coolooloa Recreation Area, the average number was 89.4, with 13 of 15 respondents (86.7%) rating the Conservation and enhancement of environments and habitats as Very important to Extremely important (70-100).

Enhancement of environment and habitats received the strongest support of all the attributes evaluated.

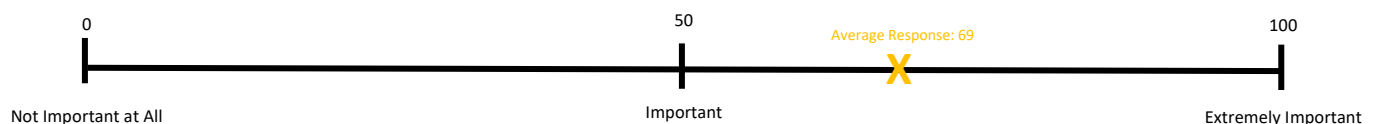
Conservation and enhancement of First Nations people's cultural values

How important is the conservation and enhancement of First Nations people's cultural values (e.g., Aboriginal heritage sites or sacred places) of Coolooloa Recreation Area? Please use the sliding scale to select the level of importance.

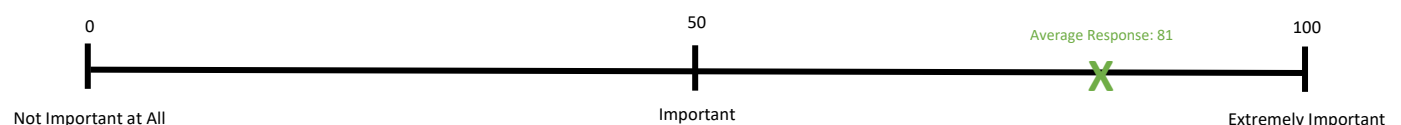
Community Survey (Q13)



User Survey (Q13)



Business Survey (Q5)



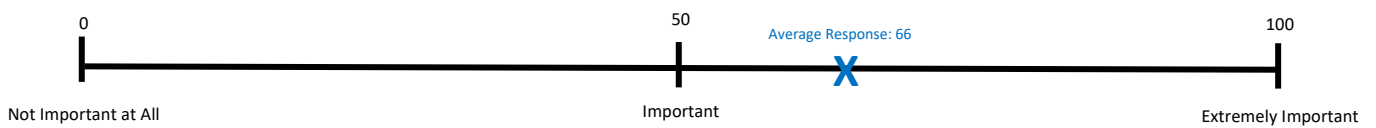
Overview of responses – The relative importance of Conservation and enhancement of First Nations people's cultural values as an attribute varied across the three surveys, from 66 for the community survey to 81 in the business survey.

Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, the average number was 81, with 13 of 15 respondents rating Conservation and enhancement of First Nations people's cultural values as Very important to Extremely important (70-100).

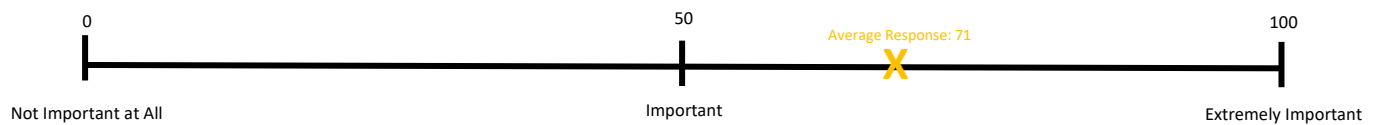
Conservation and enhancement of modern heritage

How important is the conservation and enhancement of modern heritage (e.g., shipwrecks or historical sites) of Cooloola Recreation Area? Please use the sliding scale to select the level of importance.

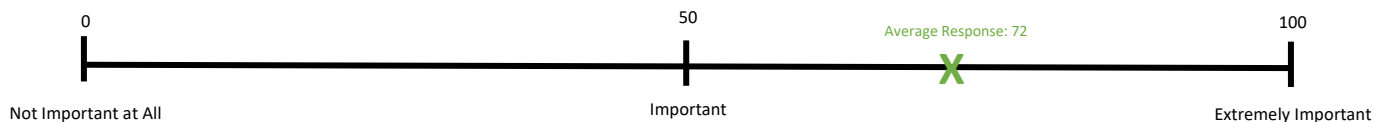
Community Survey (Q14)



User Survey (Q14)



Business Survey (Q6)



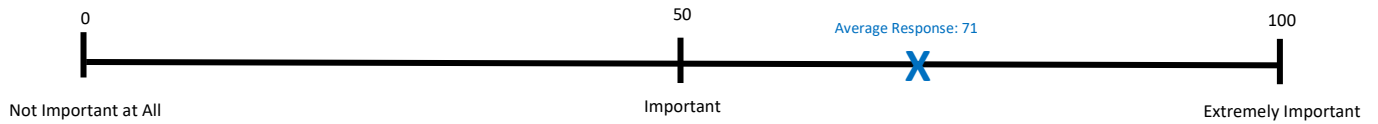
Overview of Responses – Responses across the three surveys were consistent (66-72) in a scale ranging from 0 (Not important at all) to 100 (Extremely important).

Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, the average ranking was 76.

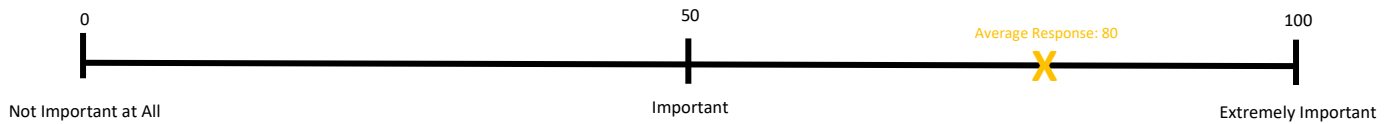
Community access to high quality recreational opportunities

How important is continued provision for community access to high quality recreational opportunities at Cooloola Recreation Area? Please use the sliding scale to select the level of importance.

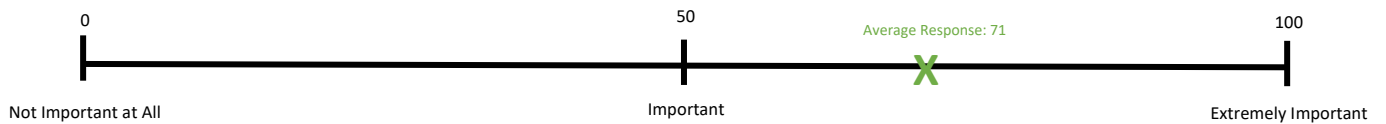
Community Survey (Q15)



User Survey (Q15)



Business Survey (Q7)



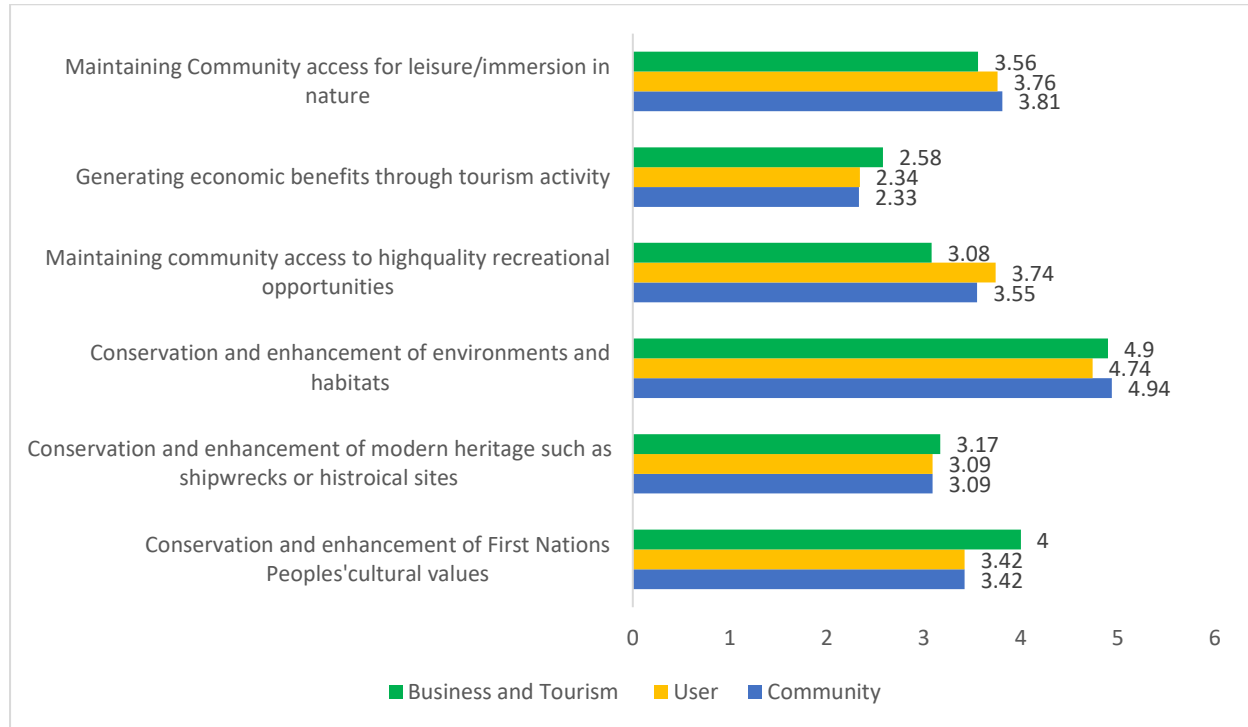
Overview of responses - Responses across the three surveys varied from 71 on a scale ranging from 0 (Not important at all) to 100 (Extremely important) in the community and business surveys, to 81 for user/ permit holder respondents.

Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, the average number was 78, with 11 of 15 respondents rating continued provision for community access to high quality recreational opportunities as Very important to Extremely important (70-100).

Ranking of Attributes and Values

Cultural, recreational, conservation and tourism/economic benefits are all parts of what makes Cooloola Recreation Area a special place for communities and visitors. Please rank the following (1 being the most important to you, and 6 the least important).

Community Survey and User Survey Q16, Business and Tourism Survey Q8



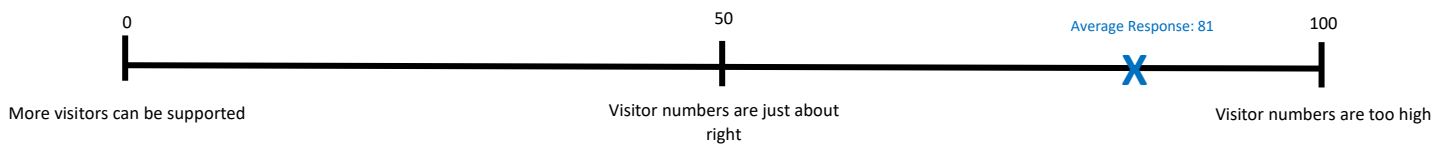
Overview of responses - Conservation and enhancement of environments and habitats, is perceived as the most important aspect of what makes Cooloola a special place in all three surveys (i.e., average score of 4.94 out of 6 in community survey, 4.74 in the user survey and 4.9 in the business survey). Generating economic benefits through tourism activity is considered as least important across all stakeholder groups (2.33-2.58 range).

————— Q17³ —————

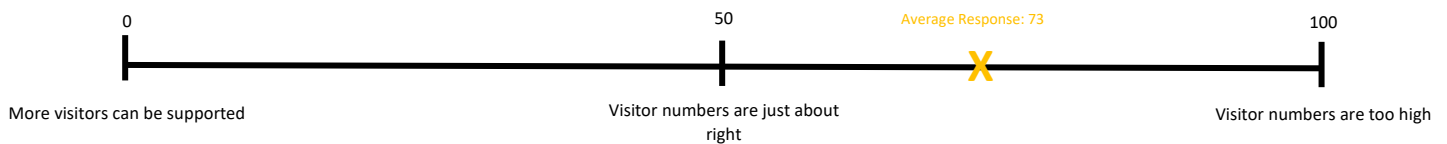
Description – The question seeks respondents’ views on how busy Cooloola Recreation is at peak times.

Q. Regarding the level of visitation to Cooloola Recreation Area at peak times (busy weekends, public holiday, school holidays etc.). Please use the sliding scale to identify what you think the current situation is regarding peak visitor numbers.

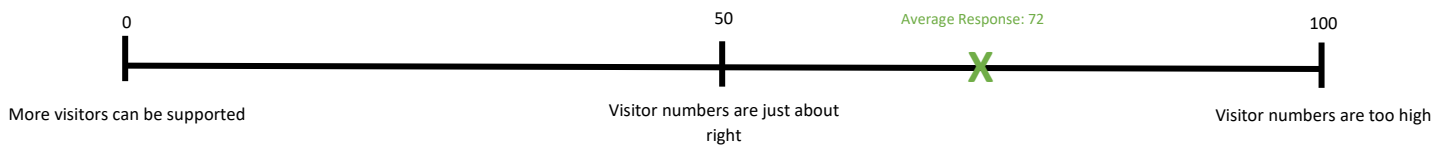
Community Survey (Q17)



User Survey (Q17)



Business Survey (Q9)



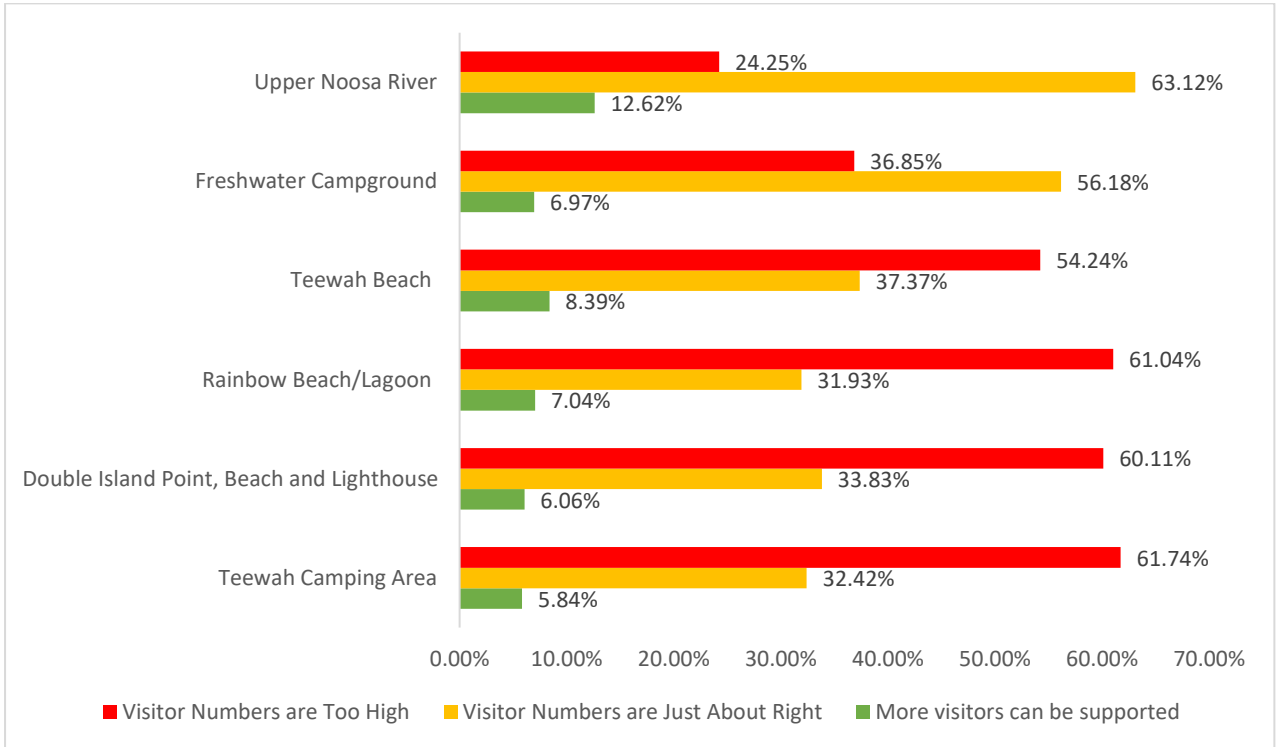
Overview of Responses – All three stakeholder groups recorded responses ranging from 72 to 81, suggesting consensus across the stakeholder groups that peak period visitation to Cooloola Recreation Area is too high – community respondents felt most strongly with an average of 81 on a 100-point scale, with the lowest response from businesses (72).

³ Please note that in the Business and Tourism Survey this is Question 9.

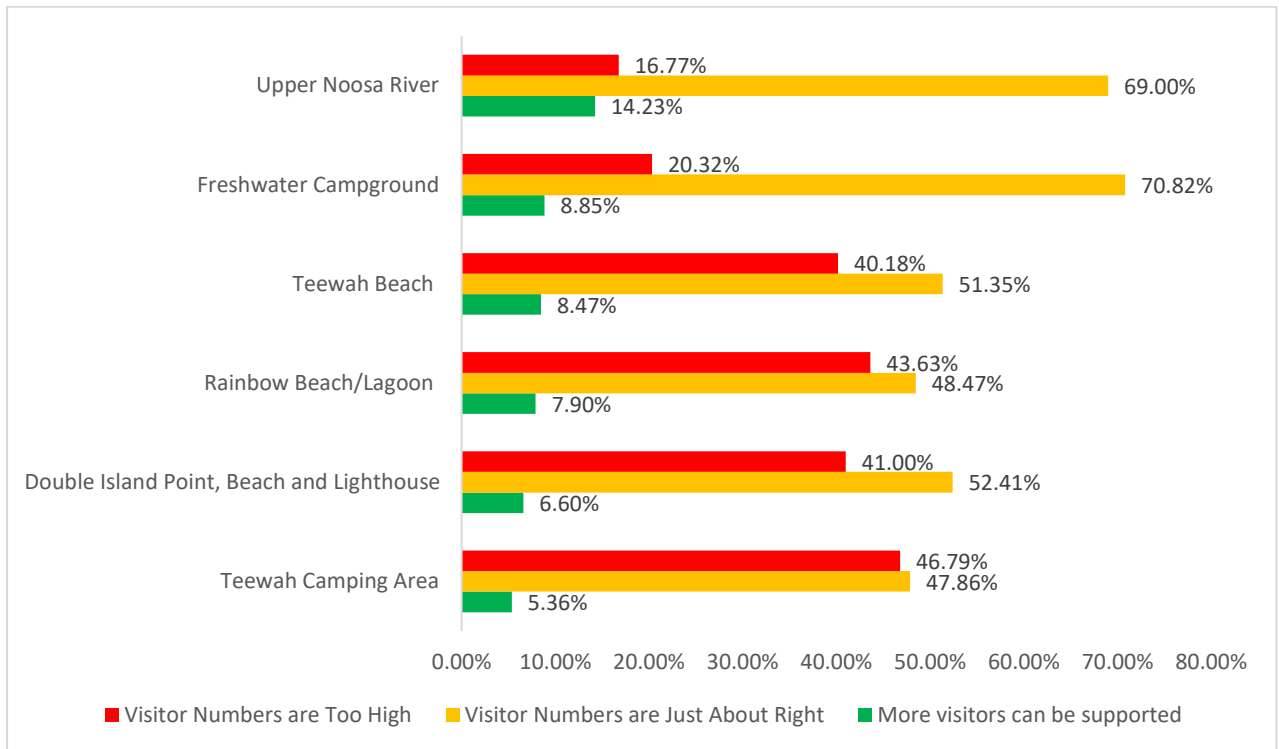
Q18

Description – The question seeks respondents’ views on how busy individual sites at Cooloola Recreation are at peak times.

Community Survey Q18 – For locations that you are familiar with, please select the statement about peak visitor activity that you most agree with.



User Survey Q18 – For locations that you are familiar with, please select the statement about peak visitor activity that you most agree with.



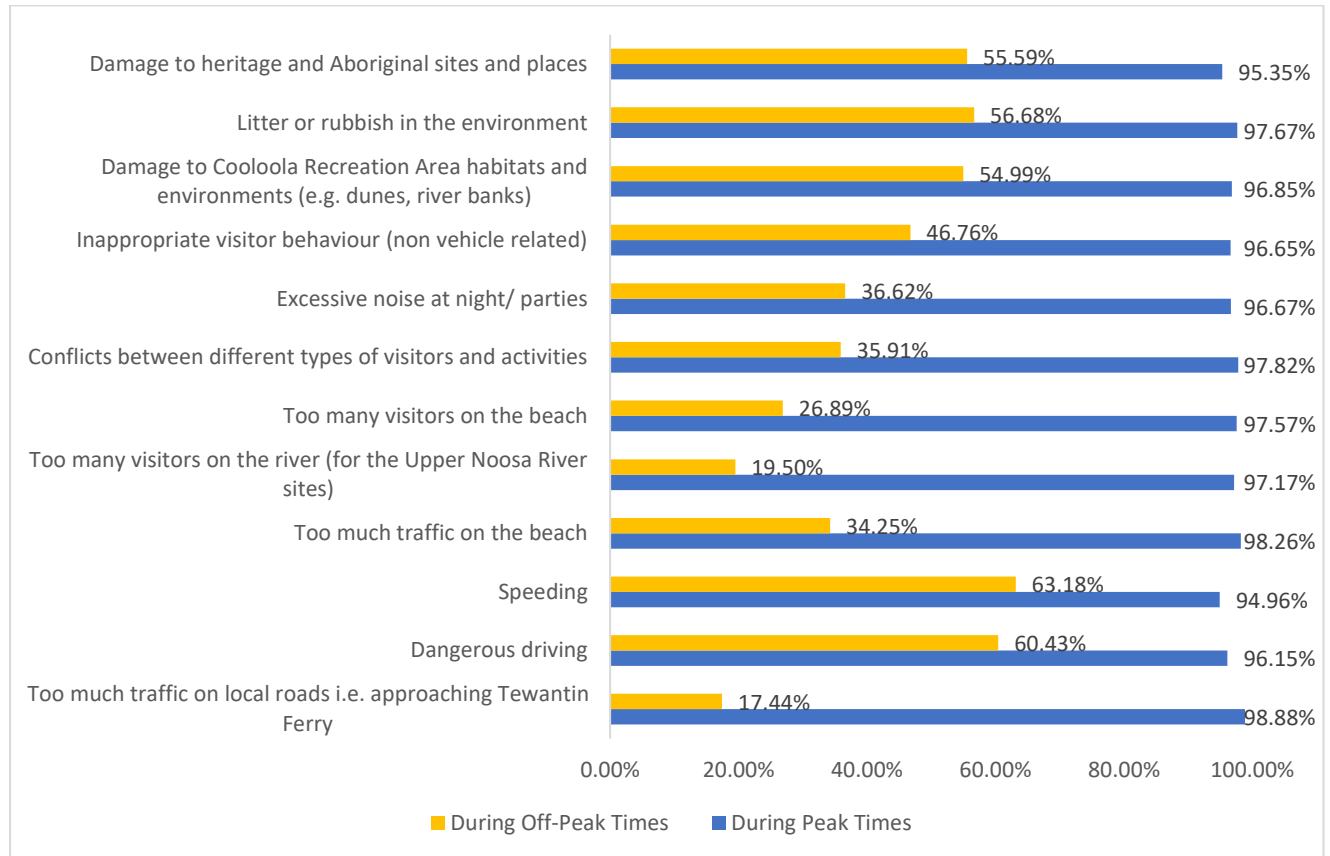
Overview of Responses – Community and user survey respondents varied in their perspectives on this question:

- Community respondents identified that 4 out of 6 locations (i.e., Teewah Camping Area, Rainbow Beach/ Lagoon Area, Double Island Point, Beach and lighthouse, and Teewah Beach) as “Visitor numbers are too high”. With over 54% agreeing with this statement at these four sites. “More visitors can be supported” had less than 9% for all sites, apart from the Upper Noosa River which had a total of 12.62%.
- In the User survey, all sites were identified as “Visitor numbers are just about right” by most of the respondents. There was a significant decrease in the percentage of people who believed that “visitor numbers were too high” In comparison to the Community survey.

Q19⁴

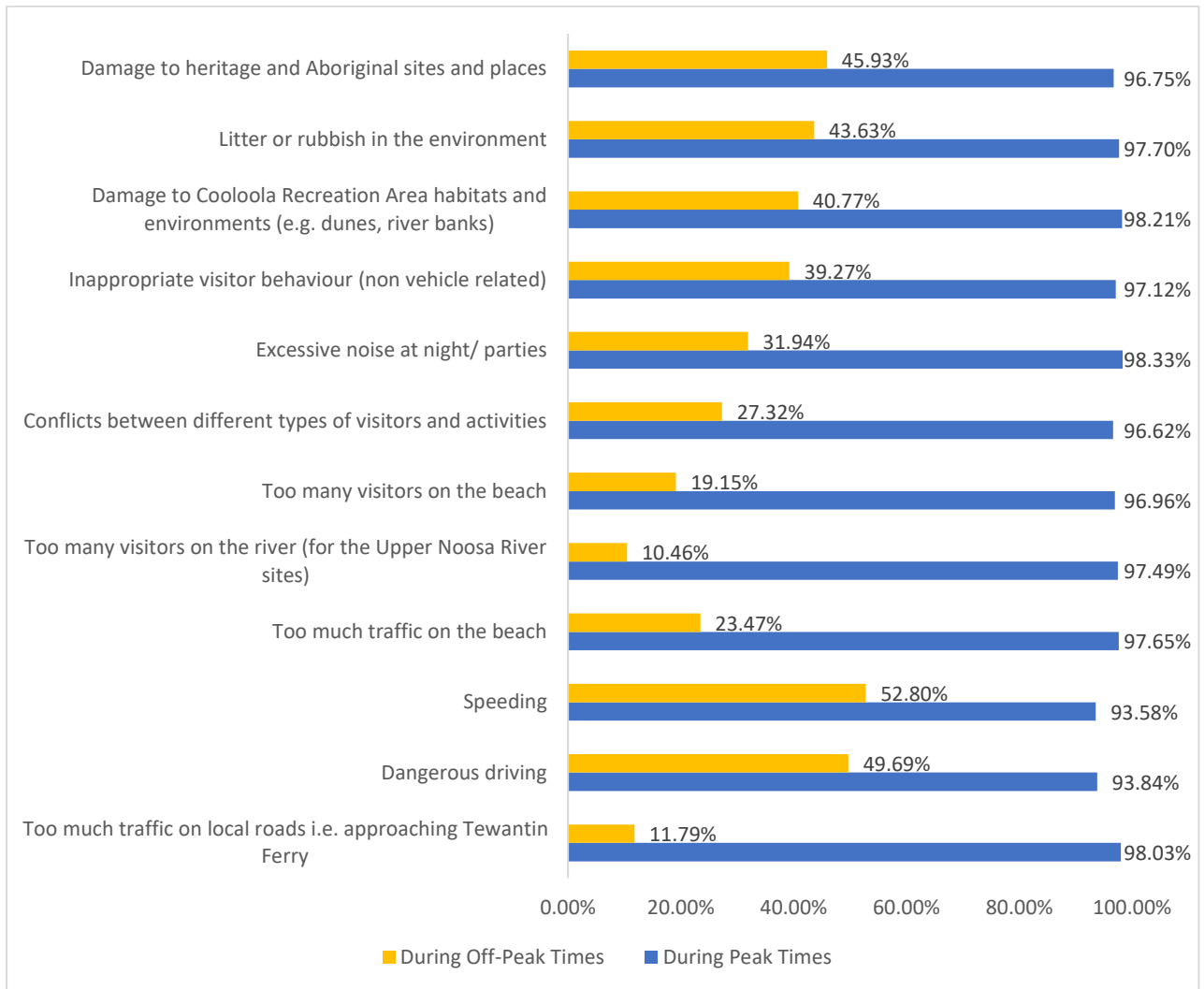
Description – The question seeks respondents’ views on visitor management issues that are occurring at Coolooloa Recreation Area during peak and off-peak times.

Community Survey Q19 - Do you think that any of the following issues occur at Coolooloa Recreation Area? Please select all options that apply.

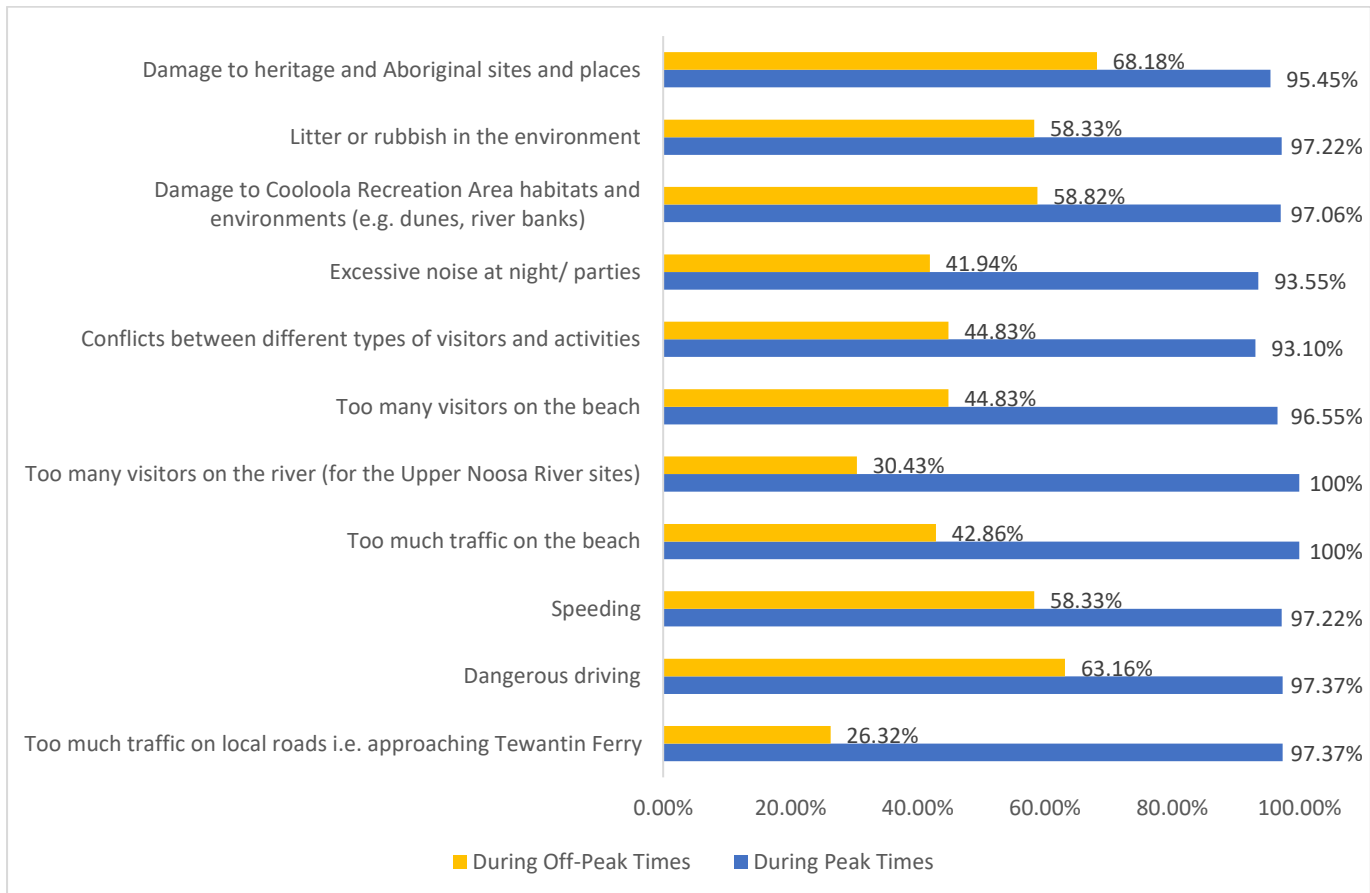


⁴ Please note that for the Business and Tourism survey this is Question 10.

User Survey Q19 - Do you think that any of the following issues occur at Cooloola Recreation Area?
 Please select all options that apply.



Business Survey Q10. Do you think that any of the following issues occur at Cooloola Recreation Area? Please select all options that apply.



Overview of Responses – Similar patterns of responses were recorded across the three stakeholder groups. Most community respondents identified that all issues were prevalent during peak periods, with at least 94% of respondents identifying all issues at peak times. Speeding and Dangerous driving were the most significant identified issues during off-peak.

From a permit holder/ user perspective, most respondents also identified that all issues were prevalent during peak times, with at least 93% recorded for all issues. Dangerous driving and Speeding had the highest number of responses for off peak times with 49.69% and 52.80% respectively.

From a business perspective, most respondents (93%) also identified that all issues were prevalent during peak times. Recognition of issues occurring during off-peak periods was higher among business stakeholders Damage to heritage and Aboriginal sites and places (68.18%), Dangerous driving (63.16%), Damage to Cooloola Recreation Area habitats and environments (e.g., dunes, riverbanks) (58.82%), Speeding (58.33%), and Litter or rubbish in the environment (58.33%) had the highest number of responses for off peak times. Among the 15 businesses holding a permit to operate a commercial tourism activity in the Cooloola Recreation Area, most respondents also identified that all issues are prominent during peak times.

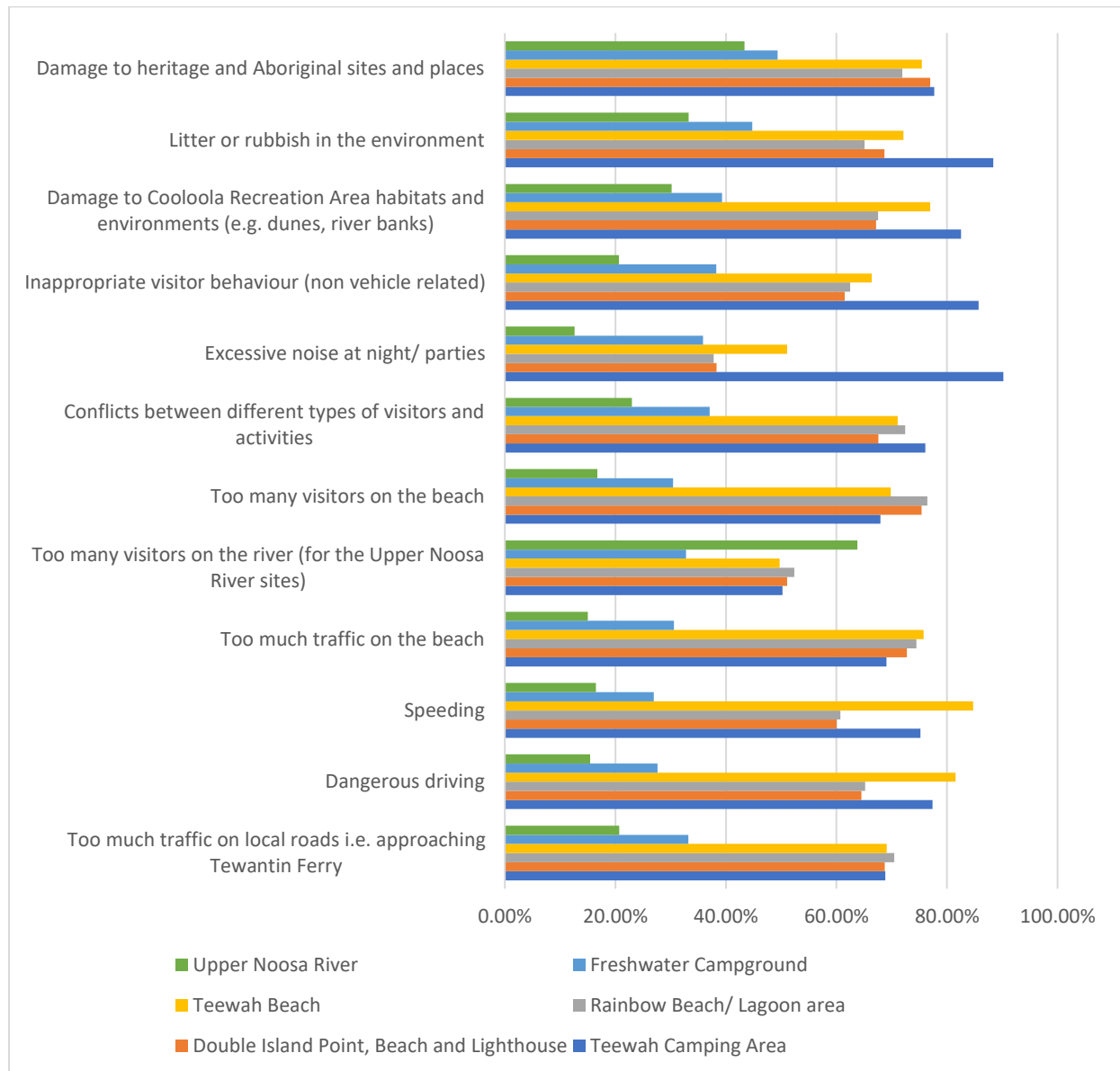
In open responses the Community survey had 122 comments, the User survey had 45 comments and, the Business and Tourism survey had 7 comments. Below is an outline of the most frequent perspectives provided in the comments section:

- The human damage to the natural habitat including the use of jet skis in designated marine sanctuaries.
- Some business respondents commented on the inexperienced 4WD users getting into difficulties, suggesting there should be a required safe beach driving course for first time beach drivers prior to getting a permit to enter the National Park.
- Lack of education about the site's heritage and dangerous driving.
- Highlighting facilities are not maintained at camps such as Cooloola Great Walk.
- Growing pollution levels from vehicles and jet skis.
- Concern about growing volume of jet skis at Double Island Point.
- Increased risk levels on beaches due to dangerous driving.
- Challenges with sufficient resources for monitoring and compliance.
- Potential to introduce reduced speed limits to mitigate the most severe safety risks.
- The number of 4WDs and camping on the beach needs to be significantly reduced.
- Some views were expressed that commercial tourist development in the National Park itself should not be happening due to the disregard for the environmental values of the area.
- One respondent indicated that restricting numbers or groups of people is not the answer: "It's not so much the number of people going up, it's often the type of people that are the key issues, which not much can be done about, if people don't want to listen and couldn't care less about the area." More police and rangers are needed to hand out heavier penalties.

Q20⁵

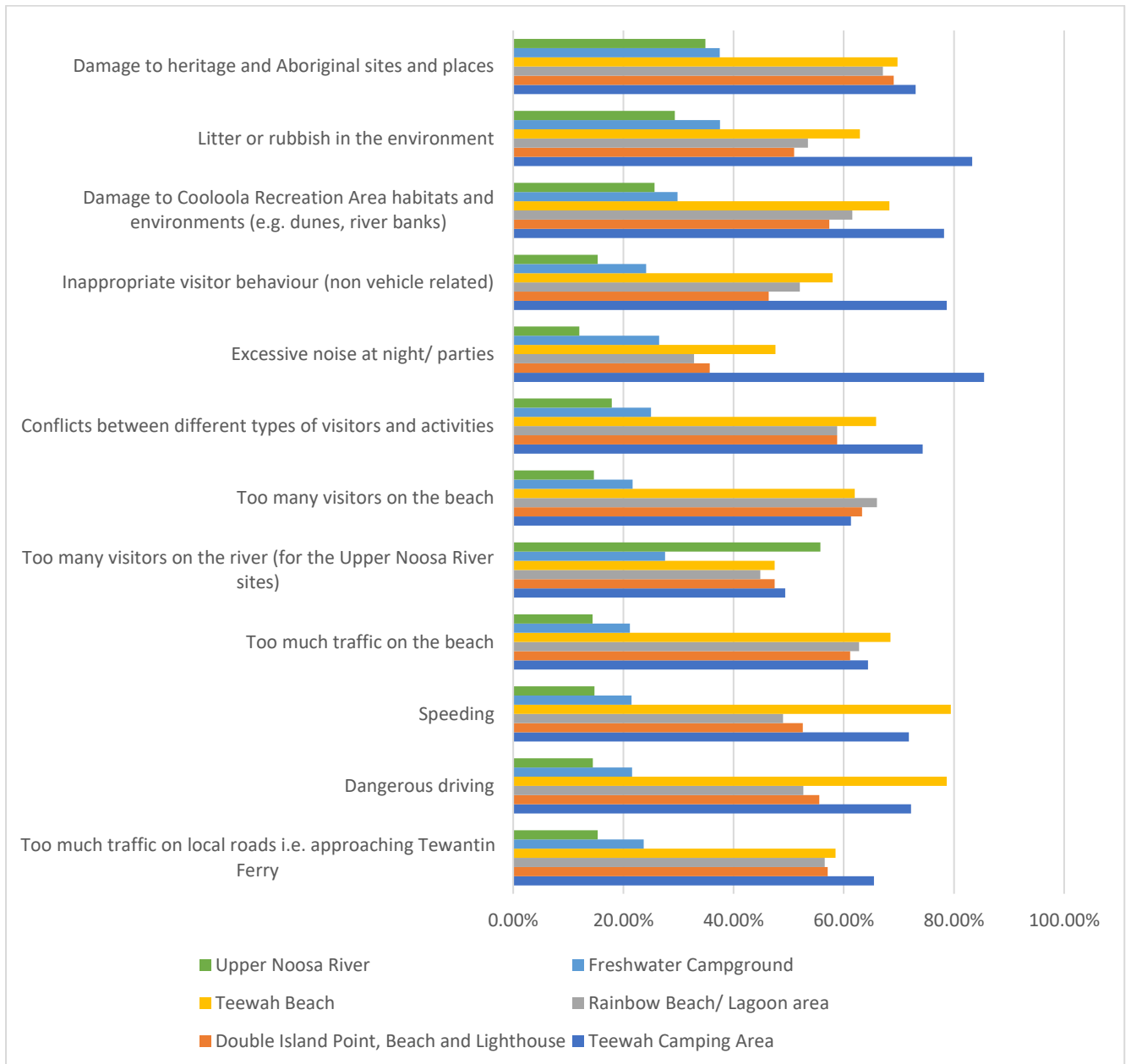
Description – The question seeks respondents’ views on visitor management issues that are occurring at individual Coolooloa Recreation Area sites.

Community Survey – Q20 For the Coolooloa Recreation Area sites and locations that you are familiar with, do you think any of the following issues occur.

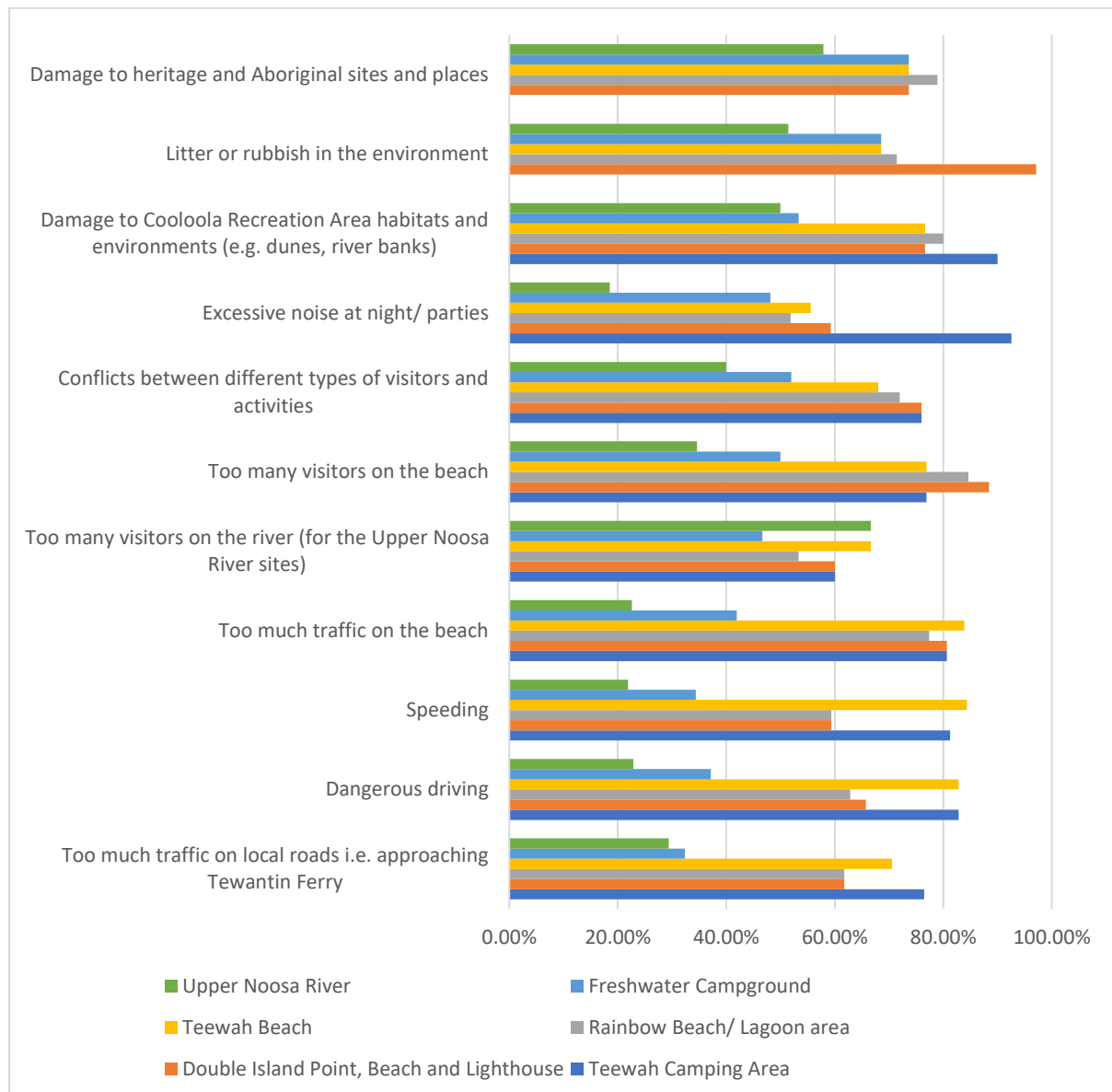


⁵ Please note that in the Business and Tourism survey this is Question 11

User Survey – Q20 For the Cooloola Recreation Area sites and locations that you are familiar with, do you think any of the following issues occur.



Business Survey – Q11 For the Coolooloa Recreation Area sites and locations that you are familiar with, do you think any of the following issues occur.



Overview of Responses - The results from this question indicate that Teewah Camping Area and Teewah Beach were seen as the areas with the most negative issues. Similar patterns of responses were recorded across the stakeholder groups. Excessive noise at night/ parties, Litter or rubbish in the environment, Inappropriate visitor behaviour (non-vehicle related), Speeding, Dangerous driving, Damage to Coolooloa Recreation Area habitats and environments (e.g., dunes, riverbanks), and Damage to heritage and Aboriginal sites and places were the most significant issues for communities for these two locations.

Rainbow beach/ lagoon area and Double Island Point precinct are also areas with significant issues noted such as: Too many visitors on the beach, Too much traffic on the beach, Conflicts between different types of visitors and activities, Damage to heritage and Aboriginal sites and places, and Too much traffic on local roads (e.g., approaching Tewantin Ferry).

The most significant issues for Freshwater Campground and the Upper Noosa River are: Too many visitors on the river (for the Upper Noosa River sites), Damage to heritage and Aboriginal sites and places, and Litter or rubbish in the environment.

Q21

Description – The question seeks respondents’ views on the three areas that they recommend improvements at Cooloola Recreation Area.

Community and User Survey – *Q21 What are the three main issues that concern you or could be further improved at Cooloola Recreation Area?*

The answers for this question have been categorised under several thematic areas. Similar patterns of responses were noted across these two stakeholder groups.

Theme	Comments
Camping	<ul style="list-style-type: none"> • Fires should be allowed. • More toilets available to campers. • Open new camping areas on Teewah to allow old sites to regenerate. • Reduce the number of campsites to meet demand or lower demand to meet the current number of campsites. • Follow a site-based camping structure similar to Inskip point or Bribie. • Parties at night-time that are disrupting other campsites, needs regulation. • Needs to be a cap on camping numbers. • Ballots for camping at peak times. • Illegal camping an issue – higher ranger presence or stricter permits. • People are not bush toileting appropriately. • Requirement for campers to provide initial deposit with full, proven identity so miscreants can be pursued for dumping rubbish, dumping toilet residues, desecrating the environment. • Rangers to monitor more frequently. • Rangers need to come at night to find fires and the bad behaviour – it happens at night as people know rangers will not be there.
Facilities	<ul style="list-style-type: none"> • More toilets at Teewah camping sites. • Too much rubbish at campsites, visitors not disposing correctly. • Insufficient facilities at campgrounds there appears to be no regulatory system for human waste control. • Increase facilities at Freshwater, do not spread throughout the park just make sure there are more somewhere. • Create signed campsites so people can only use the ones that they have booked. • More toilets at campsites to ensure that they are left in a better condition for the next user. • Maintenance of current facilities. • Toilet facilities at double island point for day visitors. • More access points to minimise beach disturbance. • Lines for ferry are too long at peak times – more access routes would reduce this. • Reserved campsites similar to Inskip. • Create more campsites to spread out visitors.
Signage	<ul style="list-style-type: none"> • Signage for speed limits. • More education signs around to educate drivers on the best way to drive safely. • Educate visitors on the most appropriate way to do bush toileting to ensure that rubbish is disposed of correctly. • Educate visitors on the community and local values of the area and the importance of the environment. • Signage to let drivers know when its low tide or high tide.
Driving	<ul style="list-style-type: none"> • Tighter control on dangerous driving. • Ensuring drivers do not damage the natural environment e.g., dunes.

Theme	Comments
	<ul style="list-style-type: none"> • Too many people ignoring the speed limits and speeding all down the beach. • Create more inland tracks to move people away from driving on the beach. • Dangerous driving a big issue. • People under-educated on beach driving. • Cameras to catch dangerous driving and speeding. • Most dangerous driving seems to occur at night-time when there is no police or rangers.
Regulation	<ul style="list-style-type: none"> • An increase of National Parks staffing numbers. • 24/7 police/ ranger presence to monitor dangerous and disrupting behaviour. • Cap visitor numbers – both day trippers and campers. • Stronger penalties on people breaking the rules. • Reintroduction of fires, but with strict regulation. • Cameras on the beach to identify people breaking the rules and speeding. • Campsites with specific sites – easier to regulate and has been done before. • Regulating speed limits around camping zones. • Incentives to remove the rubbish. • Timed entry to reduce ferry line up. • Commercial fishing ban. • Stop any commercial development in the national park. • Stop all leasing of national park land to private tourism operators. • Increased times two ferries operate with one back and forth one-way empty to expediate passage. • Legislation - nature conservation should be prioritised. • Greater emphasis on low impact-based activities to phase out 4WD. • The development of the Coolooloa Great walk and cabins is a direct conflict with the ecology and the intent of the experience. • Ban people who have broken rules from park access (they will stop their behaviour promptly if they are not able to be issued park passes in future because they could potentially be banned for 1–5-year terms. • Prioritise conservation not recreation in this national park area. • Recreation Area Management Act should be scrapped as it has led to this over-exploitation. • More patrols at night-time when bad behaviour is reported. • Put cameras in to catch people who are speeding. • If fined, people should have a ban on booking the sites for a period of time.
Permits	<ul style="list-style-type: none"> • Locals shouldn't have to pay to access the north shore. • Ban P platers from gaining car permits – P-platers seem to have the worst. reputation dangerous driving and rule breaking on the beach. • Reduce the number of permits being given out. • Increase permit pricing. • Put limits on the amount of people on the beach at any one time. • Age limit on permits/ only available for open license holders. • Permits only available to local residents. • Repeat offenders should be refused permits for 12 months. • Increase the cost of camping – or make the price per vehicle not per person. • Increase daily access fees. • Limit cars on the beach. • Special permits for locals. • Increase vehicle cost. • Levels of cost depending on activity e.g., less for walkers or Noosa River campsite. • Reduced access to bushwalks if leased to commercial providers (Great Walk).
Access Points	<ul style="list-style-type: none"> • The beach is used as alternative 'beach highway' to Rainbow Beach and Fraser Island and is advertised as such in tourist brochures. • The ferry is slow and cannot accommodate the amount of people coming onto the beach. • Inland tracks to accommodate more vehicles and less beach driving. • During peak times, a new access point/ ferry needs to be used. • Cameras at all access points to regulate camping permits and day permits. • Maintaining existing access roads - they need a lot of work sometimes. • Northshore Resident and property identification and preferential access to ferry especially during peak times.

Theme	Comments
Environment	<ul style="list-style-type: none"> • More awareness for visitors about how bad actions can impact the environment e.g., dunes. • More signage at entry points to the Recreation Area. • People are leaving rubbish in campsites – unsafe and unhygienic. • High noise pollution, especially at night because of parties. • There needs to be more areas of regeneration at the recreation area and people ensuring compliance against this e.g., Red Canyon. • Allow time for revegetation. • Environmental impact on dunes as people drive on them or bury waste there. • Visitors lack respect for the environment and are damaging ecosystems and the environment. • Environment is being damaged from littering and pollution. • Need more conservation areas – reduce campsites and create more conservation areas/ untouched areas. • There needs to be more bins throughout the recreation area to accommodate the rising levels of rubbish throughout the park. • Litter is terrible at campsites; people do not take their rubbish.
Education	<ul style="list-style-type: none"> • Educate visitors via signage or when booking permit on how to dispose of waste. • Rules, dangers and driving need to be known by visitors – perhaps put an acknowledgement section when applying for the permit. • Maps indicating where rubbish bins are located along the camping areas. • Signage on beach driving e.g., letting tires down. • Signage to indicate when high and low tide is – inform drivers on when is best to drive and when is not safe. • Adaptation: more information and signs, consider making the park a waste free zone. • Increase speed limit signage along the beach. • Change culture of young people in four-wheel drives. • Education of conservation. • Education about the pristine and beautiful environment in which they are camping. • Have guided tours & guided camping so that everyone can respect the area & learn about the importance of this pristine area & its culture. • Notices to guide people in the best ways to approach natural places in the environment. • Need more presence by traditional owners, rangers, and researchers/artists to educate the community - e.g., Mon Repos in Bundy.
Fire	<ul style="list-style-type: none"> • Fire bans relaxed, install fire rings at sites. • Reduce fire bans outside of summer. • Open fires should be allowed.
Aboriginal Culture	<ul style="list-style-type: none"> • Not collaborating with the traditional owners to ensure approval rate and sustainable environmental management practices are conducted. If we don't listen to the Aboriginal people, we will have no recreational area to celebrate and use. • Preservation of Aboriginal sites. • It would be great to have experiences, walks, tours from First Nations people. • Respect for Indigenous land and cultural sites (adaptation: close sites to general public/ have limited numbers). • Increase government support to employ Indigenous rangers for park protection.

Business Survey – What are the three main issues that concern you or could be further improved at Cooloola Recreation Area?

Blue text highlights the collated responses from those holding a permit to operate a commercial tourism activity in the Cooloola Recreation Area.

Theme	Comments
Historical & Heritage Sites	<ul style="list-style-type: none"> • It's a difficult balance - There is no point maintaining shipwrecks and Indigenous sites if no one can enjoy them. • Destruction of Heritage areas & the gross over population of unmanaged areas. • Lack of education on First Nations history and culture in area.
Disrespectful Behaviour	<ul style="list-style-type: none"> • Visitor behaviour in the camping area.

Theme	Comments
	<ul style="list-style-type: none"> Lack of respect for the National Park& wildlife - graffiti, dunal damage, unsafe driving leading to wildlife death. People are lawless and do not respect each other or the environment.
Campsites	<ul style="list-style-type: none"> Closing of camping areas off-peak for regeneration. No fires for camping. Clean up of damaged camping equipment. More detail of camping locations. Shut down of camping areas.
Rangers	<ul style="list-style-type: none"> More rangers with the power to issue fines. Park rangers more diligent in fining people for doing the incorrect thing. More rangers checking on campsites at 10am/check out times to police rubbish and toilet disposal has been done correctly.
Dangerous Driving	<ul style="list-style-type: none"> Speeding. Drink driving on the beach. Unsafe driving. Careless driving and lack of 4WD experience. Young ones (P Platers) destroying it for others. Large group parties & unsafe behaviour & driving.
Environmental Damage	<ul style="list-style-type: none"> Impact of 4WD on dunes high tide turtles. Environmental damage from too many cars and people. Rubbish and damage to sand dunes, turtle habitat and bird nesting areas. The number of vehicles causing damage to beaches. Chemicals being used on the beaches. Loss of habitat in particular the Wallum. Restoration of sand dunes. Too much rubbish and human waste. Overuse and abuse will diminish its beauty and status as a national park and will slowly be eroded for future generations.
Regulation	<ul style="list-style-type: none"> Higher police patrols. No police presence late afternoon/evening. Park pass checks and larger fines. Monitor beach activity more (drivers). Don't charge too much for access. More immediate oversight of accesses and behavioural problems. Speed limit on beach near pedestrians. Prohibiting the use of jet skis in marine parks.
Tourism Opportunities & Limitations	<ul style="list-style-type: none"> Provision for Commercial Tour Operators to develop quality experiences for the community. Commercialisation of built infrastructure. QPWS understanding and relating to the needs of Commercial Tour Operators. Not enough money put back into the park from other revenue streams resulting in aging and crumbling infrastructure and an inability to enforce existing regulations.
Permits/Cap	<ul style="list-style-type: none"> Do not increase capacity in the Upper Noosa River. Capacity restrictions. Absolute cap on the number of visitors at any given time. Regulation and restriction on numbers of 4WD vehicles accessing the region.
Facilities	<ul style="list-style-type: none"> Toilet facilities at the Elanda Point Canoe Launch. More toilets. Lack of funding/management of current facilities. Increased waste areas (rubbish bins). Properly maintained waste bins. Small roof or shelter at Fig Tree Point Day use area. Not enough infrastructure i.e., Refuse stations and bathrooms.
Access Infrastructure	<ul style="list-style-type: none"> Keep it simple and available to walkers and public. Don't want closure of access. Lack of Investment in Quality Infrastructure and Access.
Overcrowding	<ul style="list-style-type: none"> Way too much traffic and speed. Too many visitors. Unsustainable visitor numbers. The place is being loved too death. Far too many people during peak times causing a serious decline in biodiversity resulting in increased extinctions. Too much noise.
Support Locals' Opinion	<ul style="list-style-type: none"> Support locals' opinions. Better community education. Consultation with stakeholders in Rainbow Beach and Gympie.

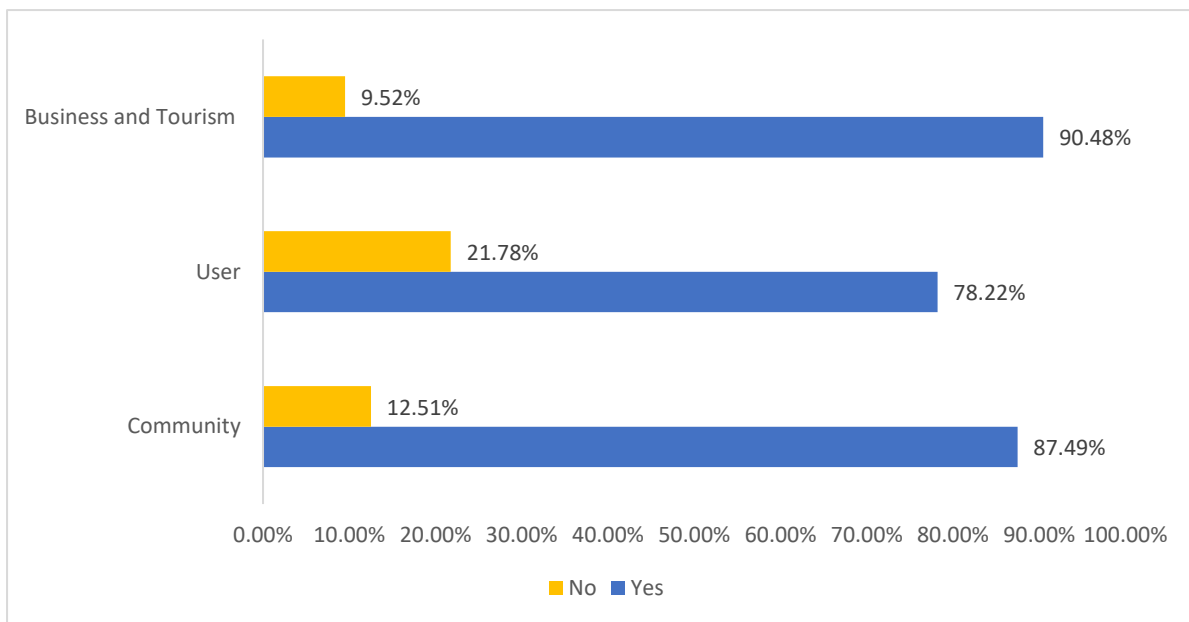
SECTION 4 – YOUR THOUGHTS ON FUTURE MANAGEMENT OPTIONS FOR COOLOOLA RECREATION AREA

Q22⁶

Description – The question seeks respondents’ views on whether management action needs to be taken to achieve a better balance between *conservation, community, and visitor objectives*.

Q. Do you believe that management actions need to be taken to achieve a more appropriate balance between conservation, community, and visitor objectives at Cooloola Recreation Area?

Community Survey and User Survey (Q22) Business and Tourism Survey (Q13)



Please note that for the purpose of comparison, the Community and User survey results for this Question have been combined.

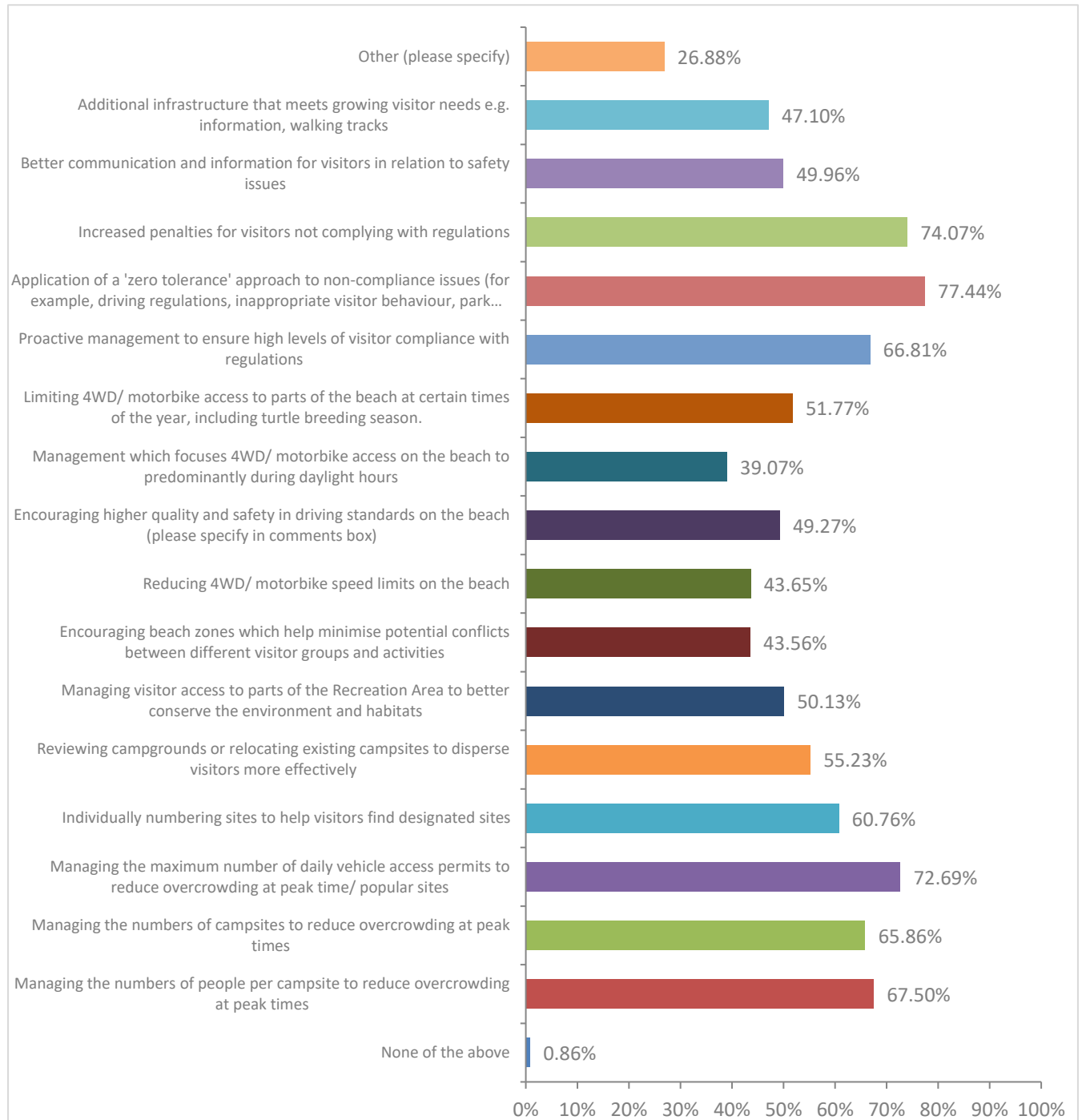
Overview of responses – Similar patterns of responses were expressed by community and business stakeholders with approximately 90% of respondents noting that management actions need to be taken to achieve a more appropriate balance between conservation, community, and visitor objectives at Cooloola Recreation Area. Support for management actions by users/permit holders was lower, at 78.22% of respondents.

⁶ Please note that in the Business and Tourism survey this is Question 13

Q23⁷

Description – The question seeks respondents’ views on future management options that can be considered for Cooloola Recreation Area.

Community Survey – Q23 *What management techniques should be considered at Cooloola Recreation Area to improve public safety whilst managing tourism and achieving economic, cultural and conservation outcomes?*

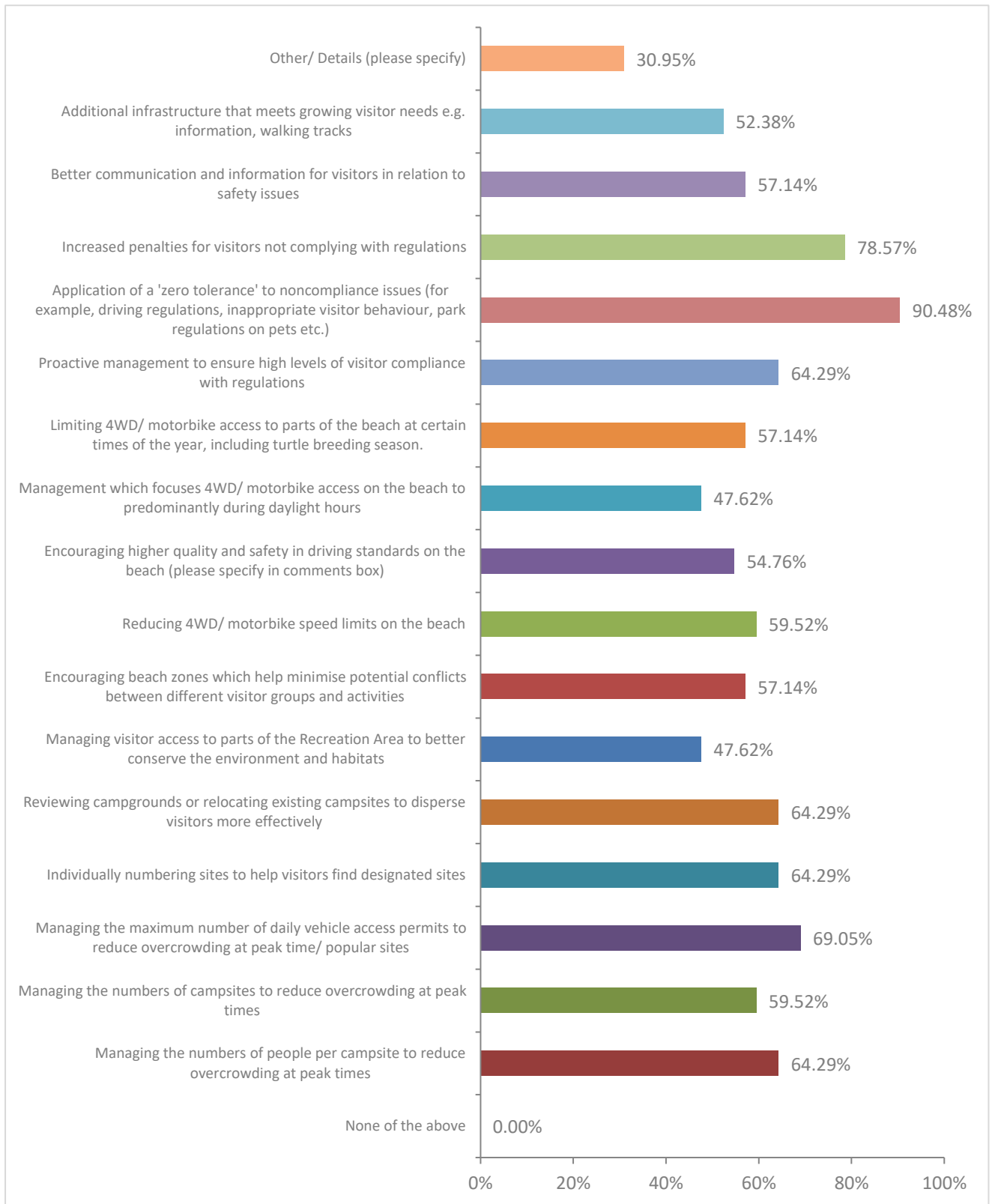


⁷ Please note that in the Business and Tourism survey this is Question 14

User Survey – Q23 What management techniques should be considered at Cooloola Recreation Area to improve public safety whilst managing tourism and achieving economic, cultural and conservation outcomes?



Business Survey – Q7 What management techniques should be considered at Cooloola Recreation Area to improve public safety whilst managing tourism and achieving economic, cultural and conservation outcomes?



Overview of responses – Overall, there was strong support to consider a range of management options, focusing on application of a zero-tolerance approach, increased penalties for non-compliance, and managing the maximum number of daily vehicles.

- From a community perspective, there was widespread support for many management options identified. Regulation-based approaches were the top management techniques selected by respondents. Top 3 techniques included: Application of a ‘zero tolerance’ approach to non-compliance issues, Increased penalties for visitors not complying with regulations, and managing the maximum number of daily vehicle access permits to reduce overcrowding at peak time/ popular sites.
- From a permit holder/ user perspective, application of a ‘zero tolerance’ approach to non-compliance issues has the highest percentage of respondents who believe this would be the best response (71.04%). This is followed by Increased penalties for visitors not complying with regulations (66.33%). Most of the other management techniques in relation to speeding, and overcrowding were also popular choices by survey respondents.
 - Some of the comments again addressed the issues of fires being banned, and lack of facilities that are available to the current number of visitors. Other comments argued for an increase in permit fees to reduce the capacity, and a 24/7 police presence in the Teewah Beach Camp Sites. Many respondents also identified education as an important tool to ensure that all visitors are aware of how important the area is.
- From a business perspective, application of a ‘zero tolerance’ approach to non-compliance issues has the highest percentage of respondents who believe this would be the best response (90.48%). This is followed by Increased penalties for visitors not complying with regulations (78.57%), Managing the maximum number of daily vehicle access permits to reduce overcrowding at peak time/ popular sites (69.05%), and individually numbering sites to help visitors find designated sites (64.29%).
 - Most of the other management techniques in relation to Managing the numbers of people per campsite to reduce overcrowding at peak times, reviewing campgrounds or relocating existing campsites to disperse visitors more effectively, and Proactive management to ensure high levels of visitor compliance with regulations were also popular choices by survey respondents.
- Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, application of a ‘zero tolerance’ approach to non-compliance issues has the highest percentage of respondents who believe this would be the best response (80%). This is followed by Increased penalties for visitors not complying with regulations (73.3%), Managing the maximum number of daily vehicle access permits to reduce overcrowding at peak time/ popular sites (73.3%), Reviewing campgrounds or relocating existing campsites to disperse visitors more effectively (66.7%), and managing the numbers of people per campsite to reduce overcrowding at peak times (60%).

The table, below, represents examples of themes and comments raised by respondents (primarily Community and Users/permit holders):

Themes	Comments
Fires	<ul style="list-style-type: none"> • It isn't camping without fires, please bring them back • More opportunities for controlled campfire • Place fire pits in campsites to ensure that responsible fires can be held • Development of specific sites in areas so that fire pits can be installed.
Visitors	<ul style="list-style-type: none"> • Change in mindset about what Cooloola is (e.g., From a party place back to a national park) • Reduce the number of campsites available • Needs to be an off peak and on peak number of travellers • Too many people visiting at any one time. • The perfect amount of people, only focus on the ones breaking the rules no one else • Ban day trippers and only accommodate campers • Ensure visitors watch a video that explains the rules of 4x4 driving on the beach prior to visiting.
Regulation	<ul style="list-style-type: none"> • Development of a Cooloola management committee (businesses, community members, visitors, environmental groups) that work on current issues as they arise. • Fines for speeding and hooning, included a ban from the beach • Ensure regulation occurs at night-time when most of the disruptive and non-compliance behaviour occurs. • Strict enforcement of speed limits • Repeat offenders need to be banned from the park • Harder penalties for speeding and dangerous driving. • If people who abuse the area and break the rules are excluded for exceptionally long periods and face permanent exclusion as repeat offenders, it will reduce numbers by removing the wrong type of people from the area. • More QPWS staff to manage and control the park • 27/4 police and ranger presence necessary to combat the non-compliance behaviour • Reduce speed limit when driving past camps • More police presence • Ban jet skis • Ban powered boats and jet skis • More ranger patrols • Numbered sites • Use cameras to enforce no re-entry for non-compliance • Stop beach 4x4 access • Big fines for non-compliance
Education	<ul style="list-style-type: none"> • Ensure beach driving competency to be completed when booking a permit. Show that visitors are educated on the appropriate way to beach drive. • Educate visitors on how best to dispose of their waste and why it is important for them to do so. • Ensure visitors are well educated on 4x4 driving – show evidence of completion of a 4x4 course prior to gaining a permit. • Education programmes to allow managed access
Permits	<ul style="list-style-type: none"> • That no individuals or business should have sole use of the Recreation Area. • Increase permit pricing to reduce day use visitors • Camping to become ballot based to reduce capacity in peak times • Only allow permits for open licence holders • Beach driving licenses • No charge for locals • Price needs to be dramatically higher for permits to reduce the amount of people visiting. • If a previous offender, make the permits more expensive • Must watch an educational video (like K'gari) before they are able to gain access to the Recreation Area. • People should have to show 4X4 accreditation before accessing a permit • Trial run on p plater ban to see if there is a change in the parks culture. • Permits more expensive if a previous offender

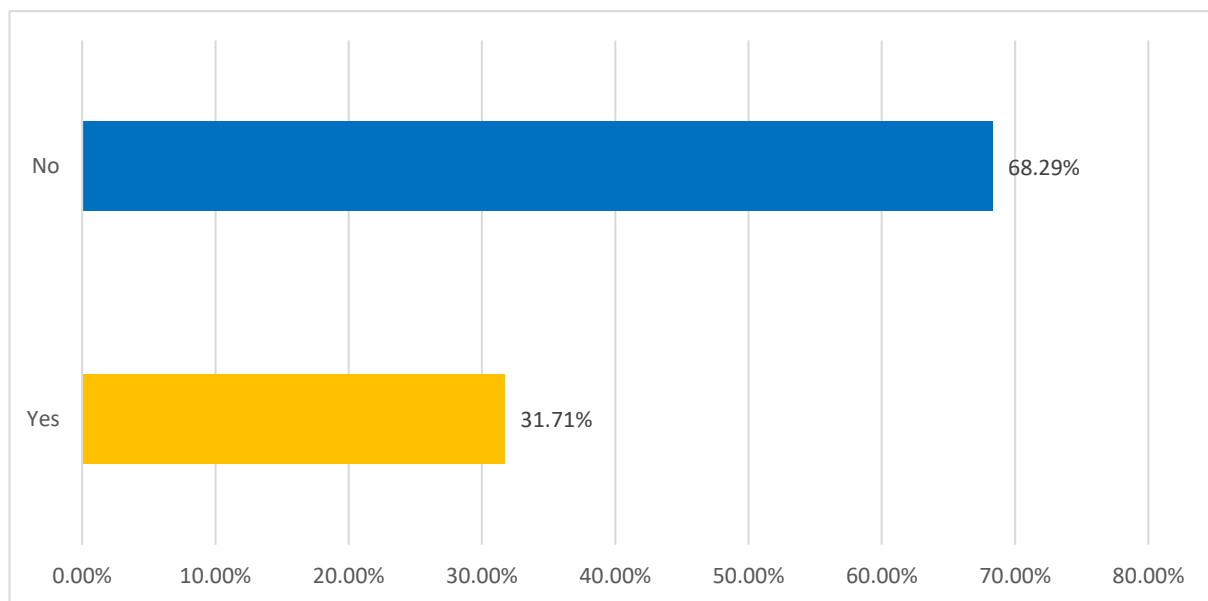
Themes	Comments
	<ul style="list-style-type: none"> • There should be better communication between QPWS and business owners and managers.
Facilities	<ul style="list-style-type: none"> • More facilities in the area to ensure waste is disposed of correctly e.g., more toilets. • Upgrade the ferry/ cost of the ferry to match the demand. • Better signage throughout the park to educate and advise visitors. • More waste bins located throughout the park and especially Double Island and Rainbow beach lagoon. • More toilet blocks throughout the beach • Lifeguards at peak times at popular swimming spots. • Portaloo emptying stations – proper sanitisation of waste. • Digital signage at popular times on the beach that indicates conditions, tide times and access as mobile coverage is not good. • Definitely no additional infrastructure.
Environment	<ul style="list-style-type: none"> • More awareness of wading birds. • Need to be managed like national parks not over regulated • More resources into controlling exotic species • Close areas for regeneration/ regulate driving on dunes. • Make people aware of turtle breeding season • Create a rotation of campsites to allow for specific areas to regenerate and then rotate every 6 months or so. • Development of an environmental educational program that highlights the appropriate way to 4x4 without damaging the environment
Aboriginal Culture	<ul style="list-style-type: none"> • Work with First Nations people to ensure First Nations people to undertake appropriate caretaker responsibility.

SPECIFIC QUESTIONS UNIQUE TO THE TOURISM AND BUSINESS SURVEY

Q16

Description – The question seeks respondents’ views on whether they have previously sought advice from the Queensland Government regarding commercial tourism opportunities in National Parks.

Q16 - *Have you previously sought advice from the Queensland Government (Queensland Parks and Wildlife Service) regarding opportunities to operate a commercial tourism activity in Cooloola Recreation Area?*



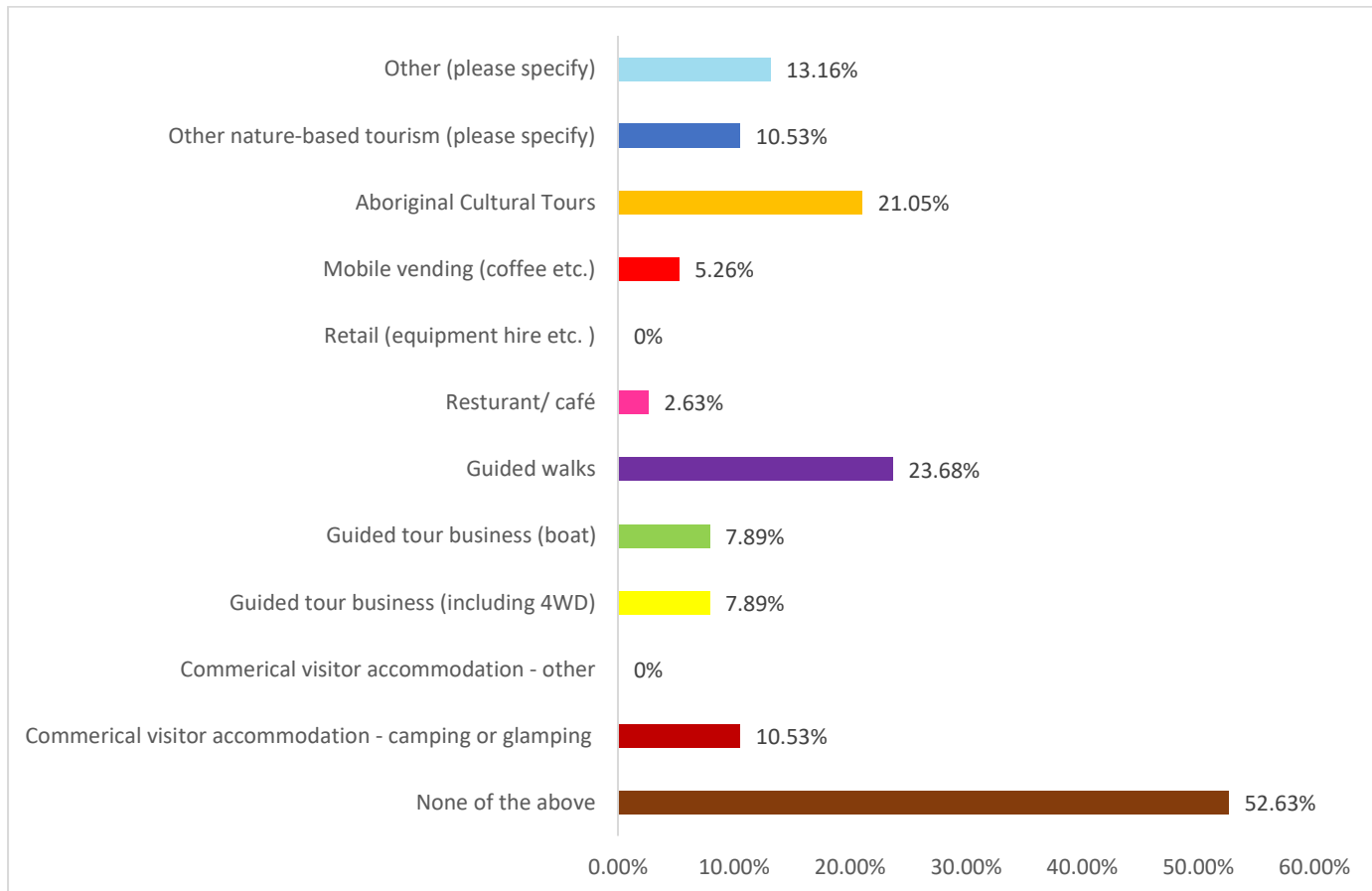
Overview of responses - 68.29% of respondents indicated that they have not previously sought advice from the Queensland Government (Queensland Parks and Wildlife Service) regarding opportunities to operate a commercial tourism activity in Cooloola Recreation Area.

Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, 8 out of 14 respondents (57.1%) indicated they have previously sought advice from the Queensland Government (Queensland Parks and Wildlife Service) regarding opportunities to operate a commercial tourism activity in Cooloola Recreation Area.

Q18

Description – The question seeks respondents’ views on potential interest to approach the Queensland Government regarding new or expanded commercial tourism opportunities in Cooloola Recreation Area over the next 3-year period.

Q18 – Are you considering approaching the Queensland Government regarding new or expanded commercial tourism opportunities in Cooloola Recreation Area over the next 3-year period? Please indicate the types of business opportunity that may interest you (please select all that apply).



Overview of responses - Over half of the respondents indicated no interest in approaching the Government regarding new or expanded tourism concepts. The most popular topics where interest in new concepts was expressed were guided walks (23.68%), Aboriginal Cultural Tours (21.05%), Commercial visitor accommodation - camping or glamping (10.53%), and other nature-based tourism (11.4%).

The table below illustrates the range of comments made by respondents (13.16%) that selected “Other.”

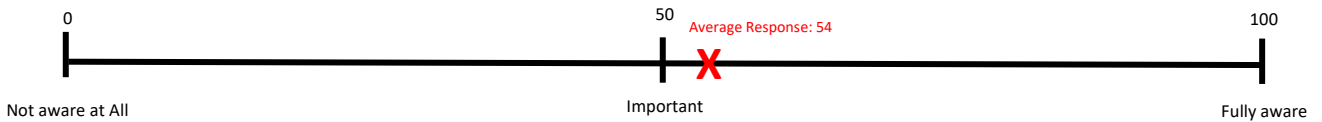
Weddings	We are wanting to add foil-based water sports to our current permit. We have already made the request but are yet to hear back.	The concept of earth walks – exploration of creativity through nature.
To my knowledge there are three people holding permits.	Other.	

They are respectful and use the permits correctly. If more permits are to be issued, they must be issued to local rainbow beach businesses only.		
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Q19

Description – The question seeks respondents’ awareness of the Queensland Government’s process for considering/applying for a commercial activity permit.

Q19 – *To what extent are you aware of the Queensland Government’s process for considering/applying for a commercial activity permit to operate a tourism business in a National Park or Recreation Area, including Cooloola Recreation Area?*



The average number for respondents was 54 ranging from 0 (Not aware at all) to 100 (Fully aware), with 57.1% of respondents aware of the permit application process.

Among the 15 businesses holding a permit to operate a commercial tourism activity in Cooloola Recreation Area, the average number was 74.7, with 13 out of 15 respondents (86.7%) aware of the permit application process.

Appendix 3: Comparison of Australian National Park Vehicle Fees and Passes

Figure

Figure A: Fees Comparison

State	Permit/Price
NSW	<ul style="list-style-type: none"> All Parks Pass: \$190 (1 year), \$335 (2 years) Multi Park Pass: \$65 (1 year), \$115 (2 years) Country Parks Pass: \$45 (1 year), \$75 (2 years) Single Park Pass: \$22 (1 year), \$40 (2 years) <p><i>*Seniors discounts apply: Parks NSW</i></p>
ACT	<p>Namadgi National Park and Tidbinbilla access</p> <p>- Private Vehicle (up to 8 seats): \$14 (day pass), \$38 (annual pass)</p> <p><i>*Different prices for different vehicle types, seniors or school groups: Tidbinbilla</i></p>
VIC	<p>No vehicle entry fees – fees only apply for events or camping, with peak, should and off peak rates applying in busy parks</p>
TAS	<ul style="list-style-type: none"> Daily Pass (excluded Cradle Mountain): \$40 (per vehicle), \$20 (per person) Icon Daily Pass (Cradle Mountain only): \$25 (Adults), \$10 (Children), \$60 (Family) Holiday Passes – up to 2 months (includes Cradle Mountain): \$80 (per vehicle), \$40 (per person) Annual Park Pass – all parks: \$90 (General), \$36 (Seniors), \$46 (One Park) Two Year Parks Pass – all parks: \$115 (General), \$46 (Seniors) <p><i>*Concession discounts apply: Parks TAS</i></p> <p>Arthur-Pieman Conservation Area Recreation Driver Pass (4WD)</p> <ul style="list-style-type: none"> 1 month Pass: \$33 Annual Pass: \$55 <p>Arthur-Pieman Conservation Area</p>
SA	<ul style="list-style-type: none"> 2-month Multi-parks Pass: \$48 (adult), \$38.50 (concession) 12-month Multi-parks Pass: \$108 (adult), \$87 (concession) 12-month Single Park Pass: \$72 (adult), \$60 (concession) 12-month Vehicle and Camping for Desert Parks: \$178 12-month Vehicle and Camping for Desert Parks Renewal: \$107 <p>Parks SA</p> <p>Kangaroo Island Tour Pass: \$54.50 (adult), \$161.50 (family) Kangaroo Island</p>
WA	<ul style="list-style-type: none"> Holiday Pass: \$60 (4 weeks), \$40 (14 days), \$25 (5 days) Annual All Parks Pass (12 months): \$120 (adult), \$75 (concession) Goldstar Pass (12 months): \$150 Annual Local Park Pass (12 months): \$25 <p>Parks WA</p>
NT	<p>Uluru- Kata Tjuta Park Passes</p> <ul style="list-style-type: none"> Adult: \$38 (3 days), \$50 (12 months) Vehicle of resident of the NT (12 months): \$109 <p>Uluru Passes</p>

Appendix 4: Capacity Analysis

Capacity Issues

Evidence from stakeholder interviews and user, business and community surveys shows widespread recognition of there being too much traffic and too many visitors on the beach at peak times⁸ and for considering the reduction in the number of daily visitor permits as a management response⁹. However, there is limited evidence available from project research in terms of the reduced capacity level where tangible improvements to experience and environmental upkeep will be made.

Significant behavioural elements are noted as contributing factors to visitor experience and environmental upkeep, nonetheless peak visitor volumes are an important contributing factor.

Capacity issues apply to Cooloola Recreation Area as a whole, and to individual sites.

Area-wide capacity issues

When asked for views on visitation levels at peak times, sentiment across community, permit holders and businesses was that visitor numbers are too high.¹⁰ Available evidence gathered during the study points strongly towards the need to reduce capacity at peak periods as part of a package of sustainable management measures.

Area-wide issues include:

- Queuing traffic at the ferry entry and exit points, and the roads leading to the ferry.
- Traffic on the beach, and the characteristics of the beach as a highway to reach popular locations at the northern end of the area.
- As well as the practical requirement to get to A-B, the drive is also an important part of the experience visitors are seeking - scenic drive is noted by approximately 50% of respondents to the community and permit holder surveys as a main reason for visiting.¹¹
- Local resident traffic. Local residents have an exemption from requiring VAPs for the intent of moving more efficiently between Rainbow Beach and Noosa for personal and business needs.

Monitoring systems do not currently allow for an accurate number of total visitors/ vehicles on any given day. Factors to consider include:

- An estimated 30% of visitors who have an incorrect/ no VAP.
- Those visitors who purchase daily VAPs.
- Those visitors who visit using weekly, monthly, and annual VAPs.
- VAPs associated with camping (which are mainly accounted for in purchases of weekly VAPs)
- Traversing local resident traffic.

Given these issues, the Automated Traffic Movement Cameras provide the best basis for a perspective on overall numbers at present. In 2021, peak movements were recorded on Australia Day at 4348 movements. There are multiple cameras which record movements, and some vehicles may move on multiple occasions while others may be stationary during a multinight stay, but as a simple assessment, 2 traffic movements per day (entry/exit) would provide an estimate in the range of a total of just over 2000 vehicles on the beach during a day at absolute peak visitation.

⁸ Technical Appendix 2, question 19

⁹ Appendix 2, question 23

¹⁰ Technical Appendix 2, question 17

¹¹ Technical Appendix 2, question 9

Site-specific capacity issues

Study research confirmed that a number of popular sites are especially impacted by peak visitation and traffic levels.

- Community respondents identified that 4 out of 6 locations (Teewah Camping Area, Rainbow Beach/ Lagoon Area, Double Island Point, Beach and lighthouse, and Teewah Beach) as “Visitor numbers are too high.¹² Permit holders also identified the same sites as being busy at peak times, albeit sentiment showed a larger proportion of this stakeholder group identifying “visitor numbers being just about right”.
- From an environmental perspective, healthcheck reports a greater prevalence of issues such as bush toileting, litter, damage to dunes and creep/extension of compacted areas at those sites identified as being too busy at peak times (Teewah Camping Area, Rainbow Beach/ Lagoon Area, Double Island Point, Beach and lighthouse, and Teewah Beach).

Analysis of capacity management issues

As previously noted, there is a complex mix of users accessing Cooloola Recreation Area, including local residents (with exemptions from requiring a permit), and visitors using daily, weekly, monthly, and annual VAPs as well as the option to purchase a joint K’gari/ Cooloola monthly VAP.

From a management perspective, the range of permits and exemptions from requiring permits, makes management, and understanding peak visitor loads challenging. Considerations include:

- There are a number of entry/ exit points to Cooloola Recreation Area.
- There are limits on technological solutions for managing visitation levels and capacity at present.
 - The Automatic Number Plate Recognition System is a great step forward, but at present the system does not link directly with compliance/ enforcement and it is not possible to automatically distinguish between different VAP types. Widespread use of QR codes and the public being conditioned to ‘checking in’ to venues, may open up new monitoring options in the future.
 - Connectivity blackspots prevent universal coverage which limits the use of some technologies – for instance, heat mapping of movements (effectively counting numbers of mobile phones) in an area is now becoming a more affordable and accessible management tool to understand movements and volume of visitors.
- The number of VAPs provides flexibility to meet a range of consumer groups but makes management of an accurate capacity limit impractical at present – in simple terms, when there is not a need to pre-book for individual days, those visitors with weekly, monthly, and annual VAPs have the ability to travel on any day they want (within the terms of their VAP).
- Rainbow Beach residents have exemptions from requiring a VAP to move more efficiently between Rainbow Beach and Noosa for personal and business needs. Permits do not need to be shown, therefore there is not a full understanding of volume and movements at present, but it is important that movement focused on their use to traverse only, not access the area for leisure/recreation without paying for a permit.

Day visitor capacity and movement

Given feedback from stakeholders which identifies day visitors as a significant contributing factor at peak periods, analysis of daily VAPs has been used as the most appropriate data set where analysis

¹² Technical Appendix 2, question 18.

can act as a proxy for assessment peak demand¹³. Day visitors are identified as the segment which contributes least economically to the area and brings the most significant challenges in terms of sustainable management of peak loads.

Key issues to highlight include:

- Consensus from consultation is that given varying group size and travel parties, an average of 2 vehicles per campsite is realistic i.e., **1,500 camping spaces/ 250 sites** would require up to an estimated 500 VAPs vehicles associated with camping (at full capacity) before day visitors, local resident traffic and those visiting on monthly, and annual VAPs are considered.
- Analysis of data patterns identified **475 daily VAPs**, signified in yellow in figure A, as a threshold over which, a peak period above usual norms could reasonably be defined. This data is valuable as a tool for considering the volume of day visitor traffic, but the data is recognised as imperfect – it is accepted that this number captures a proportion of vehicles associated with camping. Analysis of 2021 camping data shows that 30% of visitors stayed for one night – in these cases, under current pricing it is more cost-effective for campers to purchase 2 daily VAPs rather than a weekly VAP.
- On this basis, it is reasonable to assume that when campers are removed from the total of daily VAP purchases, **400 daily VAPs is the threshold over which a day visitor peak can be defined.**

Given best available data sources, it is estimated that peak periods at Cooloola Recreation Area can be defined as starting at 900 vehicles per day*:

- **An estimated 500 vehicles, related directly to camping when it is fully booked/occupied (a variety of daily, weekly, monthly, and annual VAPs)**
- **An estimated 400 vehicles associated with day visitors (daily VAPs)**

* It is accepted that there are limits to this estimate, particularly in terms of fully considering levels of non-compliance, the volume of local resident traffic movements, and those visiting under monthly or annual VAPS.

For peak periods such as Australia Day, the numbers of daily VAPs rise significantly (see figure B).

Figure A provides an analysis of daily Visitor Access Permits (VAPs) and vehicle movements detected by the Automatic Number Plate Recognition System.^{14 15}

¹³ NOTE: VAP numbers do not include weekly, monthly or annual which account for an additional 2,000-4,000 permits active during the 2021 review period.

¹⁴ Daily VAPs as a Proportion of Total Traffic has been calculated based on the assumption that on average ANPRS data picks up 1 entry and 1 exit for all vehicles i.e., 2 movements = 1 vehicle. This is a simplistic calculation that does not factor in Noosa Northshore resident traffic or through-traffic to Rainbow Beach, however, it does provide a proxy to enable peak periods and the impact of day visitors.

¹⁵ Analysis of camping data in 2021 shows that 30% of visitors stay for 1 night – current VAP pricing means that 2 daily VAPs are more cost-effective than a weekly VAP, therefore it is reasonable to assume that up to 75 (30% of 250 camping sites (when fully booked)) of daily VAPs would be taken up by campers, not day visitors.

Figure B: Analysis of Daily VAPs and Automatic Number Plate Recognition System Total Daily Reads at Cooloola Recreation Area, 2021

Cooloola Recreation Area 2021	Automatic Number Plate Recognition System (ANPRS) Total Daily Reads (All cameras)	TOTAL DAILY Vehicle Access Permits (VAPs) (in addition to weekly, monthly and annual)	Daily VAPs as a Proportion of Total Traffic
Sat 9 th Jan	1392	268	38%
Sun 10 th Jan	1216	165	27%
Wed 13 th Jan	1627	143	17%
Wed 20 th Jan	773	69	18%
Sat 23 rd Jan	4094	493	24%
Sun 24 th Jan	4348	645	29%
Tue 26 th Jan – Aust Day	3171	762	48%
Sat 6 th Feb	3621	705	39%
Sun 7 th Feb	3166	599	38%
Tue 9 th Feb	330	35	22%
Fri 12 th Feb	983	131	26%
Sat 13 th Feb	2909	580	40%
Wed 17 th Feb	290	27	19%
Sat 20 th Feb	1827	291	32%
Sun 21 st Feb	2183	396	36%
Thurs 25 th Feb	422	44	21%
Sat 27 th Feb	2527	475	46%
Wed 3 rd March	281	30	21%
Sat 6 th March	2216	445	40%
Sun 7 th March	1963	400	41%
Fri 12 th March	946	81	17%
Sun 14 th March	1782	382	43%
Thurs 18 th March	268	24	18%
Sun 21 st March	634	85	26%
Mon 22 nd March	157	16	20%
Sat 27 th March	2123	489	46%
Thurs 1 st April	461	39	17%
Fri 2 nd April – Good Friday	1677	259	31%
Sat 3 rd April - Easter	2891	479	33%
Sun 4 th April - Easter	983	214	44%
Sat 10 th April – School Holidays	2570	579	45%
Tue 13 th April	875	134	32%
Sun 18 th April	1389	306	44%
Wed 21 st April	537	68	25%
Sat 24 th April	2480	431	35%
Sun 25 th April - ANZAC	3486	819	47%
Mon 26 th April – ANZAC day holiday	2067	401	39%
Sun 2 nd May	1804	378	44%
Mon 3 rd May – Labour Day	1265	191	28%

Coolooloa Recreation Area 2021	Automatic Number Plate Recognition System (ANPRS) Total Daily Reads (All cameras)	TOTAL DAILY Vehicle Access Permits (VAPs) (in addition to weekly, monthly and annual)	Daily VAPs as a Proportion of Total Traffic
Sat Oct 2nd	2886	671	46%
Sun Oct 3rd	3432	986	57%
Mon Oct 4 th - Queens Birthday	2006	495	49%
Sat 25 th Dec	1235	200	32%
Sun 26 th Dec	1247	197	32%
Fri 31 st Dec	1598	261	33%

Points to note include:

- In 2021 there have been 17 days where daily VAP purchases have been in excess of 475, with absolute peaks on:
 - Australia Day weekend – 672 and 760
 - Weekend of 6th/7th February (easing of lockdown restrictions) – 705 and 599
 - Anzac Day – 819
 - Weekend of 2nd/3rd October (long weekend) - 671 and 986
 - As 30% of campers use daily VAPs as the most cost-effective VAP for one night stays it is reasonable to assume that on these peak days when campsites will be fully booked, that 75 of the daily VAPs will be taken up by campers (30% of 250 campsites).

Although data is imperfect in determining the proportion of daily VAPs as part of overall traffic, analysis indicates that the days with the largest proportion of daily VAPs frequently align with the busiest total vehicle movement days.¹⁶ The inference from this interpretation of data is that day visitors/daily VAPs are a significant contributor to traffic/visitor number levels on peak days. When those camping visitors using daily VAPs are factored out, the general point remains, that day visitors/daily VAPs are a significant contributor to traffic/visitor number levels on peak days.

The current situation where there are no management controls placed on the maximum number of potential visitors and vehicles on any given day is unlikely to be sustainable in the long term. There is inaccurate management information across the different permit types and booking system which limit the ability to measure and manage.

A range of daily VAP reduction scenarios can be considered to assess their impact, as noted in figure C.

¹⁶ Daily VAPs as a Proportion of Total Traffic has been calculated based on the assumption that on average ANPRS data picks up 1 entry and 1 exit for all vehicles i.e., 2 movements = 1 vehicle. This is a simplistic calculation that does not factor in Noosa Northshore resident traffic or through-traffic to Rainbow Beach, however, it does provide a proxy to enable peak periods and the impact of day visitors.

Figure C: Daily VAP Reduction Scenarios¹⁷

Daily VAP Reduction Scenario	Potential Impact
<p>An approximate 25% reduction in daily VAPs available compared with the largest peak of daily VAP demand in the October long weekend.</p>	<ul style="list-style-type: none"> • A limit of 750 daily VAPs being available, in addition to VAPS which provide for 500 camping vehicles. • It is assumed that the 750 total incorporates 75 VAPs which would typically be used by campers purchasing daily VAPs – a capacity that in effect, provides for an additional 675 daily VAPs outside provision for campsites operating at maximum capacity. • If applied to all 20 peak days per year, this would mean 2 days in the year where 2021 demand levels could not be met.
<p>An approximate 33% reduction in daily VAPs available compared with the largest peak of daily VAP demand in the October long weekend.</p>	<ul style="list-style-type: none"> • A limit of 660 daily VAPs being available, in addition to VAPS which provide for 500 camping vehicles. • It is assumed that the 660 total incorporates 75 VAPs which would typically be used by campers – a capacity that in effect, provides for an additional 585 daily VAPs outside provision for campsites operating at maximum capacity. • If applied to all 20 peak days per year, this would mean 5 days in the year where 2021 demand levels could not be met.
<p>An approximate 40% reduction in daily VAPs available compared with the largest peak of daily VAP demand in the October long weekend.</p>	<ul style="list-style-type: none"> • A limit of 590 daily VAPs being available, in addition to VAPS which provide for 500 camping vehicles. • It is assumed that the 590 total incorporates 75 VAPs which would typically be used by campers – a capacity that in effect, provides for an additional 515 daily VAPs outside provision for campsites operating at maximum capacity. • If applied to all 20 peak days per year, this would mean 7 days in the year where 2021 demand levels could not be met.
	<ul style="list-style-type: none"> • A limit of 500 daily VAPs being available, in addition to VAPS which provide for 500 camping vehicles • It is assumed that the 500 total incorporates 75 VAPs which would typically be used by campers– a capacity that in effect, provides for an additional

¹⁷ Daily VAP analysis has factored in the purchase of daily VAPs by campers which occurs when camping. Analysis presented under “potential impact” provides an estimate of additional daily VAPs required after provision has been made for campsites operating at full capacity.

Daily VAP Reduction Scenario	Potential Impact
A limit of 500 on daily VAPs being available, equivalent to a 49% reduction compared with the largest daily VAP demand in the October long weekend.	<p>425 daily VAPs outside provision for campsites operating at maximum capacity.</p> <ul style="list-style-type: none"> If applied to all 20 peak days per year, this would mean 9 days in the year where 2021 demand levels could not be met.
A limit of 475 on daily VAPs being available, in addition to VAPS which cover 100% campsite occupancy	<ul style="list-style-type: none"> A limit of 475 daily VAPs being available, in addition to VAPS which cover 100% campsite occupancy. It is assumed that the 475 total incorporates 75 VAPs which would typically be used by campers – a capacity that in effect, provides for an additional 400 daily VAPs outside provision for campsites operating at maximum capacity. If applied to all 20 peak days per year, this would mean 14 days in the year where 2021 demand levels could not be met.

There is consensus that a management and permitting system that enables QPWS to monitor and manage maximum numbers on peak days is essential, but that the range of permits available (daily, weekly, monthly, annual, joint K’gari/ Cooloola) under current legislation makes this challenging. Similarly, the 30% of campers who use daily VAPs as the most cost-effective way of securing vehicle access also introduces some complexity into precise monitoring – offering camping and vehicle permits as a package could help in this regard.

Figure D provides a summary analysis of the strengths and weaknesses of a range of permit simplification options.

Figure D: Strengths and Weaknesses of Permitting Options

	Option	Strengths	Weaknesses
1	Continue as per current situation – option of day, weekly, monthly, and annual VAPs, but focus on compliance and behaviour change.	<ul style="list-style-type: none"> Continuity – easily understood by visitors. 	<ul style="list-style-type: none"> Little management control No ability to control peak numbers Local and conservation stakeholders will be unsupportive
2	Mandate that only daily VAPs will be available to gain vehicle access to Cooloola Recreation Area during identified peak periods (approximately “20 peak days” per year).	<ul style="list-style-type: none"> Strong control of total numbers at peak periods. Offers the ability to introduce peak pricing for peak period daily VAPs. 	<ul style="list-style-type: none"> Terms and conditions for monthly and annual VAPs would need to be amended to exclude the “20 peak period” days.

	Option	Strengths	Weaknesses
	<ul style="list-style-type: none"> • Exclusions for camping permits, and residents. • Daily VAPs to be allocated via a ballot system if booking systems allow efficient operation. The alternative to a ballot system, is a straightforward “first come, first served” basis. • Pre-booking required. • Terms and conditions for monthly and annual VAPs would need to be amended to exclude the “20 peak period” days. • Option to include a ‘gold annual pass’ – a premium price product that includes the peak periods. • The option to place a cap of access is available with this option - 	<p>Pricing will need to be sufficient to deter no-shows.</p> <ul style="list-style-type: none"> • Potential to introduce as a pilot measure for a defined period. 	<ul style="list-style-type: none"> • Weekly VAPs would most likely be prohibited for the 7 days period around the peaks. • Mixed levels of probable stakeholder support. • Compliance/monitoring mechanisms are likely to be significant.
3	<p>Move to a system of daily VAPs only, 365 days of the year – removing the option for weekly, monthly, and annual VAPs.</p>	<ul style="list-style-type: none"> • Strong control of total numbers. • Simplified system. 	<ul style="list-style-type: none"> • Exclusions needed for residents. • Pricing would potentially penalise regular visitors. • May be perceived as prioritising day visits over overnight/camping stays. • Unlikely to be supported by stakeholders.
4	<p>Remove daily VAPs as an option for Cooloola Recreation Area – weekly, monthly, and annual VAPs would be available as options</p> <ul style="list-style-type: none"> • Exclusions for residents. • A further simplification option could be to remove the option of monthly VAPs and joint K’gari/ Cooloola VAPs. 	<ul style="list-style-type: none"> • Simplifies the system to a degree. • Prioritises longer trips and few traffic movements over day trips. • Would by default, introduce price as a management control mechanism by default (higher cost of weekly VAP) 	<ul style="list-style-type: none"> • Unless the number of weekly VAPs is capped for the peak periods, this system does not provide for 100% control on maximum daily visitor numbers. To provide necessary control, VAP holders would still need to book the days they plan to visit.

	Option	Strengths	Weaknesses
			<ul style="list-style-type: none"> • Pricing could be seen as making visits unaffordable for residents or visitors. Options to mitigate costs could include: • Option to spread payment of annual VAPs. • Providing option to purchase off-peak annual VAP.

Analysis of best available data (2021) points to a combined total of 900 day visitor and camping vehicles as being the threshold beyond which, the start of peak visitation can be defined.

If the priority is to provide for retention of camping capacity at 250 sites, **500 VAPs should be retained for this camping capacity**, meaning an additional 400 daily VAPs, providing for day visitors.

Given the imperfectness of data sets, there is potential for a significant margin of error across the data sources. If a cap on capacity was to be trialed, provision for **400 - 500 daily VAPs** is reasonable. While COVID-period growth could be expected to moderate (potentially a drop in numbers next year, although the peak days are likely to remain as busy), long-term growth is likely.

On 2021 performance, this capacity limit would mean there would be between 9 and 14 days where 2021 visitation day visitor levels would not be met.

Appendix 5: Summary of site healthcheck data

QPWS has undertaken site healthchecks since 2017, with information from these reviews providing a consistent set of data on current environmental states. Figure E provides a summary of 2017-2019 healthcheck feedback. Many of the issues identified are occurring across the Recreation Area as a whole, albeit being most prevalent at hotpot locations.

Key issues identified are as follows:

Beach camping

- Condition is of significant concern for 2017, 2018, 2019 with some indicators deteriorating to critical in 2018 & 2019. Main indicators and observations:
 - Bush toileting extensive and evident, including littering from toilet paper at all sites. Critical condition in 2018 & 2019.
 - Ground surface damage, spread of footprint, trampling, vehicle impacts at all sites. Includes shortcutting across dunes, vehicles going through or over vegetation, widening of campsite footprint, loss of ground cover, erosion due to trampling, vandalism and theft.
 - Significant concern in 2018 and critical condition in 2019. Includes trees being cut for firewood.
 - Campfires outside fire pits. Significant concern bordering on critical condition in 2019 at T3 & 4. Includes fire scars, damaged vegetation.

Management Implications/Responses

- Bush toileting is the most prevalent issue - new infrastructures should be considered at Double Island Point. In other areas, impact is in part driven by both volume and visitor behaviour.
- Ground surface damage, spread of footprint, trampling, vehicle impacts is prevalent at all sites. Impact is in part driven by both volume and visitor behaviour.
- Campfires remains a problem – retention of policy and clear communication is required.
- Capacity management/zoning at campsites can be considered to support mitigation.
- Compliance and incentives to change behaviour need to be considered.

4WD experience

- Condition is of significant concern for a number of indicators in 2018 & 2019. Main observations include:
 - Vehicle impacts, ground surface damage, widening/spread of footprint. Poor driving by inexperienced drivers cutting into roads causing erosion and exposed roots on tracks, which also leads to vehicles pushing into vegetation & widening tracks. Track widening is also an issue in peak periods when vehicles need to give way to oncoming vehicles.
 - Litter or dumped rubbish. Includes rubbish on beach at high tide mark, camping gear left on beach, rubbish dumped at Rainbow Beach Rd out of vehicles.

- Trampling of vegetation to access water Frankie’s Gulch significant concern in 2019.
- Vandalism and theft. Includes theft from some campsites, signs vandalised in 2019, also intermittent (note not observed during HCs) damage to signs, gates rammed, fences pulled down.

Management Implications/ Responses

- Issues are generic to the Recreation Area a whole and most visible at exit/entry at Ferry and at key sites (Teewah Beach Camping, Double Island Point etc.) Issues associated with volume of traffic, peak period high volumes, safety and driving behaviour.
- Demand driven by day visitors and campers.
- Compliance, including incentives to change behaviour need to be considered.

Everglade experience/ Upper Noosa River

- The overall condition is of significant concern for the below indicators in 2018 & 2019. Main observations:
 - Ground surface damage/modification, widening/spread of footprint – satellite campsites established & informal tracks and camping along river. Landing area erosion.
 - Adequacy of toilet facilities – critical condition in 2020. Bush toileting evident, littering from toilet paper.
 - Vandalism & theft – trees being cut for firewood, graffiti on trunks.
 - Modified wildlife behaviour at campsites and landing area re. accessing food and bush toileting.
 - For remote experience – same as above but also unauthorised vehicle access.

Management Implications

- Overall volume of visitors remains small compared to the beach, however, indicators show that pressures are resulting in negative environmental impacts - focus on low impact activity should be maintained.
- Monitoring of bush toileting impact should be maintained.
- Communication focus to support management and mitigation actions.

Figure E: Healthcheck Summary

Year	Site	Key Value	Indicator	Condition	Notes
Visitor and Historic Cultural Key Values					
2017		6a Beach camping			Site 1 – T7 Teewah Beach camp Site 2 – T5 Teewah Beach camp Site 3 – T3-T4 Beach camp

Year	Site	Key Value	Indicator	Condition	Notes
	Site 1,2		Ground surface damage or modification	Significant concern	T5 Ghosts camp
	Site 1,3		Widening/spread of footprint	Significant concern	
	Site 1,2		Trampling by visitors or animals	Significant concern	
	Site 1,3		Adequacy of toilet facilities	Significant concern	Nearest toilets @ Freshwater DUA 40km away
	Site 1,3		Vehicle impacts	Significant concern	Some evidence of shortcutting across vegetated dunes
	Site 3		Litter or dumped rubbish	Significant concern	Toilet paper nearby
	Site 1		Campfire places outside of designated fire pits	Significant concern	3-4 fire scars. Fires permitted but scars/pits of concern T5 – fires permitted 1X firepit + several scars
			Condition of roads		Access through to campsite T5 – no defined track, safety issue potential
			Vandalism and theft		Some tree limbs have axe damage
2018	Site 1,3		Ground surface damage or modification	Significant concern	
	Site 1,3		Widening/spread of footprint	Significant concern	
	Site 1,2,3		Vandalism and theft	Significant concern	
	Site 1,3		Vehicle impacts	Significant concern	
	Site 1, 2,3		Modified wildlife behaviour	Significant concern	
	Site 1		Trampling by visitors or animals	Significant concern	
	Site 1,2,3		Adequacy of toilets	Critical	
	Site 1		Litter or dumped rubbish	Significant concern	
	Site 1		Infestation of pest plants	Significant concern	
2019	Site 1,3		Ground surface damage or modification	Significant concern	6a.1 Exposed roots on most trees. Camp pad expanding, area devoid of vegetation loss of ground cover, vegetation. 6a.2 Access (vehicles/walking) track to sites across freshwater creek. Erosion. 6a.3 Vehicles, camping, people activity pushing into vegetation. Erosion. Track well established on dune behind camp pad – evidence of

Year	Site	Key Value	Indicator	Condition	Notes
					toileting and may also be used to obtain beach views.
	Site 1,3		Widening/spread of footprint	Significant concern	6a.1 Spread of the camp footprint evident. 6a.2 Track for views or toilet widening. Some spread into surrounding vegetation. 6a.3 Camp pad spread (vehicle and pedestrian) has pushed into vegetation, foredunes and dunes. Erosion, informal tracks emanating from camp pad.
	Site 1,2,3		Trampling by visitors or animals	Significant concern	6a.1 Spread of camp. Tree roots exposed, expanding site, devoid of ground cover. 6a.2 Exposed tree roots, expanding site, erosion and broken limbs. 6a.3 Exposed roots, broken tree limbs, trampled grasses, native vegetation and pest plant species.
	Site 1,2,3		Vandalism and theft	Site 1 Critical Site 2,3 Significant concern	6a.1 Substantial vandalism of trees e.g., axe marks, evidence of trees cut down, used for fires. Broken branches, gathered for potential use as kindling. 6a.2 Axe marks on trees, cut down branches on majority of trees. 6a.3 Axe marks throughout, cut and broken trees and branches - potentially used as firewood.
	Site 1,2,3		Adequacy of toilet facilities	Critical	6a.1 Bush toileting extensive and evident throughout the entire site – toilet paper, faeces. 6a.2 Evidence of toileting all over campsite and surrounds. Tracks and bush areas cluttered with toilet paper. 6a.3 Extensive evidence of bush toileting throughout site and surrounds including on informal track up dunes behind the camp area. Public health and safety concerns.
	Site 1		Vehicle impacts	Significant concern	6a.1 Vehicles pushing in, on and over vegetation – spread of camp footprint. 6a.2 Access track to camp area/site is over a freshwater creek. 6a.3 Vehicles encroaching on vegetation, spread of camp node.
	Site 1,3		Litter or dumped rubbish	Significant concern	6a.1 Scattered rubbish, small plastics throughout site. Toilet paper – extensive.

Year	Site	Key Value	Indicator	Condition	Notes
					6a.2 Ash, small plastics and a lot of the small bits of rubbish in the sand and in bush. 6a.3 Toilet paper throughout camp node, dunes, amongst vegetation including pest plant species. Litter including small plastics, cable ties, bottle lids, cigarette butts.
	Site 1,2,3		Campfire places outside of designated fire pits	Significant concern	6a.1 No designated fire pits. Fires are permitted in camp zone (except during fire bans/prohibitions). Sand was very black due to fire scaring, remains of burnt timber, coals, ash throughout the site was extensive. Damage to native vegetation – burnt, dead. Condition class bordering on critical. 6a.2 No designated fire pits. Campfires are permitted within the camp zone. Some evidence of fire scars within the campsite, scattered ash and coals. 6a.3 Fires are permitted anywhere in camp zone. Fire scars, ash, coals.
	Site 1,2,3		Modified wildlife behaviour	Significant concern	6a.1 Goannas and crows habituated. Wild dogs, foxes and cane toads. 6a.2 Goannas and crows are habituated. Wild dogs, foxes and cane toads. 6a.3 Goannas and crows are habituated. Wild dogs, foxes and cane toads.
	Site 1,2,3		Infestation of pest plants	Significant concern	
2017		6b 4WD experience			Site 1 – Teewah Beach Site 2 – Freshwater Road – Bymien Picnic Site 3 – Kings Bore Circuit
	Site 1		Vehicle impacts	Significant concern	Sign Concern also on Beach (Site 2)
	Site 1		Litter or dumped rubbish	Significant concern	
	Site 2		Vandalism and theft		Cooloola Way dumping Site 2 – minor with sites off Road (theft) Rainbow Beach Rd, rubbish dumping
2018	Site 2		Ground surface damage or modification	Significant concern	Freshwater Road is very dry and Christmas/school holidays have just finished. Areas of exposed roots and drainage failure, causing rough driving conditions.

Year	Site	Key Value	Indicator	Condition	Notes
	Site 3		Widening/spread of footprint	Significant concern	Western firebreak is soft in many areas and vehicles are pushing into the vegetation widening the tracks
	Site 1		Litter or dumped rubbish	Significant concern	Rubbish on high tide mark washed in on the tide, camping rubbish left on the beach.
2019	Site 3		Widening/spread of footprint	Significant concern	6B.2 In peak periods vehicles pull to side of road (widening /encroaching on vegetation) to allow cars travelling in opposite direction to pass. 6B.3 Western firebreak is soft in many areas and vehicles are pushing into the vegetation widening the tracks. Refer to indicator 2. above.
	Site 3		Trampling by visitors or animals		6B.3 Trampling by visitors at Frankies Gulch to access the water. Tracks to water. Trampling of vegetation.
	Site 2,3		Vandalism and theft		6B.2 In experienced drivers, not driving in 4WD damages the road. Some vandalism to signs. 6B.3 Historically, signs damaged, gates rammed, fences pulled down.
	Site 2,3		Vehicle impacts		6B.2 Road widening, encroaching on vegetation, inexperienced 4W drivers, in appropriate tyre pressures, not in 4WD. 6B.3 Motorbikes accessing restricted fire lines, no new roads formed. None noted on day of HC.
	Site 2,3		Litter or dumped rubbish		6B.2 Some rubbish scattered on road including bottles, cans, food packaging, cigarette butts. 6B.3 Dumping on occasion at the start of the Camp Milo track.
2017		6g Coloured Sands			Site 1 – Red Canyon Site 2 – Leisha end of Coloured Sands
	Site 1		Ground surface damage or modification	Significant concern	6.7a heavily eroded and graffitied by visitors, immediate concern
	Site 1,2		Widening/spread of footprint	Significant concern (Site 2 was Good with some concern)	6.7a increasing tracks everywhere 6.7b can be of a larger concern during peak periods
2018	Site 1		Vandalism and theft	Significant concern	
	Site 1,2		Ground surface damage or modification		1. Illegal tracks formed within the site, extreme soil runoff and soil movement. 2. Sand tobogganing on cardboard, visitors climbing up dunes, sliding down dunes

Year	Site	Key Value	Indicator	Condition	Notes
	Site 1		Widening/spread of footprint		1. To the north is an informal track that has been created by visitors climbing down the dune, damage to vegetation on the top of the dune creating a large scar and widening the footprint. Informal tracks are well established throughout site
	Site 1,2		Trampling by visitors or animals		1. New tracks formed around the site from people climbing the dune and within Red Canyon. Site is extremely disturbed, fire recently burnt vegetation around the site. 2. Sand tobogganing on cardboard, visitors climbing up dunes, sliding down dunes.
	Site 1,2		Adequacy of toilets		1. No facilities on site. No signs of toileting but some is likely to occur. 2. Toilets located at Double Island Point.
	Site 1,2		Vandalism and theft		1. Defacing of dunes e.g., carving of names, digging holes into and through sections of the sand cliffs and pillars, climbing, collecting of coloured sands. 2. Etching into sand along coloured sands, removal of coloured sands by visitors.
2019	Site1		Ground surface damage or modification	Significant concern	1.Extensive informal tracks, erosion 2. Climbing up dunes, sliding down dunes, sand-tobogganing on cardboard or other modes
	Site 1		Widening/spread of footprint	Critical	1. Extensive. Integrity significantly impaired. Informal tracks throughout, well established tracks.
	Site 1		Trampling by visitors or animals	Critical	1. Human impacts. Amenity significantly disturbed. Extensive disturbance, trampling off designated track.
	Site 1		Vandalism and theft	Critical	1.Extensive vandalism, almost 80% of site. Deep gauging. Offensive graffiti. 2. Etching, collecting of coloured sands
2020	Site 1		Ground surface damage or modification	Critical	Site 1. The Key Value is severely threatened. Both human and natural processes have severely impact the integrity of the site. Sand slide, severe erosion, rock fall, unstable cliff faces - pose serious threat to human life. Critical – General public access to the site should be prohibited. Danger tape erected at entrance – across bollards. This section should be read

Year	Site	Key Value	Indicator	Condition	Notes
					in conjunction with HC indicators 4,5 and 7.
	Site 1		Widening/spread of footprint	Critical	Site 1. Extensive evidence. Integrity significantly impaired. Informal tracks, short cutting, climbing on dunes. Vegetation cover occurring naturally over entrance track, formal and of informal tracks. Impacts by rain waters, has caused significant erosion, massive sand slide has collapsed dunes, potentially exasperated by inappropriate trampling, proliferation of tracks over the dunes/site by visitors. Recent fires have occurred in the vicinity of Red Canyon - removal of leaf litter may have contributed to surface runoff.
	Site 1		Trampling by visitors or animals	Critical	
	Site 1		Vandalism and theft	Critical	Site 1. Impacts / effects of ongoing long term vandalism are evident. Much of the offensive graffiti, etching and gouging has been smoothed of by water run-off and/ or longer visible due to collapsed dunes. Access to the site is restricted / no longer accessible without further disturbance or safety risk to staff conducting the Health Check assessment.
2017		6h Everglade Experience			Site 1 – Campsite 5 Site 2 – Campsite 4 Site 3 – Campsite 3 Site 4 – Harrys Hut river access Site 5 – Figtree DUA
	Site 1		Campfire places outside of designated fire pits	Significant concern	
	Site 2,3		Widening/spread of footprint		Site 2 – Extra campsite created near river Site 3 – New tracks between jetties
	Site 3,4		Trampling by visitors or animals		Site 3 – new tracks between jetties Site 4 – Grass cover thinning due to constant use
	Site 4		Vandalism and theft		Site 4 – Some graffiti on jetty
	Site 5		Modified wildlife behaviour		Site 5 – Can be when visitor boats arrive

Year	Site	Key Value	Indicator	Condition	Notes
	Site 1,2,3		Impacts on wetlands		Site 1 – Potential impacts of bush toileting on water quality Site 2 – Bank erosion caused by visitors affecting water quality Site 3 – Site hardened /small area beside jetty Site 5 – Some impacts around edge
2018	Site1		Ground surface damage or modification	Significant concern	
	Site1		Widening/spread of footprint	Significant concern	
	Site 1		Trampling by visitors or animals	Significant concern	New project will address this issue. Separate site for day use and walkers
	Site 1		Vandalism and theft	Significant concern	
	Site 1		Campfire places outside of designated fire pits	Significant concern	
	Site 4		Ground surface damage or modification		Some impact at canoe launch
	Site 4		Trampling by visitors or animals		Some impact at canoe launch
2020					Site 1 – campsite 8 Site 2 – campsite 5 Site 3 – campsite 4
	Site 2		Ground surface damage or modification	Significant concern	Site 2 - 4 x satellite campsites
	Site 1,2		Campfire places outside of designated fire pits	Significant concern	Site 1 - Fires prohibited. Evidence of campfires x 3. Site 2 - Fires prohibited. Charcoal and ash evident.
	Site 1,2		Vandalism and theft		Site 1 - Axe marks on trees, sawed branches Site 2 - Axe marks on logs, trees, words carved in scribbly gums.
	Site 1,2		Litter or dumped rubbish		Site 1 - Small plastics, toilet paper including wet wipes. Site 2 - Toilet paper.
	Site 1,3		Modified wildlife behaviours	Significant concern	Site 1 - Wildlife digging up bush toileting e.g., feral pigs.
	Site 1,2,3		Adequacy of toilet facilities	Critical	Site 1 -No facilities provided 16 toilet sites. Toilet tracks x 4. Wildfire less than 12months ago, would have burnt past evidence of toileting, indicating bush toileting is recent. Toilet paper and wet wipes.

Year	Site	Key Value	Indicator	Condition	Notes
					Site 2 - No facilities provided. 9 informal bush toileting tracks emanating from camp pad.
	Site 2		Widening/spread footprint	Significant concern	Site 1 - Landing area, camping beside river, informal tracks bush toileting. Site 2 - Landing area, toileting sites, satellite nodes, informal track to Great Walk or for bush toileting.
			Impacts on wetlands		Human waste potentially seeping into river, via runoff. Feral pigs. Landing area erosion impacting on aquatic vegetation/fish species
2017		6h Everglade Experience Remote			Site 1 – Campsite 9
			Adequacy of toilet facilities	Significant concern	No toilets provided. Tracks from campsite. Toilet paper visual, human waste visible
			Campfire places outside of designated fire pits	Significant concern	3 fire areas, fires prohibited
			Widening/spread footprint		Satellite campsite, devoid of vegetation, well established, site hardened, loss of vegetation along the riverbank, trampling of aquatic vegetation, toilet tracks
2018					Site 1 – campsite 5 Site 2 – campsite 4 Site 3 – campsite 8
	Site 1,2,3		Ground surface damage or modification	Significant concern	Site 3 – campers need to access site through gully
	Site 1,3		Widening/spread footprint	Significant concern	
	Site 1,2		Trampling by visitors or animals	Significant concern	
	Site 1		Adequacy of toilet facilities	Significant concern	
	Site 2		Vandalism and theft	Significant concern	
	Site 1,2		Vehicle impacts		Motorbikes in Great Walk
2020					Site 1 - 6h_5_Upper Noosa River, Fig Tree Point camping and day-use Site 2 - 6h_7_ Upper Noosa River, Harrys camp and day-use area Site 3 - 6h_3_Upper Noosa River, Campsite 3

Year	Site	Key Value	Indicator	Condition	Notes
	Site 3		Ground surface damage or modification	Significant concern	Site 1 - Minor signs of erosion and compaction around canoe landing and storage area. Site 2 Hardened areas, devoid of vegetation, erosion, outside landing / jetty footprint – access to river. Site 3 - Expanding camp nodes. Landing area outside of footprint increasing in size. Informal walking tracks, roots exposed.
	Site 3		Widening/spread footprint	Significant concern	Site 1 - Evidence of shortcutting between camp nodes Site 2 - Some widening evident, shortcutting, inappropriate camping – camp footprints. Landing areas – widening, river access. Wire fencing around jetties has been removed - used to work as a deterrent. Site 3 - Expanding camp nodes. Landing area outside of footprint increasing in size. Informal walking tracks, roots exposed.
	Site 1,2		Adequacy of toilet facilities		Site 1 Small amount of bush toileting around camp nodes – minor. Site 2 Some evidence of bush toileting – Minor. Gough Hybrid – issues with toilets.
	Site 2		Modified wildlife behaviour	Significant concern	Site 1 - Complaints re bush rats in campsites including chewing thru tents. Site 3 - Goannas, rats, mice. Campers leaving food unsecured or out in the open.
	Site 1		Impacts on wetlands		Site 1 - Some disturbance to vegetation around canoe landing, launch area.
	Site 2		Vandalism and theft		Site 2 Superficial scars on trunks, name etching, broken branches. Vehicle circle work evident in helipad. Visitors are moving logs for entry to helipad.
	Site 2,3		Campfire places outside of designated fire pits		Site 2 Fires prohibited. Charcoal and ash evident in some sites. Site3 - Etching on tables, axe marks on trees and broken branches. Site 3 Fires prohibited. Fire sites are common, charcoal, ash, increasing – noted by local rangers.
	Site 3		Vehicle impacts		Site 3 Vehicle access by public prohibited. Unauthorised use, motorbikes – circle work on helipad, mountain bikes using walking tracks, vehicles are going around gates.

Year	Site	Key Value	Indicator	Condition	Notes
Natural Values					
2017		1a Perched barrage and window lake			Site 1 – Freshwater Lake a Site 2 – Freshwater Lake b Site 3 – Broutha Lake/waterhole Site 4 – Poona Lake Site 5 – Lake Coolamerra
	Site 1,2		Infestations of ecosystem-changing pest plants	Significant concern	Lantana is common amongst understory Site 1 and is a popular tourist destination – potential for invasive weeds to enter
	Site 1		Trampling by visitors or animals	Significant concern	
	Site 1		Ground cover	Significant concern	
	Site 1,4		Risk of future invasions by significant pest plants		The potential for significant weed species to be spread at sites 1 and 4 are greater due to the high number of visitors, and walking tracks close by.
	Site 1,3,4		Trampling by visitors or animals		Impact caused by visitors with Site 1 and 4 being the most severe impact. Site 3 receives less visitors.
2018					
	Site 1,4		Ground cover	Significant concern	
	Site 1,3,4		Trampling by visitors or animals	Significant concern (only site 1)	Site 3 – Human trampling Site 4 – Severe trampling
	Site 4		Impacts on wetlands		Impact due to trampling and visitor use of site
2020	Site 4		Impacts on wetlands	Significant concern	Site 4 – Trampling and visitor use (legal and illegal e.g., camping)
	Site 1,4		Ground cover	Significant concern	
	Site 4		Trampling by visitors or animals	Critical	Severe trampling
	Site 1		Overtopping, erosion associated impacts	Significant concern	Trampling has caused erosion and overtopping
2017					
		1b Patterned Fens and Wetlands			Site 1 – South of Cameron Pt firebreak 2.3km west of Rainbow Beach Rd Site 2 – East of Cameron Pt 1.6km wet of QPWS workshop Site 3 – North of Cameron Pt firebreak 900m west of Rainbow Beach Rd Site 4 – Noosa River camp 3 Site 5 – noosa River East 2

Year	Site	Key Value	Indicator	Condition	Notes
	Site 1,2,3,4				Sites 1,2,3,4 have roads nearby within 200m therefore there is the potential for weeds to spread into fen communities in the future. Site 4 has a walking track within 100m of the site some potential for weeds dispersal.
2017		1c Noosa River Everglade (upstream from site 3)			Site 1 – Downstream from camp 2 Site 2 – Downstream from camp 1 Site 3 – Harrys Hut River access
			Ground cover		Unsure of Site # (some erosion due to flood and visitor impacts)
2017		2a Rainforest on parabolic dunes			Site 1 – Freshwater Rd – 5km east of Rainbow Beach Road Site 2 – Kavri Camp (walker) via the Link Road Site 3 – Thannaie Scrub 1km SE of Broutha waterhole via Broutha Scrub track.
			Trampling by visitors or animals		Unsure of Site # (possible issues with trampling)
Other Values					
2018		Other Carlo Sandblow	Adequacy of toilet facilities	Significant concern	No facilities. People camping in carpark, toileting. High use site. Toileting at the sandblow.

Healthchecks are undertaken from the perspective of the desired levels of service for the area with consequences/ impact on values defined.

Figure F: Desired Levels of Service for Cooloola Recreation Area

Fire management	Very high
Pest management	Very high
Natural values management	Very high
Historic cultural heritage management	High
Visitor management	Exceptional
Community, partnerships and other interests	Very high
Field management capability	Exceptional
Operational planning & management support	Exceptional

Figure G: Definition of Consequences/ Impacts on Key Values

Consequence	KEY VALUE		
	Natural	Visitor	Heritage
Catastrophic	The threat is currently destroying, or likely to destroy or be extremely detrimental to the condition of all or most of the value.		
	Impact is possibly irreversible; otherwise, recovery period greater (possibly far greater) than 20 years likely.	Impact is possibly irreversible, and all or a significant proportion of the value (including visitor experience) is likely to be lost.	Impact is irreversible. Near or total destruction of fabric or relics resulting in the loss of a significant proportion of the value. Mitigation of impact is not feasible.
		Safety is a significant concern.	Safety is a significant concern.
		Site closure definite.	Site closure definite.
Major	The threat is currently or likely to cause severe and long-lasting impacts to all or significant components of the value		
	Recovery period (in the absence of the threat) of 10-20 years likely.	Full/substantial replacement and/or major repairs required.	Majority of heritage fabric is significantly damaged but some or all of the impacts can be mitigated.
		Safety likely to be a significant concern.	Safety likely to be a significant concern.
		Site closure is likely.	Site closure is likely.
Moderate	The threat is currently causing or likely to cause detrimental impact to the value or some significant components of it.		
	Recovery period (in the absence of the threat) of 5-10 years likely.	Damage is not permanent and can be remedied. Impact to value can be mostly/fully mitigated if addressed promptly.	Damage to heritage fabric is not permanent and can be remedied. Impact to value can be fully mitigated if addressed promptly.
		Some to substantial remediation/repairs required. Safety concerns likely.	Safety concerns likely.
		Short term site closure may be required.	Short term site closure may be required.
Minor	The threat is currently causing or likely to cause minor and reversible impacts only discernible in parts of the value and/or would not impair the overall condition of the value.		

Consequence	KEY VALUE		
	Natural	Visitor	Heritage
	Minimal and/or short-term ecological impact.	Damage is superficial and easily remediated. Impact on value is temporary and reversible if addressed.	Damage to fabric is superficial and easily remediated. Impact on value is temporary and reversible if addressed.
		Safety concerns unlikely or easily mitigated.	Safety concerns unlikely or easily mitigated.
Insignificant	No impact or no discernible effect on the condition of the value.		
	No discernible ecological impact	No impact to visitor experience. No safety concerns	No impact to the value. No safety concerns.

Current/ Ongoing Environmental Research

A range of other environmental research is also currently ongoing throughout Cooloola Recreation Area, which can support overall monitoring and assessment of sites.

Figure G: Additional Environmental Research Currently Being Undertaken

Value	Project title	Project outline	Organisation & researcher	Timeframe
Upper Noosa River– (indicator species - water mouse)	Understanding the ecological significance of the water mouse & its preferred habitat	Research encompasses whole of SEQ. Includes camera & Elliott trapping; measurements; DNA sampling. Pilot project with microchipping commencing 2017.	Nina Kaluza, UQ	Commenced in SEQ 2011; current permit period is 1/5/2015-30/4/2020
Heath communities	Pollinator diversity & pollination services in wallum heathlands	- Assess diversity & abundance of insect pollinators & flower visitors in heathland in large reserves (K'gari & Cooloola). - As above in smaller reserves subject to greater human disturbance - Assess abundance of flower visitors at 2 sites – 1 intact; 1 fragmented	Helen Wallace (Sunshine Coast Uni)	TBD
Heath communities	Answering questions about the diversity & species composition of different types of heath.	DNA barcoding to map biodiversity & understand biogeographical & ecological factors determining composition of heathlands on Sunshine Coast (including Cooloola & K'gari)	Hilary Pearl (University of Sunshine Coast)	6/7/2016-5/7/2019

Value	Project title	Project outline	Organisation & researcher	Timeframe
Heath communities	Bushfire recovery grant from Commonwealth after 2019 wildfires (Heath communities)	Bushfire Recovery Grant including Ground Parrot Surveys, Southern Emu Wren, Walum Frogs species, Christmas Bells and Boronia sp.	Tracy Churchill and Geoff Smith from DES Threatened Species Unit	2020 - 2022
Lakes, rivers and wetlands	Bushfire recovery Freshwater Fish survey Commonwealth Grant	Looking at the impact on 2019 wildfires on significant fish species in Cooloola	Mark Kennard, Griffith University	2020 - 2022
Lakes, rivers and wetlands	Australian Crayfish Project	Conduct aquatic biological surveys across Australia, to determine new species and species distributions.	Robert McCormack, Australian Aquatic Biological Pty Ltd	2019 - 2026
Heath communities and Rainforests on parabolic dunes	Impact and drivers of insect herbivory on nutrient cycling in forests globally	Determine to what extent insect herbivory in forests globally alters soil nutrients, and whether these impacts should be included in models used to generate climate predications.	Bernice Hwang, Lund University, Sweden	2019 - 2021
Heath communities	Fire management and the ecology of threatened flora	Research is aimed at improving conservation outcomes of planned burns, with a focus on heath communities in Queensland.	Mark Ooi, Centre for Ecosystem Science, School of BEES, University of NSW	2018 - 2021
Beach camping	Prioritising restoration actions for coastal ecosystems.	Overall goal of the project is to use quantitative information to create a structured, data-supported framework for prioritisation, implementation, and assessment of coastal restoration actions.	Brittany Elliott, University of the Sunshine Coast	2020 - 2023
Heath communities and Rainforests on parabolic dunes	Cooloola Bio Blitz	North Cooloola Citizen Science Bio Blitz	Fraser Island Defenders Organisation, in conjunction with University of the Sunshine Coast	2018 - 2021

Value	Project title	Project outline	Organisation & researcher	Timeframe
Heath communities	A temporo-spatial analysis of feeding habitats of the Glossy Black Cockatoo (<i>Calyptorhynchus lathami</i> ssp. <i>lathami</i>) in southern Queensland	The research involves the feeding habitat of the vulnerable Glossy Black Cockatoo (GBC) (<i>Calyptorhynchus lathami</i> ssp. <i>lathami</i>).	Gabriel Conroy, University of the Sunshine Coast	2020 - 2025
Rainforest on parabolic dunes	Restore and renew collections - the Royal Botanic Garden Sydney	The project seeks to determine/measure the amount of spatially structured genetic diversity both within and across species in relation to their distributional extent and provide insights into the evolution and biogeography of the Australian rainforest.	The Royal Botanic Garden, Sydney	2018 - 2021
Lakes, rivers and wetlands	The impacts of climate variability and sea level rise on subtropical groundwater dependent ecosystems (GDEs) in an ecologically complex coastal environment.	This project seeks to identify and characterise groundwater dependent ecosystems that are vulnerable to climate variability and sea level rise, providing an estimate of ecosystem thresholds to ultimately describe early warning signs of change.	Maddy Dyring, University of Queensland	2020 - 2024
Lakes, rivers and wetlands	Living with threatened species in the Mary River catchment	To collect frog data regarding distribution, long-term persistence and population levels through targeted surveys throughout the stated catchment areas with emphasis on the Mary, Burrum, Noosa Rivers and Coastal catchments. To collect incidental records of other fauna by spotlight observation and Anabat detection of microbats. To collect Herbarium specimens to assist with mapping of distribution. To collect live fish, live aquatic invertebrates and turtle carapaces for identification as part of environmental monitoring programs, interpretation displays and school educational activities. To	Eva ford, Mary River Catchment Coordinating Committee	2018 - 2021

Value	Project title	Project outline	Organisation & researcher	Timeframe
		<p>increase public awareness through education and extension to property owners.</p> <p>To increase knowledge of the catchments in order to assist prioritisation of on-ground rehabilitation activities and wider planning exercises by local, state and federal government departments.</p> <p>To monitor construction projects that may impact on waterway health e.g., Highway upgrade, bridge works.</p>		
Rainforest on parabolic dunes and heath communities	Collecting fungi for research and educational purposes	The aims of this ongoing project are to broaden the baseline data and add to the known and unknown fungal species of Queensland.	Wayne Boatright, Queensland Mycological Society Inc	2018 - 2025
Rainforest on parabolic dunes and heath communities	Develop the Queensland Plant Pathology Herbarium collection to document the biodiversity of the fungi of Queensland.	The project aims to provide a greater understanding of the fungal flora of the National Parks, which in turn may assist in determining if fungi found are first records, new to science or exotic plant pathogens with the potential to threaten the environment.	Roger Shivas, Department of Agriculture and Fisheries - Queensland Plant Pathology Herbarium	2018 - 2023
Satinay/brushbox forests	Powerful owl monitoring, southeast Queensland	The project is looking to enhance knowledge and understanding of powerful breeding and nesting requirements	Dr Robert Clemens, Birdlife Southern Queensland	2018 - 2021
Heath communities	A new key for Australia's Bugle Subfamily (Ajugoideae: Lamiaceae): A phylogenetically informed taxonomy assisted by next generation sequencing methods	The project aims to provide a revision of the taxonomy of the Australian subfamily Ajugoideae (Lamiaceae) state-wide, using more modern sequencing methods than previously undertaken. The species in this family include westringia and prostanthera (mint bush), and all target species are listed as least concern.	Dr Trevor Wilson, in collaboration with the Queensland Herbarium	2020 - 2023

Appendix 6: Length of Camping Stays, 2021

Length of Stay

QPWS Region	Park	Facility	Nights						
			1	2	3	4	5	6	7
Coastal and Island Parks	Coolooloa Recreation Area	Teewah Beach camping zone 1	1,625	1,965	702	206	85	43	33
		Teewah Beach camping zone 2	3,271	4,228	1,484	464	199	145	124
		Teewah Beach camping zone 3	2,818	3,470	1,043	375	137	83	106
		Teewah Beach camping zone 4	2,182	2,706	935	283	160	82	69
		Teewah Beach camping zone 5	581	527	209	66	47	16	19
		Teewah Beach camping zone 6	549	575	182	69	32	6	8
		Teewah Beach camping zone 7	417	418	148	51	15	19	21
Grand Total			11,443	13,889	4,703	1,514	675	394	380

The number of active permits that start within a selected date range displayed by the Number of nights stayed.

Source: QPWS

Appendix 7: Tewantin Ferry Usage, 2009-2021

NO.OF VEHICLES	Crossing #'s 2021/22	Crossing #'s 2020/21	Crossing #'s 2019/20	Crossing #'s 2018/19	Crossing #'s 2017/18	Crossing #'s 2016-17	Crossing #'s 2015-16	Crossing #'s 2014-15	Crossing #'s 2013-14	Crossing #'s 2012-13	Crossing #'s 2011-12	Crossing #'s 2010-11	Crossing #'s 2009-10
YTD - inc Jan 22													
CROSSINGS													
STANDARD VEHICLE	154,511	265,915	187,933	231,669	237,044	244,400	225,513	209,746	204,831	188,413	190,739	181,177	225,527
MOTORBIKES	624	979	682	1,114	936	787	673	798	1,398	1,489	1,107	1,176	1,794
LONG VEHICLE-under 7.7	10,313	2,854	1,595	2,441	2,174	1,736	1,663	1,144	854	1,289	921	811	508
PROF FISHERMEN/WOME	-	488	415	461	182	381	401	443	540	912	919	1,049	1,036
BUS X LARGE-over56 to 7	313	371	256	369	342	346	280	260	168	220	218	224	188
BUS-upto 55 passengers	-	64	85	158	132	121	76	48	50	22	61	67	91
BUS-MEDIUM-upto 36 pass	42	80	240	285	731	944	764	828	432	107	185	103	79
TOUR BUS upto 24pax	96	1,009	959	1,034	1,030	1,199	1,087	1,022	1,431	1,176	1,955	1,610	1,314

Source: Noosa Council

Appendix 8: Summary capacity assessment against DPISR framework

DPISR is a causal framework for describing the interactions between society and the environment: Human impact on the environment and vice versa because of the interdependence of the components.

The European Environment Agency have adopted this framework. The components of this model are:

- Driving forces: e.g., industry, tourism, economic growth, population.
- Pressures: e.g., pollution, land-use change, population growth.
- States: e.g., water quality, soil quality, air quality, habitat, vegetation.
- Impacts: e.g., visitor experience, ill public health, habitat fragmentation, economic crisis, environmental damage, biodiversity loss.
- Responses: e.g., policy, regulations.

Focus on Area-wide DPISR Analysis

Site review and analysis of available data identified that many of the drivers, pressures and impacts at Cooloola Recreation Area are Area-wide, therefore capacity and sustainable visitor management analysis conducted during the study largely took a 'whole of area' perspective.

While many aspects of demand and pressures are Area-wide, impacts are often most prevalent in visitor hotspots (sites such as Teewah Beach and Double Island Point). As such, responses and management recommendations reflect his balance of area-wide and site-specific requirements.

Focus on Area-wide DPISR Analysis

Figure H shows the proforma used as the basis for gathering information to inform this study. Issues from analysis to note are as follows:

Drivers

- Drivers are predominantly Area-wide in scope. Local and regional population growth being identified as a key demand drivers.
- Values and management intent are well established via existing management planning. Cooloola Recreation area is managed to the Exceptional Level of Service for visitor management due to the significant number of visitors; its status as an international tourism destination; and the need to conserve the very high natural values which are critical to the visitors' experience. Exceptional is the highest Levels of Service (LoS) benchmark used to set the desired management standards across all Queensland National Parks.
- Sentiment from a range of stakeholders (community, businesses, visitors, Traditional Owners, public sector stakeholders) is recognised as an important driver for the area. Sentiment is largely well understood and has been factored into ongoing management planning, however, the surveys conducted during the study (community, user and tourism & business) provide an additional layer of detail.

Implications for the study/ application of the methodology

As a whole, drivers are well understood. Information available during the study provided a sound basis for analysis. Regarding future capacity and sustainable management monitoring, datasets and mode of research is replicable.

Pressures

Pressures were assessed in the form of levels and types of usage generated by demand drivers i.e., in practical terms, the number and peak levels of visitors and their activities.

Issues from analysis to note are as follows:

- Community and user surveys provided valuable activity and visitor profile data to complement previous visitor surveys, observation and experience noted by the QPWS team.
- Primary data sources for usage pressures were ANPRS records, booking records, VAP purchases. Adoption of ANPRS has provided a boost to understanding of site usage, however, datasets are imperfect with regard to fully informing capacity levels:
 - The mix of daily, weekly, monthly and annual VAPs means that determination of a total numbers of different categories of visitors accessing the site at any given time is problematic at present.
 - ANPRS provides for a much greater understanding of vehicle numbers, however there are limitations – multiple entry points and counting of ‘passes’ rather than unique vehicles.
 - Other data such as ferry usage and traffic movements complements QPWS data.
 - ANPRS provides data on vehicles, not individual visitors.
 - Noncompliance with VAP or camping permit requirements, means that permit records are also open to some interpretation from the perspective of understand usage and determining capacity limits.
 - QPWS has a body of data that enables trend analysis to be undertaken.
 - Individual sites largely rely on inputs from observation and experience rather than data – the open nature of the area (excluding campsites) means that individual numbers are difficult to understand outside counts at a specific point in time.

Implications for the study/ application of the methodology

As a whole, pressures are well understood at Area-wide level, and provide a reasonable basis for capacity modelling and development of sustainable visitor management responses, however there are weaknesses in available datasets. Data is also more limited at site level. Considerations for ongoing monitoring and application of the methodology for other sites include:

- Continued adoption of technological solutions and improved connectivity are crucial to better longer term understanding of pressures and usage. Automation across compliance and booking systems is also an important enabler.
- Purely in terms of monitoring and understanding pressures/usage, refinement of the number of VAPs available would assist in gaining a more accurate understanding of pressures.
- Camping and access permits which incorporate data on individual visitors as well as per site of per vehicle or per campsite. At present an accurate measures of total visitors at a particular point in time are not available.
- If connectivity is improved, telco data which records mobile phone presence at very small geographic areas can offer a step-change in real-time understanding visitor movement and clustering.

Datasets are imperfect, however, the methodology used to understand usage patterns and peak capacity periods is replicable (as a measure/monitor for this site, and at other National Park locations). The methodology can be complemented by improved monitoring as it comes on stream.

State

Information on state was informed by a mix of data, observation and experience. The focus of the study on capacity and visitor management at the Area-wide level, placed limits on detailed analysis at individual site level.

Issues from analysis to note are as follows:

- Environmental data was derived primarily from site healthchecks, and other individual datasets/studies. Data has been complemented by QPWS team observation and experience. Stakeholder surveys also provided information on sentiment towards environmental state.
- Inputs on social attributes are relatively strong, sourced from a mix of compliance data and stakeholder sentiment/ satisfaction feedback.
- Healthchecks provided records of issues noted for individual sites including degraded habitats and environments, with bush toileting and damage to dunes/areas surrounding camping zones and visitor hubs. Community, business, and permit holder responses to surveys undertaken indicate that degraded habitats and environments is the area of most significant concern.
- Policy records and compliance statistics provide a strong record regarding safety issues.
- Records on camping occupancy were sourced from QPWS's booking system. Good trend information is available.
- Consultation took place with Traditional Owners for the area – the Kabi Kabi.

Implications for the study/ application of the methodology

As the study focused on Area-wide capacity and management, detail identified on state at individual site level has been more limited. Observations include:

- An additional level of detail/ inputs is required when considering individual site capacities and management solutions.
- An area-wide framework provides the basis for management plans for individual sites, with healthcheck data providing an excellent initial input.

Impacts

Review of stakeholder survey data and available environmental management information suggests that behavioural issues, and peak visitation contribute to:

- Decreases in experience levels of visitors.
- Loss of amenity for residents who are closest to traffic queues and visitor hubs.

Research during the study has confirmed that capacity issues manifest themselves at Cooloola Recreation Area, particularly during peak visitation periods. Key issues to note are:

- Evidence demonstrates there are capacity impacts, especially at peak times.
- Evidence demonstrates demand will continue to increase, driven by population growth and societal/leisure trends.
- The area has a complex range of visitor groups, accessing the site via daily, weekly, monthly and annual VAPs as well as Rainbow Beach residents using the beach as a through-route.
- There are currently no accurate means to measure and regulate overall visitor numbers, including day visitor peaks.

Impacts include:

- Natural pinch points, including the ferry and the roads leading to it. Visitation hits daily peaks at entry/leaving times – queuing traffic is noted as a problem at the ferry entry/exit points.
- High numbers of vehicles on the beach during peak holiday periods, with particular concentration at hotspots such as Teewah Beach Camping Zone, Double Island Point, and Rainbow Beach/ Lagoons.
- Clustering of visitors at hotspots such as the camping zones, Teewah Beach/ lagoons, and Double Island Point.
- Perception and optics – large streams/ parking of 4WDs on the beach can be perceived as being at odds with management values.
- Environmental and habitat challenges, the most significant of which in the context of a busy Recreation Area environment are litter, the impact of bush toileting, hardening/creep of areas surrounding campsites, and damage to dune ecosystems.
- All stakeholder groups rated conservation and enhancement of the environment as the most important value for the area, however different stakeholder groups are impacted by high visitation levels in different ways;
 - Permit holders/ visitors are concerned primarily by falling experience levels.
 - Communities have a focus on conservation values and impacting on local amenity.
 - Conservation and environmental stakeholders have concerns regarding a range of issues regarding setting and habitat including damage to dune habitats and impact on flora/ fauna on the beach and inter-tidal zone. The impact of bush toileting at hotspots was a particular issue noted.

Implications for the study/ application of the methodology in the future

Levels of service and values set out management intent and provide a clear basis from which impacts, and management responses can be made.

Proforma for Site Assessment/ Inventory

Figure H: Site Assessment Proforma

Site/ Area Description	
• Site description/Area description	Data <input checked="" type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
• Location relative to main urban areas/source markets	Data <input checked="" type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Access	
• Access route – road, beach, ferry etc	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
• Condition of access routes	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input type="checkbox"/>
• Site access and use controls	
○ VAP	Data <input checked="" type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
○ Camping Permit	Data <input checked="" type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Drivers	
Demographics	
• Local population	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
○ 2021/2040 population	
• SEQ population	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
○ 2021/2040 population	
Values	
• Management plan/statement , draft visitor strategy	Data <input checked="" type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Management Intent	
• Management plan/statement , draft visitor strategy	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
• Consultation with QPWS teams	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Traditional Owner Expectations	
• Consultation	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
• Existing input into management planning	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
User Expectations	
• User survey	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
• Business and tourism survey	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
• Stakeholder interview	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Resident Expectations	
• Community survey	Data <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Experience <input type="checkbox"/>
• Stakeholder interview	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>
Socio-political Expectations	
• Consultation with key stakeholders	Data <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Experience <input checked="" type="checkbox"/>

Pressures

- Annual use – vehicles Data Observation Experience
- Annual use – campers Data Observation Experience
- Annual use – day visitors Data Observation Experience

- Trend in annual usage Declining Stable Increasing Rapidly increasing
- Forecast increased usage Data Observation Experience
- Peak daily usage Data Observation Experience
- Peak hourly usage Data Observation Experience
- Peak times of usage AM PM Evening Night All
- Visitor profile – predominant users Single Couple Family Group Other
- Age/socio-demographic profile Data Observation Experience
- Overall leisure trends Data Observation Experience
- Predominant user activities
 - User/resident survey sentiment Data Observation Experience
 - Consultation feedback Data Observation Experience

State – Flora and Fauna

Vegetation - healthchecks

- | | | | |
|----------------------|--|---|--|
| • Attrition | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Natural resilience | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Extent of weeds | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
-

Soil/ sand

- | | | | |
|---------------------------|--|---|--|
| • Compaction | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Extension of footprints | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
-

Water quality

- | | | | |
|--------------------|--|---|--|
| • Recreational use | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Ground water | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
-

Wildlife (disturbance)

- | | | | |
|-------------------------|--|---|--|
| • Habitat loss | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Unintentional feeding | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Intentional feeding | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Feral predators | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Domestic pets | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
-

Naturalness (in relation to values)

Predominance of

- | | | | |
|------------------|-------------------------------|---|-------------------------------------|
| • Nature | Data <input type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input type="checkbox"/> |
| • Constructions | Data <input type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input type="checkbox"/> |
| • Human presence | Data <input type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input type="checkbox"/> |
-

Evaluation against management intent

- | | | | |
|---------------------------------------|--|---|--|
| • Acceptable? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Intent threatened? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Exceeds acceptable change? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| • Management intervention | | | |
| ○ Maintain current management regime? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| ○ Monitor? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| ○ Increase current practice? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |
| ○ New action? | Data <input checked="" type="checkbox"/> | Observation <input checked="" type="checkbox"/> | Experience <input checked="" type="checkbox"/> |

State – Social Attributes

Noise

- Ambient/ peak daily levels Data Observation Experience
-

Crowding

- Max number of campsites per zone Data Observation Experience
 - Max number of daily visitors Data Observation Experience
-

User conflicts

- Complaints data Data Observation Experience
 - User/resident survey benchmarks Data Observation Experience
-

Safety

- Reported number of incidents Data Observation Experience
 - User/resident survey benchmarks Data Observation Experience
 - User/resident survey benchmarks Data Observation Experience
 - Number of QPS/ranger PINs, offences Data Observation Experience
-

User satisfaction

- User/resident survey benchmarks Data Observation Experience
 - Number of complaints Data Observation Experience
-

Evaluation against management intent

- Acceptable? Data Observation Experience
- Intent threatened? Data Observation Experience
- Exceeds acceptable change? Data Observation Experience
- Management intervention
 - Maintain current management regime? Data Observation Experience
 - Monitor? Data Observation Experience
 - Increase current practice? Data Observation Experience
 - New action? Data Observation Experience

State – Management Attributes

Utilities and Services

- Adequacy of power, water, sewerage, rubbish collection? Data Observation Experience

Facilities (where appropriate)

- Picnic tables Data Observation Experience
- Shelters Data Observation Experience
- Barbecues Data Observation Experience
- Play equipment Data Observation Experience
- Bins/skips Data Observation Experience
- Days at maximum capacity? Data Observation Experience
- Well maintained, needs maintenance, deterioration, safety concerns? Data Observation Experience

Camping

- Numbers of pitches Data Observation Experience
- Days at maximum capacity Data Observation Experience
- Numbers of permits sold Data Observation Experience

Potable Water

- Sources – mains, treated aquifer, tank? Data Observation Experience
- Uses – showers, taps Data Observation Experience
- Water usage levels Data Observation Experience

Toilets

- Numbers of male, female, unisex Data Observation Experience
- Type of provision – flush, sewer, septic, vault Data Observation Experience
- Unit/ system condition Data Observation Experience

Parking

- Numbers of formal/informal spaces Data Observation Experience
- Safety/ management concerns Data Observation Experience

Evaluation against management intent

- Acceptable? Data Observation Experience
- Intent threatened? Data Observation Experience
- Exceeds acceptable change? Data Observation Experience
- Management intervention
 - Maintain current management regime? Data Observation Experience
 - Monitor? Data Observation Experience
 - Increase current practice? Data Observation Experience
 - New action? Data Observation Experience

State – Management Attributes (Communication)

Communication – pre-visit (QPWS)

- Location values Data Observation Experience
- Protective behaviour Data Observation Experience
- Use opportunities Data Observation Experience
- Use explicit Data Observation Experience
- Safety precautions Data Observation Experience
- Sources of info – social media, website, print, Data Observation Experience

Communication – pre-visit (others including Noosa Council, Tourism Noosa)

- Location values Data Observation Experience
- Protective behaviour Data Observation Experience
- Use opportunities Data Observation Experience
- Use explicit Data Observation Experience
- Safety precautions Data Observation Experience
- Sources of info – social media, website, print, signposting
Data Observation Experience

Communication – on site orientation and interpretation

- Location values Data Observation Experience
- Protective behaviour Data Observation Experience
- Use opportunities Data Observation Experience
- Use explicit Data Observation Experience
- Safety precautions Data Observation Experience
- Sources of info – signage, brochure/map Data Observation Experience

Evaluation against management intent

- Acceptable? Data Observation Experience
- Intent threatened? Data Observation Experience
- Exceeds acceptable change? Data Observation Experience
- Management intervention
 - Maintain current management regime? Data Observation Experience
 - Monitor? Data Observation Experience
 - Increase current practice? Data Observation Experience
 - New action? Data Observation Experience

State - Cultural Attributes

Traditional Owner values

- Consultation
- Input into existing management planning

Data Observation Experience

Data Observation Experience

Historical values

- Consultation
- Literature review

Data Observation Experience

Data Observation Experience

Evaluation against management intent

- Acceptable?
- Intent threatened?
- Exceeds acceptable change?
- Management intervention
 - Maintain current management regime?
 - Monitor?
 - Increase current practice?
 - New action?

Data Observation Experience

Data Observation Experience

Data Observation Experience

Data Observation Experience

Data Observation Experience

Data Observation Experience

Data Observation Experience

Impact

Environmental

- Healthchecks
- Additional research/ monitors
- Stakeholder feedback/surveys

Data Observation Experience

Data Observation Experience

Data Observation Experience

Social

- Stakeholder feedback/surveys - sentiment

Data Observation Experience

Economic

- Stakeholder feedback/surveys
- Business sentiment

Data Observation Experience

Data Observation Experience

Response Options

Modification of site/area use

- Communication – pre visit and on site Data Observation Experience
 - Capacity caps/constraints Data Observation Experience
 - Pricing measures to incentive change Data Observation Experience
 - Enhanced Compliance and incentives for behaviour change Data Observation Experience
 - Dispersal measures Data Observation Experience
 - Zoning to limit user conflict Data Observation Experience
-

Modification of site character/ patterns of usage

- Upgrade facilities Data Observation Experience
 - Alter vegetation Data Observation Experience
 - Formalise use in hardened areas Data Observation Experience
 - Increase site hardening Data Observation Experience
-

Improved understanding/management tools

- Improved measurement/monitoring Data Observation Experience
- Safety enhancements Data Observation Experience

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the 1990s, the number of people in the UK who are aged 65 and over has increased from 10.5 million to 13.5 million, and the number of people aged 75 and over has increased from 4.5 million to 6.5 million (ONS 2002).

There is a growing awareness of the need to address the needs of older people, and the need to ensure that the health care system is able to meet the needs of older people. This paper discusses the need for a new approach to the care of older people, and the need for a new approach to the care of older people.

The paper is organized as follows. The first section discusses the need for a new approach to the care of older people. The second section discusses the need for a new approach to the care of older people.

The third section discusses the need for a new approach to the care of older people. The fourth section discusses the need for a new approach to the care of older people.

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