

TCI Cultural Use of Coastal Ecosystems

Darwin Plus DPLUS094

Developing Marine Spatial Planning (MSP) Tools for the
Turks and Caicos Islands

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Summary

Background and objectives

The beautiful coastline of the Turks and Caicos Islands (TCI) provide a cultural backdrop for the residents of these islands. The coastal and marine environment provides a range of cultural benefits that support local economies and communities such as recreation, heritage, and aesthetic enjoyment. However, while much data is collected on tourists who visit the islands for the sun, surf and sea, much less is known about local cultural uses of the coastal and marine environment. This leads to local cultural values to be undervalued in decision making and long-term planning.

The overall aim of the study is to assess the cultural value of TCIs natural environment. The specific objectives are to understand cultural *use* of the coastal and marine environment by TCI residents and the *value* the place on it.

Approach

The primary data collection tool was an online survey to generate primary data on usage and perceptions of cultural value. An online survey was chosen due to restrictions implemented on island as a result of COVID-19. A selection of coastal businesses was also surveyed via telephone to gain their insight on local resident use of the coastal and marine environment.

The survey first collected information on the beaches that respondents use most frequently, and activities participated in at those sites to understand the current recreational use of coastal locations. Questions also investigated distance travelled and money spent at the coastal locations. The survey then asks respondents about other cultural aspects of the coastal and marine environment including recreation, heritage and identify, and aesthetics, to get a qualitative understanding of different types of cultural value. The survey concludes with respondents' current environmental attitudes and questions to collect demographic information on the respondents.

The target sampling requirements for the survey was for a nationally representative sample of households in TCI based on the following respondent criteria: island of residence, age, gender, and place of origin. Sampling quotas were specified according to national statistics.

Findings

The total sample size for the online survey is 64. The sample size was lower than targeted due to restrictions in place for COVID-19, and so much of the analysis is not statistically robust for extrapolation to the population of TCI. However, the data that has been collected present a valid addition of initial evidence to support understanding of cultural use and value of the coastal and marine environment of TCI. In general, the sample is reasonably well matched to the sampling target based on national statistics for respondent island of residence and age. However, those from other non-Caribbean countries are overrepresented and those from other Caribbean islands are underrepresented, and females are overrepresented in the sample. Respondents

also have very pro—environmental attitudes.

A total of 40 coastal locations were in the top three of respondents most visited locations. Across the top locations, on average, respondents travelled 2,000 m and spend \$3 per trip, staying for two hours at the coastal site and visiting with three other people. Travelling to the destination by car is the most common (40%), followed by walking (20%), and cycling (10%). Respondents visiting Grace Bay Beach – the top most visited beach - typically spend the most amount of money (\$9 per visit). Respondents visiting Northwest Point National Park typically travel the furthest (4,000m), go with the greatest number of people (5), and spend the longest amount of time (over 3 hours).

Recreation, heritage and identity, and aesthetic enjoyment were qualitatively assessed, with respondents highly valuing beaches, reefs and mangroves for all of these cultural aspects, as demonstrated by the following quotations the importance of these features:

“These sites and features are very important to me and contribute to my overall happiness and spiritual wellbeing”

“They should be protected at all cost and accessible to all for recreation and enjoyment”

“These features/sites are very valuable to the people of the Turks and Caicos and helps define who we are as a people”

Table ES.1 summarises the importance of TCI’s coastal and marine environment.

Table ES.1: Importance of TCI's natural environment for cultural uses

Importance of TCI's natural environment for cultural uses	Average response rate (out of 10)
Importance of having access to the natural environment for recreation	9.6
Importance of outdoor recreational sites as a space for the community to gather	8.9
Importance of TCI environment to its heritage and identity	9.6
Importance of TCI's natural environment to enjoyment of where you live	9.4

Conclusions

The data collection activities were conducted during the coronavirus lockdown and this impacted the engagement levels; as such the sample size was lower than targeted, consequently much of the analysis is not statistically robust in application to the population of TCI. However, the data that has been collected presents a valid addition of initial evidence to support the understanding of cultural use and value of the TCI coastal and marine environment. The study also developed an approach and data collection tools (i.e. the survey) that can be applied intermittently to verify the results of this study and monitor change over time. As such this study has effectively acted as a pilot for further work in this area while providing a useful indicative understanding of the cultural use and value of the coastal and marine environment.

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1. Introduction

This report has been prepared as a component of the Darwin Plus project “Developing marine spatial planning (MSP) tools for Turks and Caicos Islands”.

1.1 Context and objectives

The beautiful coastline of the Turks and Caicos Islands (TCI) provide a cultural backdrop for the residents of these islands. The coastal and marine environment provides a range of cultural benefits that support local economies and communities such as recreation, heritage, and aesthetic enjoyment. However, while much data is collected on tourists who visit the islands for the sun, surf and sea, much less is known about local cultural uses of the coastal and marine environment. This leads to local cultural values to be undervalued in decision making and long-term planning.

The overall aim of this report is to assess the cultural value of TCIs natural environment. The specific objectives of this study are to:

- Understand cultural *use* of the coastal and marine environment by TCI residents.
- Understand the cultural *value* placed on the coastal and marine environment by TCI residents.

The primary data collection tool was an online survey to generate data on usage and perceptions of cultural value. A selection of coastal businesses was also interviewed to gain their insight on local residents’ use of the coast and marine environment. The data generated was compiled and analysed, to provide evidence and understanding of the use and value of TCI’s environmental asset for residents. The outputs from this work will help support marine spatial planning and the objectives of the wider project.

1.2 Outline

The remainder of this report is structured as follows:

- Section 2 sets out the methodology used to assess local cultural ecosystem services on TCI;
- Section 3 presents the results from the survey and the business interviews; and
- Section 4 provides a summary, a discussion of the limitations and high-level recommendations for future research.

The main report content is supported by the following annexes:

- Appendix A presents the script of the online survey;
- Appendix B presents the business interview guide; and
- Appendix C sample selection
- Appendix D provides the online survey raw data.

2. Approach

This section provides an overview of the study approach and methodology.

2.1 Natural capital accounting

The approach taken in this study follows a natural capital approach to allow the results to provide evidence to feed into existing and ongoing natural capital accounting work happening on TCI¹.

Natural capital is that part of nature which directly or indirectly underpins value to people, including ecosystems, species, freshwater, soils, minerals, the air and oceans, as well as natural processes and functions. The stock of natural capital assets provides (along with other types of capital) flows of benefits in the form of ecosystem services. These services are defined as the benefits people obtain from natural capital. This assessment of cultural value applies a natural capital accounting framework. The framework provides a coherent means for demonstrating the relationship between ecosystem assets, flows of ecosystem services, and the provision of final goods and services.

There is a wide range of cultural ecosystem services provided by TCI's coastal and marine ecosystems. **Table 2.1** provides a comprehensive list of cultural ecosystem services, as per the Common International Classification of Ecosystem Services² (CICES). This study is focused on the ecosystem services presented in bold. Quantification of ecosystem service use and value (as described in **Table 2.1**) is only focused on recreational ecosystem services. This assessment contributes additional evidence on these aspects, but it does not aim to measure and value all ecosystem services outlined in this list.

Table 2.1: Cultural ecosystem services

CICES	Common term
Characteristics of living systems that that enable activities promoting health, recuperation or enjoyment through <u>active or immersive interactions</u>	Recreation, tourism and physical health
Characteristics of living systems that enable activities promoting health, recuperation or enjoyment through <u>passive or observational interactions</u>	Recreation, tourism and mental health
Characteristics of living systems that are resonant in terms of culture or heritage	Heritage
Characteristics of living systems that enable aesthetic experiences	Aesthetic
Elements of living systems that have symbolic meaning	Symbolic
Characteristics of living systems that enable scientific investigation or the creation of traditional ecological knowledge	Research
Characteristics of living systems that enable education and training	Education
Elements of living systems used for entertainment or representation	Aesthetic
Elements of living systems that have sacred or religious meaning	Religious
Characteristics or features of living systems that have an existence value	Existence

¹ See *Natural Capital Accounting for the UK Overseas Territories: a Guide* (<https://data.jncc.gov.uk/data/ee730d0b-5884-4620-b9c6-df1cd49e60f1/UKOTNaturalCapitalGuidance.pdf>) and *TCI 2018 and 2019 NCAs* (<https://hub.jncc.gov.uk/assets/0766c05e-0cfb-4510-81cd-b768701bce32>)

² See *CICES Towards a common classification of ecosystem services* <https://cices.eu/>

Characteristics or features of living systems that have an option or bequest value	Bequest
Other	Other

2.2 Survey design and testing

This section describes the development, testing and structure of the online survey and business interviews.

The primary data collection tool was an online survey to generate primary data on usage and perceptions of cultural value (see Annex A for the outline of the online survey). An online survey was chosen due to the restrictions implemented on island as a result on COVID-19. A selection of coastal businesses were also surveyed via telephone to gain their insight on local resident use of the coast and marine environment.

The survey first collected information on the beaches that respondents use most frequently, and activities participated in at those sites to understand the current recreational use of coastal locations. **Figure 2.1** provides an overview of coastal locations included in the survey. Questions also investigated distance travelled and money spent at the coastal locations. The survey then asks respondents about other cultural aspects of the coastal and marine environment including recreation, heritage and identify, and aesthetics, to get a qualitative understanding of different types of cultural value. The survey concludes with respondents’ current environmental attitudes and questions to collect demographic information on the respondents.



Figure 2.1: Study area and coastal locations

The online survey and business interview questions were drafted by eftec and reviewed by the South Atlantic Environmental Research Institute (SAERI). The online survey was piloted at the end of July to early August 2020. Selected respondents were asked to complete the online survey, along with a feedback form. The purpose was to test respondent understanding of the content of the survey and to use feedback to improve the design of the survey. This ensured that the survey was accessible to a broad audience and produces robust data for analysis.

There were 22 completed responses of the online pilot survey (19 who were a resident of TCI and 3 who were not), as well 6 respondents completed a feedback form accompanying the survey suggesting changes on the structure and content of the survey. The main finding from the pilot survey indicated that including predefined options for respondents to select from facilitated their answers and helped ensure that less time is needed on manually assessing each answer during the data analysis process. An option for 'other' still allowed respondents to enter non-specified answers. Maps were also added to the survey labelling the coastal locations across TCI, and questions were streamlined to avoid repetition and definitions of coastal terms (e.g. coastline verse on the sea) were added for clarity. More details on the feedback and responses are provided in Appendix E.

The final structure of the online survey was as follows:

- Part 1 filtered users based on whether respondents are a current resident of the Turks and Caicos Islands, where those answering 'yes' were asked to continue the survey and those who were not were led to the end of the survey.
- Part 2 asked respondents to name their favourite coastal locations. A series of maps were provided to assist respondents when naming each coastal location.
- Part 3 investigated the use of the coastal and marine environment.
- Part 4 investigated recreational activity on TCI.
- Part 5 investigated the heritage and identity, and aesthetics values of TCI's coastal and marine environment.
- Part 7 covered residents' attitudes towards the coastal and marine environment.
- Part 8 covered background information such as island of residence and age.

The full online survey and business interview questions are provided in Appendix A and B respectively.

2.3 Sampling strategy

The main sampling requirements for the survey was for a nationally representative sample of households in TCI based on the following respondent criteria: island of residence, age, gender, and place of origin. Sampling quotas were specified according to national statistics. The target sample size was approximately 380 respondents. This is based on a local population of 43,000 in 2019 with a 95% confidence level and 5% margin of error. The full breakdown of sample selection based on key demographic characteristics is provided in Appendix C.

To get a representative sample of the population, the sample should be as random as possible. This requires dissemination of the survey to as wide a group as possible. A link to the online survey was

distributed by the SAERI team through multiple channels by advertising on social media and circulating through networks, advertisements and public forums.

3. Results

This section presents the data generated by the survey, including the respondent profile and attitudes on the environment, recreational uses of the coastal and marine environment, cultural values of the environment, and business interviews.

3.1 Respondent profile

A total of 91 respondents completed the survey online between mid-August to mid-September 2020. Of these, 67 were currently TCI residents. Three respondents were dropped from the analysis due to insufficient responses to Part 2 (favourite coastal locations) of the survey. The total sample size therefore is 64. The sample size was lower than targeted due to restrictions in place for COVID-19, and so much of the analysis is not statistically robust for extrapolation to the population of TCI. However, the data that has been collected present a valid addition of initial evidence to support understanding of cultural use and value of the coastal and marine environment of TCI.

The breakdown of the sample by respondent island of resident is shown in **Figure 3.1**. Across all age segments, the sample is reasonably well matched to the sampling target based on national statistics.

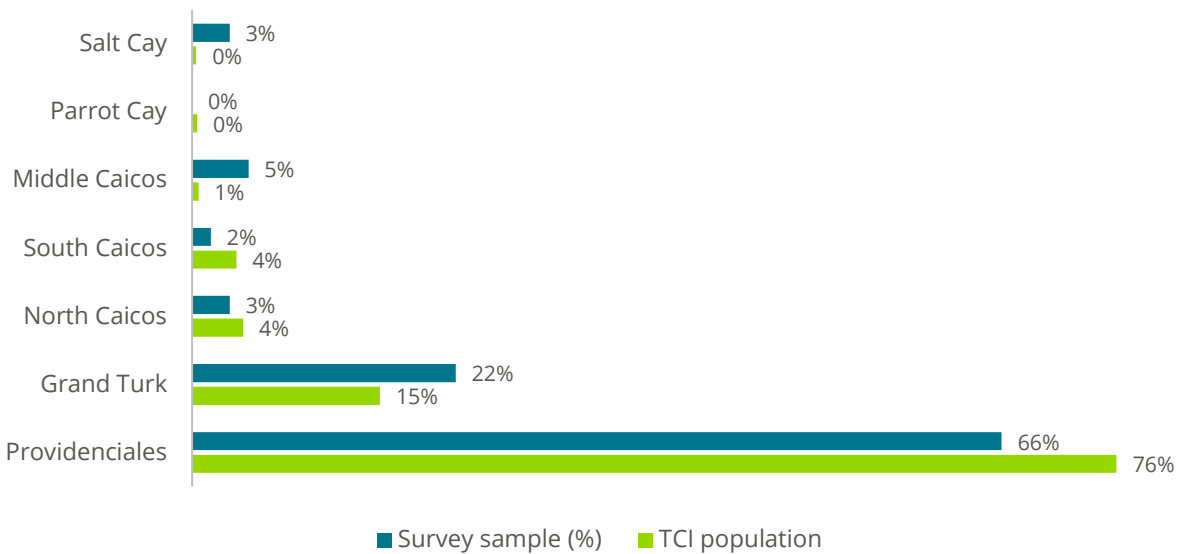


Figure 3.1: Sample representativeness - respondent island of residence

The breakdown of respondents by place of origin is shown in **Figure 3.2**. Respondents from TCI are represented in line with the sampling targets, however, those from other non-Caribbean countries are overrepresented and those from other Caribbean islands are underrepresented.

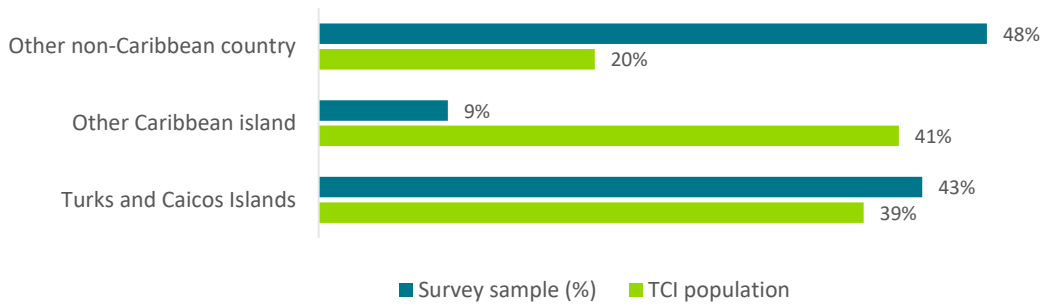


Figure 3.2: Sample representativeness - respondent place of origin

The proportion of female/males is shown in **Figure 3.3**. Females are overrepresented in the sample compared with the sample target.

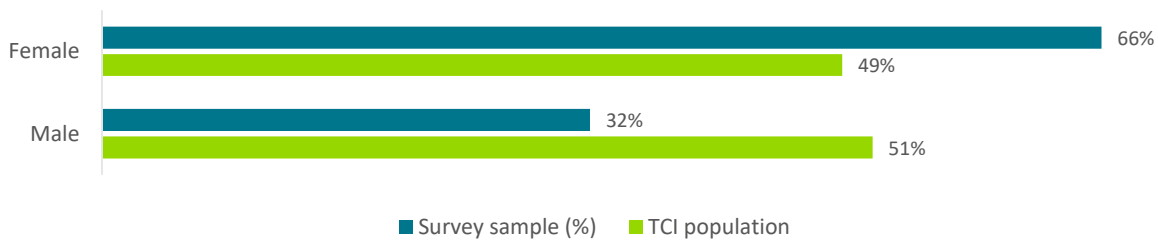


Figure 3.3: Sample representativeness - respondent gender

The breakdown of respondents by age is shown in **Figure 3.4**. The age profile in the sample is consistent with the sample targets.

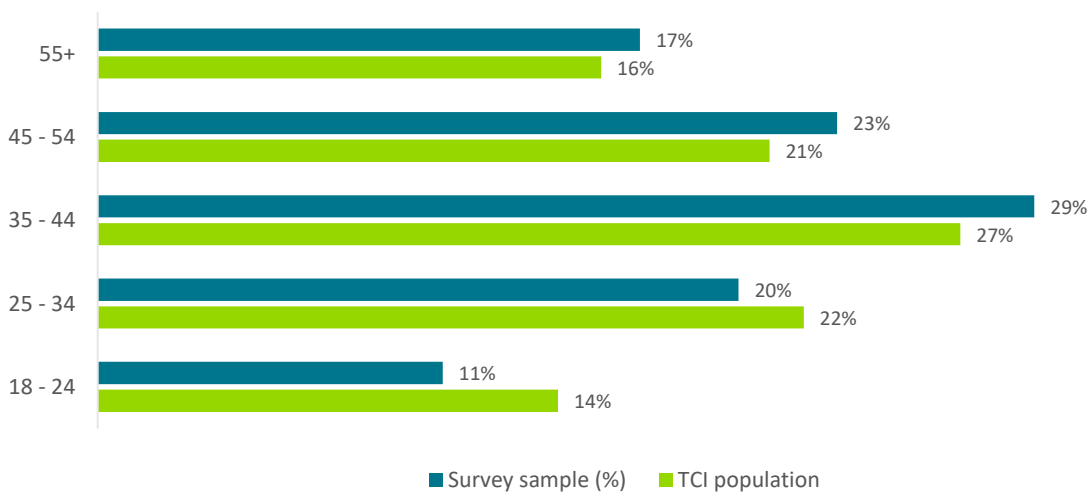


Figure 3.4: Sample representativeness - respondent age

3.1.1 Environmental attitudes

Figure 3.5 summarises the environmental attitudes of respondents on the importance of the coastal and marine environment. Five statements were provided for respondents to answer on a 5-point scale from strongly agree to strongly disagree. In general, the majority of respondents strongly agreed or agreed with all given statements. Approximately 94% of respondents believed that the coastal and marine environment should be recognised as a valuable asset. When asked about the importance of the coastal and marine environment for heritage and identity, 95% of respondents agreed or strongly agreed with this statement.

Around 82% respondents strongly agreed that the coastal and marine environment is a valuable place for recreation. There is a small variation in environmental attitudes between residents from Providenciales and Grand Turk – over 95% of respondents from both islands agree or strongly agree that the coastal and marine environment should be recognised as a valuable asset to TCI and is important as part of heritage and culture. Respondents from Providenciales and South Caicos were the only islands of residence to disagree or strongly disagree with any of the statements.

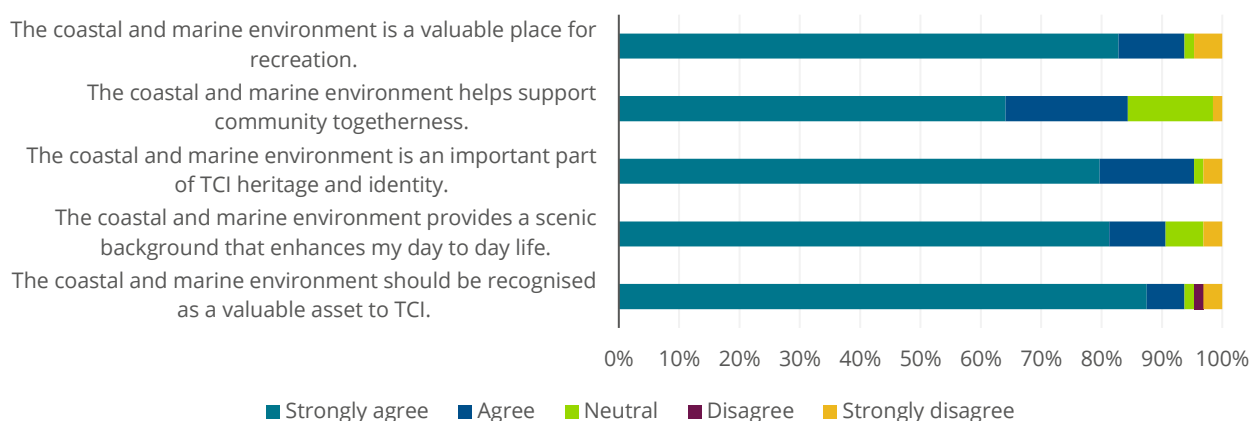


Figure 3.5: Attitudes towards the importance of the coastal and marine environment

3.2 Recreational use of coastal and marine environment

This section presents the results of TCI residents’ use of the coastal and marine environment.

Respondents were asked to name their first, second and third most visited coastal locations. The three most visited coastal locations were combined to give overall use of the coastal locations. A total of 40 coastal locations were in the top three of respondents most visited locations. The top 15 most frequently visited beaches are shown in **Table 3.1**. Grace Bay Beach on Providenciales was the most visited location, with 31 respondents (just under half) naming the location in their top three. Following this, two locations on Grand Turk – Governor’s Beach and Cockburn Town Beach – were among the most visited by 14 respondents. Of the total 40 locations most visited, 43% were on Providenciales, 20% on Grand Turk and 10% on Middle Caicos. North and South Caicos both had 8% of the most visited locations. Salt Cay, Water Cay, East Caicos and West Caicos all had less than 5% of the most visited locations each.

Table 3.1: Most frequently visited beaches

Location	Island	Number of respondents
Grace Bay Beach	Providenciales	31
Cockburn Town Beach	Grand Turk	14
Governor's Beach	Grand Turk	13
Smith's Reef	Providenciales	11
Leeward Beach	Providenciales	10
The Bight Beach	Providenciales	10
Taylor Bay	Providenciales	8
Sapodilla Bay	Providenciales	6

Long Bay Beach	Providenciales	6
Blue Hills Beach	Providenciales	6
Pillory Beach	Grand Turk	6
West Harbour Bluff	Providenciales	5
Northwest Point National Park	Providenciales	5
Mudjin Harbour	Middle Caicos	5
Bambarra Beach	Middle Caicos	5

To understand the respondents use of the coastal and marine environment, they were asked about various aspects including how far they typically travel to their favourite locations, the transport method to get there, how many people they typically go with, and the amount of money they generally spend. This section provides analysis based on the data generated for each of these variables, focusing on findings from Providenciales, Grand Turk and ‘other’ islands (which includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos).

Figure 3.6 shows the frequency of visits based on which island the coastal locations are on. These results are shown spatially by beach in Figure 3.7. Respondents are most likely to visit coastal locations across all the islands 2 or 3 times a month. In Providenciales, respondents are more likely to visit coastal locations between once a week and once a month, while on Grand Turk, respondents are most likely to visits locations between 2-3 times a week and 2 or 3 times a month. Respondents visiting coastal locations on ‘other’ islands are more likely to visit the locations less frequently.

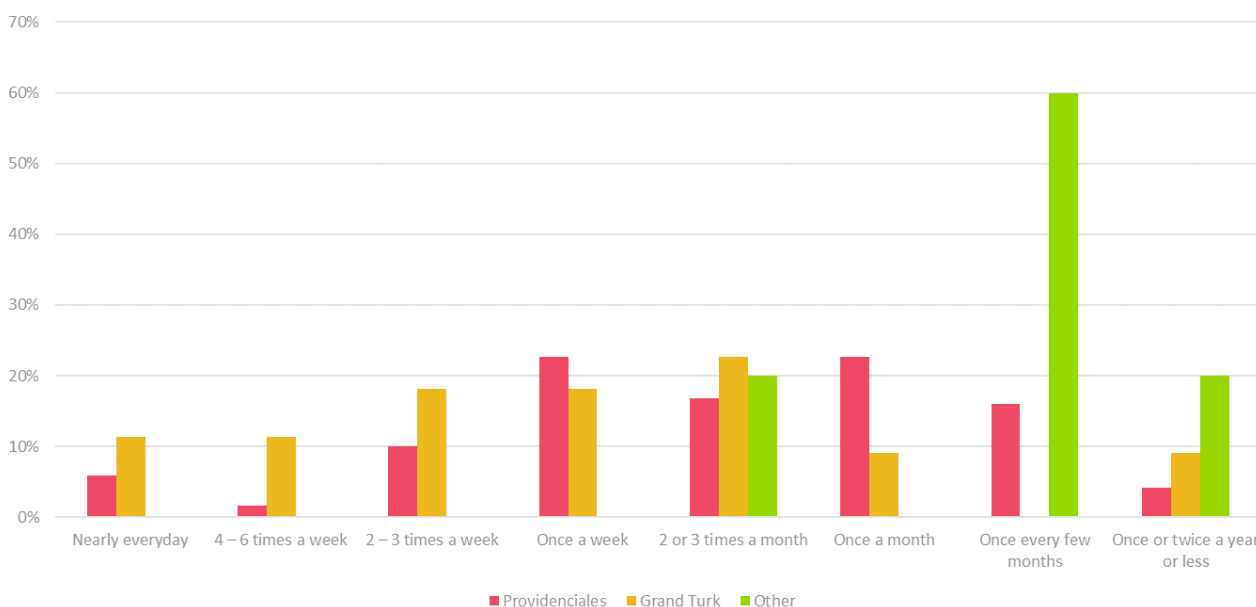


Figure 3.6: Frequency of respondents visits to coastal locations (%)

Note: ‘Other’ includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.

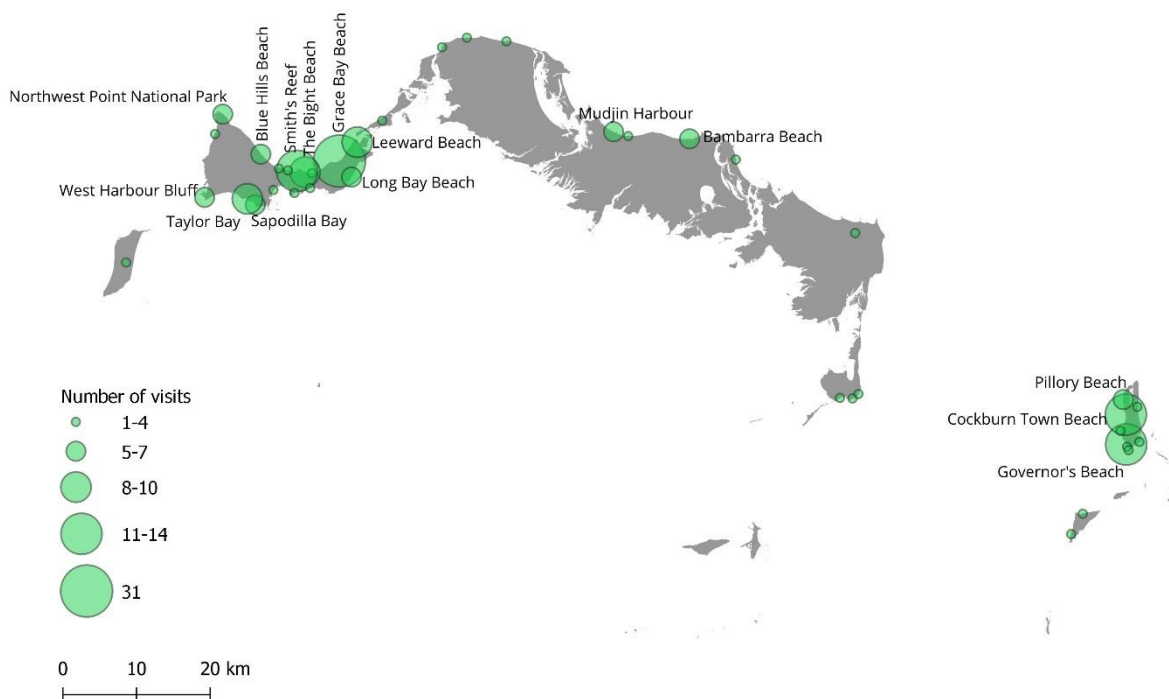


Figure 3.7: Most frequently visited beaches

Table 3.2 shows the respondents’ frequency of visits to all coastal locations.

Table 3.2: Frequency of visits broken down by island of coastal location

Island of coastal location visited	Nearly every day	4 – 6 times a week	2 – 3 times a week	Once a week	2 or 3 times a month	Once a month	Once every few months	Once or twice a year or less
Number of respondents	12	7	22	36	35	37	27	14

Note: The total number of respondents adds up to more than the number of respondents in the survey because respondents were asked to name up to three beaches each.

Respondents were asked what type of activities they participate in at each coastal location. **Table 3.3** shows the number of respondents indicating that they participated in the activity at the coastal location, split by the island of the coastal location. The most popular activities are consistent across the islands. The most common activities (on all islands) were swimming and hanging out with friends. Following this, nature photography, snorkelling, sightseeing and sunbathing were the next most popular activities. Running, hiking and bird watching were also notable activities. Additional activities listed by the respondents, not included in the survey, were dog walking and picnicking. Notably, water sport related activities (e.g. jet skiing, wake boarding, water skiing) were among the least popular activities for the respondents. **Figure 3.8** spatially presents the breakdown of most frequent activities by island.

Table 3.3: Number of respondents saying that they participate in activities at coastal locations

Activity	Island of coastal location visited			Total
	Providenciales	Grand Turk	Other	
Fishing	5	4	1	10
Diving	14	7	0	21
Snorkelling	29	18	9	56
Swimming	79	27	15	121
Running	21	7	1	29
Hiking	17	3	2	22
Kayak/iguana tours	9	4	0	13
Bird watching	15	6	5	26
Whale watching	10	4	3	17
Jet skiing	5	0	1	6
Cycling	3	3	0	6
Parasailing	6	1	1	8
Wake boarding	2	0	0	2
Kite boarding	2	0	0	2
Sunbathing	31	11	5	47
Sailing	8	2	0	10
Water skiing	4	0	0	4
Sight seeing	26	17	9	52
Nature photography	36	15	11	62
Hanging out with friends	70	23	17	110
Religious / ceremonial	9	3	2	14

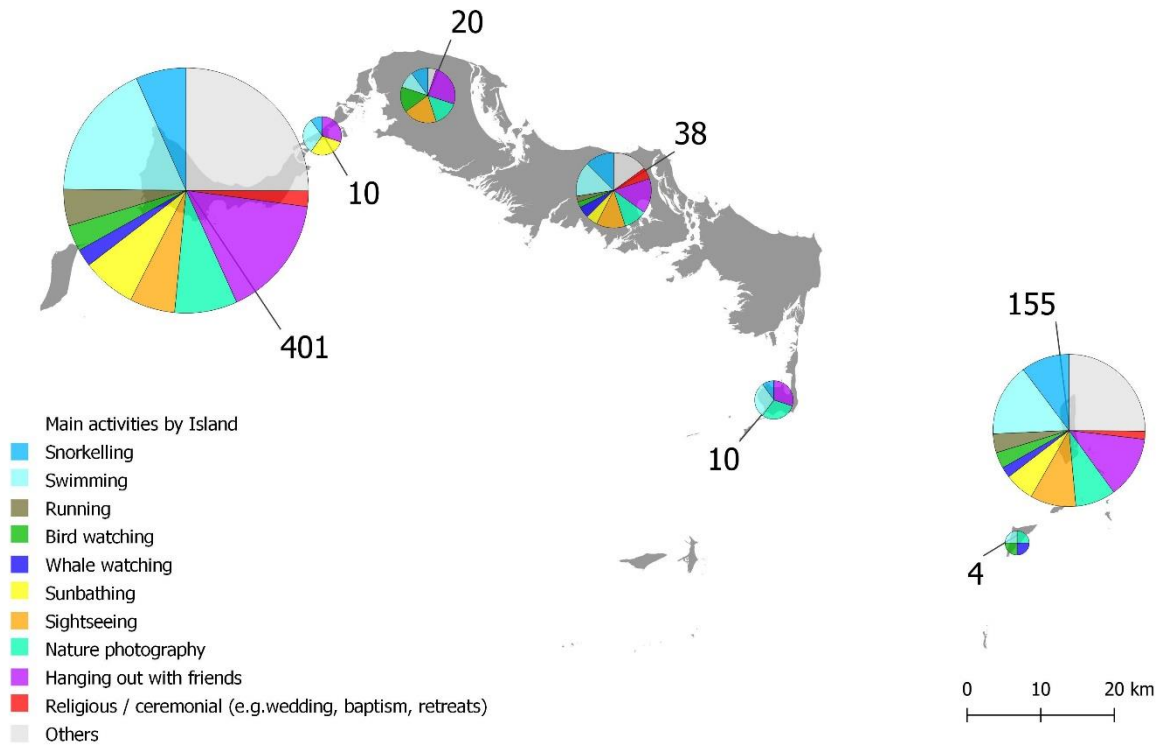


Figure 3.8: Map of respondents' activity frequency by island

Notes: Activities with less than 5% contribution were grouped as 'others'; numbers refer to the number of respondents by island.

Figure 3.9 shows the proportion of respondents that travelled from various distances to coastal locations. The most common distance travelled to coastal locations is between 0 – 499m. The distance travelled to coastal locations on Providenciales varies, with journeys over 5000m the most common, followed by 0-499m and 1000-1,999m. Those visiting the beach on islands other than Providenciales or Grand Turk travel the shortest distance to the coastal locations (0 – 499m), unless travelling from a different island. **Figure 3.10** shows a map of the respondents' average distance travelled. The map shows that respondents travelled further to locations on the western side of Providenciales, this would be expected as the west side of the island is less populated and respondents will most likely be travelling from the more populous east side of the island.

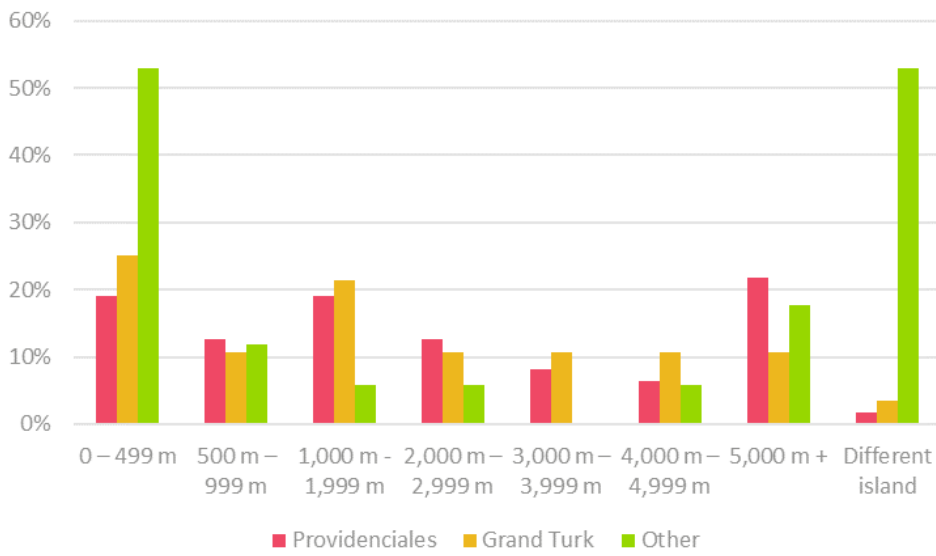


Figure 3.9: Proportion of respondents' distance travelled to coastal locations

Note: 'Other' includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.



Figure 3.10: Map of respondents' distance travelled

Notes: Mean value calculated from all the responses; numbers refer to number of respondents at each location.

Table 3.4 presents the average distance travelled by respondents to their most visited coastal locations. The average distance travelled, excluding to different islands, is similar between respondents visiting locations on Providenciales and Grand Turk.

Table 3.4: Average distance travelled to top three favourite beaches

Distance travelled	Providenciales	Grand Turk	Other ²
Average distance ¹ (m)	2,300	2,400	1,500

Notes

¹ Distance travelled to different islands are not included in this calculation. Rounded to the nearest 100m.

² 'Other' includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.

As shown in **Table 3.5**, across the islands, it is most common for respondents to spend 1 – 2 hours at their favourite coastal locations. This is presented spatially in **Figure 3.11**. Coastal locations situated on Grand Turk were more likely to be visited for less than 30 minutes. The average time spent at favourite coastal locations on Providenciales is 125 minutes, while those visiting a favourite coastal location on Grand Turk spend, on average, significantly less time (65 minutes). Across the top 15 beaches, there was a weak positive correlation (0.4) between time spent at the beach and distance travelled, i.e. respondents who travelled for a greater distance are more likely to spend a longer time at the coastal location.

Table 3.5: Time spent at top coastal locations

Time spent	Respondent count (#)			Total
	Providenciales	Grand Turk	Other ²	
0 - 29 minutes	1	9	0	10
30 - 59 minutes	21	7	4	32
1 - 2 hours	54	23	5	82
2 - 4 hours	37	5	15	57
4 - 6 hours	4	1	2	7
6 hours +	2	0	1	3
Average time spent (minutes)¹	125	65	185	165

Notes:

¹ Rounded to the nearest 5 minutes.

² 'Other' includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.

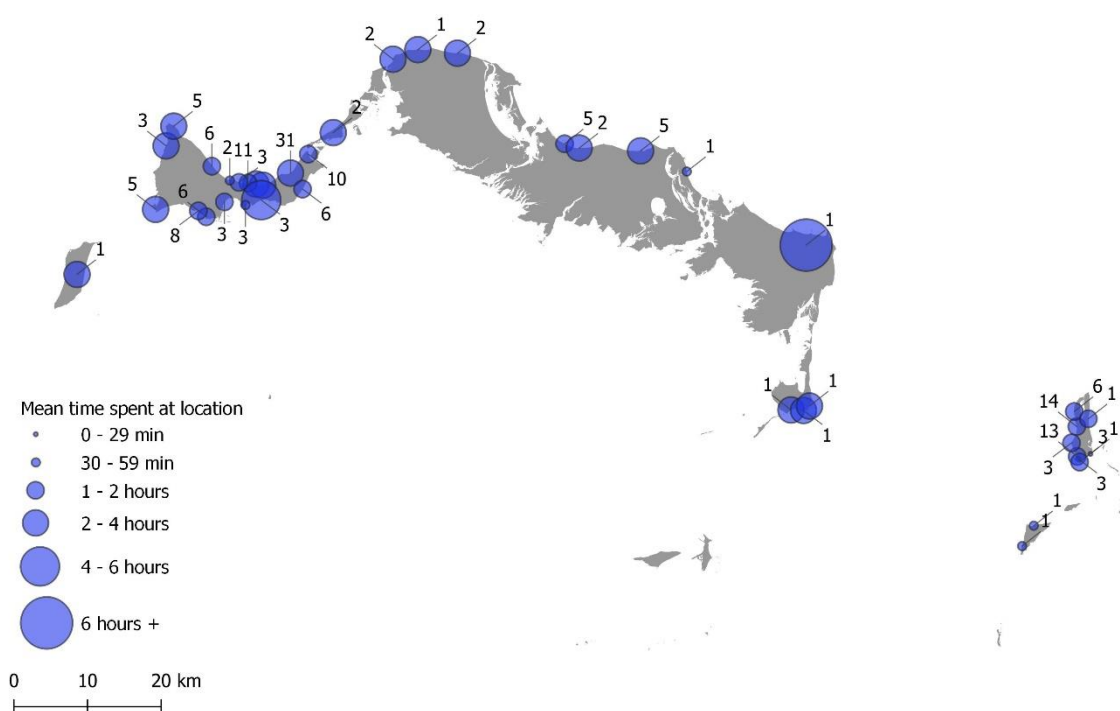


Figure 3.11: Map of respondent's time spent

Notes: Mean value calculated from all the responses; numbers refer to number of respondents at each location.

Spending no money at coastal locations is the most common level of expenditure across respondents and islands (see **Table 3.6**). When money is spent, those visiting a favourite coastal location on Providenciales typically spend more than on other islands, with an average of \$3 spent per trip. The majority of respondents visiting locations on 'other' islands spend nothing on each trip.

Table 3.6: Money spent at top coastal locations

Island of coastal location visited	Respondent count by favourite coastal location (#)								Average money spent (\$)¹
	Nothing	< \$5	\$5 - \$9	\$10 - \$14	\$15 - \$19	\$20 - \$24	\$25+	Not sure	
Providenciales	90	2	2	1	6	4	11	0	\$3
Grand Turk	34	3	0	1	1	0	2	0	\$1
Other²	26	0	0	1	0	0	0	0	\$0
Total	146	5	2	3	7	4	13	0	

Notes:

¹ Rounded to the nearest \$1.

² 'Other' includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.

Respondents were asked how many people they typically visit the coastal locations with. Respondents who visited coastal locations on Providenciales and 'other' islands on average go with 3 people, while those

visiting locations in Grand Turk go with 2 people.

Figure 3.12 presents the respondents' mode of transport, when visiting each favourite coastal location. Across all islands, travelling by car is the most common mode. The second most common is walking. Providenciales is the only island where respondents would take a taxi, and respondents on Grand Turk are more likely to travel by scooter, compared to the other islands.

In Providenciales, walking to a coastal location is the second most popular mode of transport, despite it being the largest and busiest island.

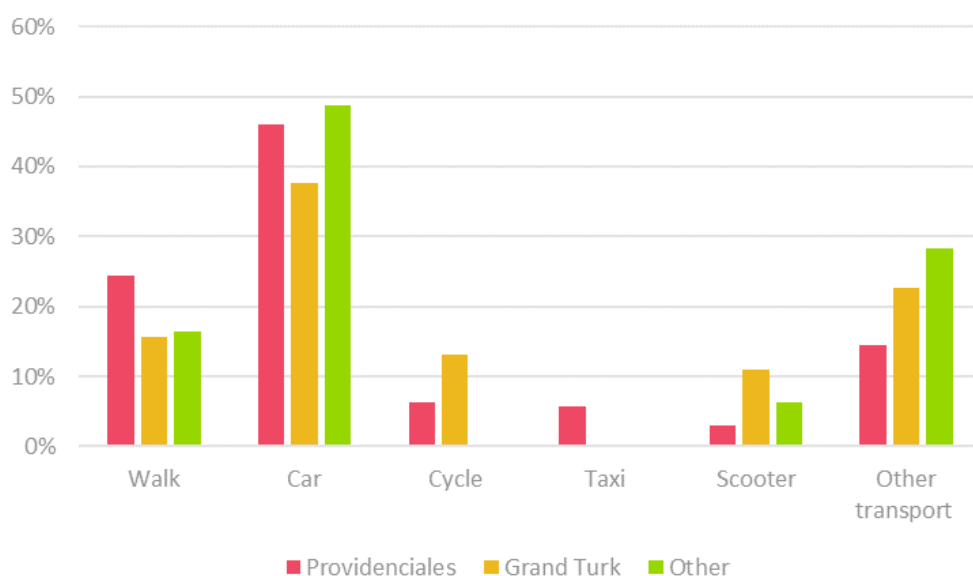


Figure 3.12: Proportion of respondents' transport mode to coastal locations

Notes: 'Other' includes North Caicos, South Caicos, Middle Caicos, Salt Cay, Water Cay, East Caicos and West Caicos.

3.2.1 Summary of respondents visits to their top 15 favourite coastal locations

Table 3.7 provides a summary of respondents' activity on the top 15 most frequently visited coastal locations. Across the top locations, on average, respondents travelled 2,000 m and spend \$3 per trip. On average, respondents spend two hours at the coastal site and spend their time with three other people. Travelling to the destination by car is the most common (40%), followed by walking (20%), and cycling (10%). Respondents visiting Grace Bay Beach typically spend the most amount of money (\$9 per visit). Those locations with blank expenditure values (including Governor's Beach and Leeward Beach) mean that all respondents stated that they spend nothing when visiting the location. Respondents visiting Northwest Point National Park typically travel the furthest (4,000m), and go with the greatest number of people (5), and spend the longest amount of time (over 3 hours).

The relationship between the variables in the table below were examined. The correlation between the number of people the respondent visited the coastal location with and the time spent is the highest correlation (+0.5) – the more people in the group, the longer the respondent is likely to spend at the coastal location. Additionally, the distance travelled to the coastal location and time spent has a weak positive correlation (+0.4 – the further the respondent travels, the longer the respondent is likely to spend at the

coastal location. The remainder of the variables tested had weak correlations ranging between 0.2 and -0.2, i.e. there is no relationship between the variables. A larger sample is required to verify the accuracy of these relationships.

Table 3.7: Summary of respondent's activity on the top 15 coastal locations

Coastal location	Number of respondents	Distance travelled ¹ (m)		Expenditure ¹ (\$)	Number of people in group ¹	Time spent ¹ (minutes)	Mode of transport to travel ¹					
		On same island	Different island				Walk	Car	Cycle	Taxi	Scooter	Other
Grace Bay Beach	31	2,600	-	\$ 9.00	3	120	22%	57%	5%	6%	6%	4%
Cockburn Town Beach	14	1,100	-	\$ 4.00	3	80	24%	49%	27%			
Governor's Beach	13	2,800	Variable	\$ -	4	80	10%	49%	14%			27%
Smith's Reef	11	2,200	Variable	\$ 5.00	2	120	23%	77%				
Leeward Beach	10	1,900	-	\$ -	2	110	15%	32%	11%	12%	5%	26%
The Bight Beach	10	1,900	-	\$ 5.00	3	130	6%	44%	22%	16%	6%	6%
Taylor Bay	8	2,400	-	\$ -	2	80	57%	43%				
Sapodilla Bay	6	2,300	-	\$ 7.00	3	80	40%	60%				
Long Bay Beach	6	2,000	-	\$ -	1	90	30%	58%	4%	4%	2%	2%
Blue Hills Beach	6	800	-	\$ 6.00	5	120	43%	57%				
Pillory Beach	6	1,300	-	\$ 6.00	4	80	25%	38%			38%	
West Harbour Bluff	5	3,800	-	\$ -	4	160	10%	40%				49%
Northwest Point National Park	5	4,000	-	\$ -	5	190	12%	41%				47%
Mudjin Harbour	5	200	Variable	\$ 2.00	3	120	18%	23%			26%	33%
Bambarra Beach	5	1,500	Variable	\$ -	4	170	26%	74%				

Note:

¹ Figures are presented as averages.

3.3 Cultural value of the coastal and marine environment

3.3.1 Recreational activity

Respondents were asked how important having access to the natural environment for recreation is on a scale of 0 (not very important) to 10 (very important). The average response was 9.6, with 83% responding with 10 out of 10. Those from North Caicos and Middle Caicos scored the importance 10 out of 10, while those from South Caicos and Salt Cay gave average scores of 5 and 7.5 out of 10 respectively.

Respondents were asked what proportion of outdoor recreation is spent at four different locations – coastline (e.g. beaches, near-shore areas), on the sea (e.g. on a boat, activities which relate to open water), inland (e.g. away from the beach and sea, such as over 100 meters) and other (e.g. sports pitches) (Figure 3.12). The majority of respondents’ outdoor recreation time is spent on the coastline (42%) or on the sea (20%). Around a quarter of respondents’ time is spent inland and 12% in other locations (e.g. sports pitches).

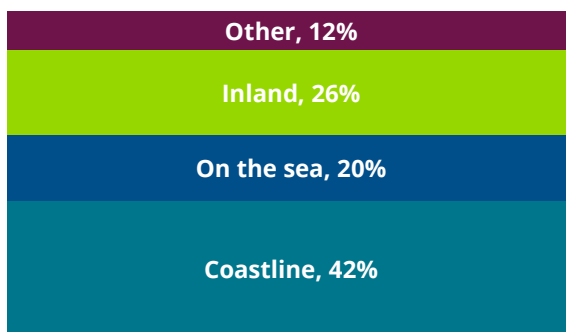


Figure 3.12: Proportion of outdoor recreation activities

Respondents were asked what specific sites or features of TCI’s natural environment are important for outdoor recreation. Figure 3.13 summarises these respondents in a word cloud. Around 20% of features or sites mentioned by respondents were referencing TCI’s beaches and 10% reference the reefs.



Figure 3.13: Features importance for recreation

The following quotes provide an overview of how respondents generally feel about the value of the features shown in **Figure 3.13**.

“They have high economic and environmental value and should be prioritized for conservation and during educational outreach.”

“They need to be kept clean and protected.”

“They help to enhance the beauty and pride of the country”

“They should be protected at all cost and accessible to all for recreation and enjoyment”

Respondents were asked how important outdoor recreational sites are as a space for the community to gather from a scale of 0 (not very important) to 10 (very important). The average response was 8.9, with 63% responding with 10 out of 10.

When asked why recreational sites were important to communities to gather, many respondents stated gathering outside is good for their mental and physical health, and to improve their appreciation of the natural environment. Respondents also mentioned that gathering outside is done because access is free. The following statements were made about the importance of outdoor recreational sites as a space for the community to gather:

"It is good to have something that the whole community has free access to."

"It helps to promote a closer community feeling/bond. "

"It's very important to the community because it gives us space and time to enjoy nature "

3.3.2 Heritage and identity

Respondents were asked how important TCI's natural environment is to their heritage and identity. The average response was 9.6 out of 10 (where 10 is very important), with 86% of respondents stating the natural environment is very important for heritage and identity. There was little variation across the respondents local of residence, ranging from 9.2 (Grand Turk) and 10 (South Caicos and Salt Cay).

Respondents were asked to name specific sites or features of the natural environment that are important to the heritage and identity of TCI. **Figure 3.14** outlines the top sights and features mentioned by the respondents.



Figure 3.14: Heritage and identity word cloud

"The swamps, reef and beaches help define the heritage of the people as these were the natural features that help cultivate and nourish the ancestors of the Turks and Caicos."

"These are important as they form a part of our history."

"These features/sites are very valuable to the people of the Turks and Caicos and helps define who we are as a people. "

3.3.3 *Enjoyment and appreciation of the sights and sounds*

When asked how important is TCI’s natural environment to the enjoyment of where they live, the average response was 9.4 out of 10, with 80% responding with 10 out of 10 (very important). Respondents from Providenciales, on average, gave the lowest rating with 9.3 out of 10 and respondents from North Caicos, South Caicos and Salt Cay all giving responses of 10 out of 10.

Respondents were asked which specific sites or features of TCI’s natural environment they regularly appreciate the sights and sounds of and how they generally feel about the value of these features. **Figure 3.15** presents the specific sites and features. Quotes about how respondents feel about these features are provided below.



Figure 3.15: Appreciation of the sights and sounds word cloud

“I feel that these aspects of the natural environment are invaluable.”

“These sites and features are very important to me and contribute to my overall happiness and spiritual wellbeing.”

“Their ecological and cultural integrity must be preserved.”

3.4 Business interviews

Owners of business' situated on TCI's coastline have a unique perspective on the cultural use and value of the coastal and marine environment. A total of seven business owners were interviewed. The types of businesses included a property rental / holiday home, two cafés, three water-based sport business' and a museum. These were based on both Providences and Grand Turk.

All of the business owners interviewed state that the environment is very important for attracting customers to their business, with one stating *"all of our customers come because of the beauty of the islands, crystal clear water and the chance to interact with marine life"*.

The business owners were asked what types of activities the customers participate in. Four of the seven business owners interviewed said that customers participate in water-related activities, such as snorkelling, diving, swimming, water skiing, kayaking. One business owner mentioned that their location was on the route of customers who were travelling to work or by ferry. Four out of seven of the business host big events, including corporate events, weddings, and birthdays.

The number of customers visiting each week varies significantly between each business. The vacation rental business typically hosts four people per week (although not during COVID-19). The cafes' range from hundreds of customers per week to thousands, while the water-based sport businesses host between 10 and 100 people per week. The majority of business owners stated that their primary business period ranges between October and April. The business owners were asked to provide a brief overview of previous feedback they've had from customers - most customers love the location, and especially appreciate the beautiful, shallow and clear water. However, some customers have commented that there is a lot of rubbish in the environment.

Each business owner was asked about the value of the environment to their business. All agreed that the environment is valuable to their business, with one stating *"the environment is an integral part of attracting visitors to the islands which in turn contributes to the business"* and another explaining *"the environment is very important to us and is the main reason we are able to offers what we do"*. A couple of business owners mentioned that more attention needs to be focused on keeping the environment clean and enforcing environmental laws.

"The dependency of the environment to the business' is recognised. We have tourism due to the beauty of our ocean and beaches."

"The environment is very important to TCI as the whole country runs on tourism - If the environment was damaged here then there would be no reason for tourists to come and escape their ordinary lives"

"We need to do more to clean the beaches, stop littering, impose fines, more enforcement"

4. Discussion

This study examines the cultural use and value of the TCI coastal and marine environment by local TCI residents. The results will add to the evidence base that can help inform long-term planning and decision making. This section concludes with a summary of the main findings of the local cultural value of TCIs coastal and marine environment and the limitations of the approach. High-level recommendations for future research are provided.

An online survey was used collect local residents' values and was complemented by several business interviews. The data generated was compiled and analysed, to provide evidence and understanding of the use and value of TCI's environmental asset for residents.

The data collection activities were conducted during the coronavirus lockdown and this impacted the engagement levels; as such the sample size was lower than targeted and so much of the analysis is not statistically robust to the population of TCI. However, the data that has been collected present a valid addition of initial evidence to support understanding of cultural use and value of the coastal and marine environment of TCI. The study also developed an approach and data collection tools (i.e. the survey) that can be applied intermittently and through enhanced survey efforts (e.g. greater digital promotion, face to face interviews) during periods without COVID-19 restrictions, to collect a larger sample which can produce statistically robust results. As such this study has effectively acted as a pilot for further work in this area.

4.1 Main findings

The key findings from the study are as followed:

- Across the 15 most visited beaches, on average, respondents travelled 2,000 m and spend \$3 per trip. On average, respondents spend two hours at the coastal site and spend their time with three other people. Travelling to the destination by car is the most common (40%), followed by walking (20%), and cycling (10%).
- Grace Bay Beach, Cockburn Town Beach and Governor's Beach are the top three most visited coastal locations by TCI residence. This likely at least partially reflects the distribution of population and respondents in the survey as the beaches are near to population centres, this is a valid finding on aggregate use and value (weighting by population would demonstrate the cultural use and value of a site per capita).
- Walking is the second most popular mode of transport in Providenciales, despite it being the largest and busiest island. Respondents who travel a shorter distance to the coastal location are more likely to walk to that location, while there is no correlation between respondent's distance travelled and respondents who travel by car. The variation in distance travelled by car could be due to suitability of access routes. It is possible that some shorter journeys require a car due to poor cycling or walking routes.
- Respondents use the coastal and marine environment similarly across the TCI islands, with the most popular activities including swimming and hanging out with friends. Water sport activities (e.g. jet skiing, wake boarding, water skiing) were amongst the least popular.
- The majority of respondents value the coastal and marine environment highly and agree it is

important. However, there is an overrepresentation of respondents from non-Caribbean countries. This potentially creates bias as these respondents may have moved to TCI for the environmental reasons and therefore have a more pro-environmental attitude than the average TCI resident.

- Several features and sites of the TCI coastal and marine environment are important across multiple cultural services, such as beaches, reefs and mangroves.
- Respondents in both the business interview and online survey placed emphasis on the need to keep the features and sites of the coastal and marine environment clean and preserved, citing numerous incidents of litter throughout the island.

4.2 Limitations

This study provides a starting point to valuing cultural services for local residents on TCI. The overall results should be interpreted as indicative of cultural value, providing a useful reference point, but not statistically precise. Improved robustness of the input data could be enhanced if the study were to be repeated collecting data from a larger sample. As well potential bias towards more pro-environment respondents (i.e. those more willing to answer the survey) is not understood. The approach has not been designed to capture all cultural use and value of the coastal and marine environment. Rather, the focus is on recreation and other elements such as heritage and aesthetics, and further research could investigate a wider range of ecosystem services.

4.3 Recommendations

The following recommendations for future research are provided below.

- The current approach and results lay the groundwork for future development of valuing cultural ecosystem services. The results can be used as a pilot and rolled out more widely. Due to the COVID-19 restrictions, in-person interviews could not be conducted with local residents. In the future, this could be done to ensure a larger and more representative sample size to generate more statistically robust data. Further, the online survey structure and business interview questions provided in this study can be repeated intermittently to verify the results of this study and monitor change over time.
- While the data collected is not able to produce statistically robust valuation estimates, the structure of the data collected could enable travel cost method approaches to be applied, if supplemented with additional data such as cost of travelling and opportunity cost of time. Recreation demand models use costs incurred travelling to and at a site, including the cost of time, as a proxy for the price of recreation³. This can be combined with information about visit rates to derive an estimate of the value of recreation at the site. Additional information of the cost each respondent's travel (e.g. fuel costs) would need to be collected, either with additional questions in the survey or using other data sources such as average national statistics. The opportunity cost of time in relation to the respondents travel time could also be estimated, such as by applying the average wage of TCI residents.
- Collect data to get a benchmark on pro-environmental views on TCI to test for any pro-environment bias in survey respondents. For example, there may be a nationwide survey where environmental

attitude related questions could be included. Further research would need to be undertaken to explore this further.

- The respondent's answers to open format question asking what features or sites of TCI are important for various cultural ecosystem services can be used to provide a list of drop-down options in a future survey to produce categorical data.
- As the purpose of the study is to develop a spatial understanding of cultural use and value of the coastal and marine environment respondents were asked about their use of their three favourite beaches. This element could be rethought if a different format of data was required (e.g. changing the number of sites allowed, considering the routing of responses by site, etc.).

4.4 Conclusion

This study examines the cultural use and value of the TCI coastal and marine environment by local TCI residents. The results will add to the evidence base that can help inform long-term planning and decision making. The data that has been collected present a valid addition of initial evidence to support understanding of cultural use and value of the coastal and marine environment of TCI. However, given the small sample size in this study, care should be taken when interpreting the results. The results can be used as a pilot and rolled out more widely; the online survey structure and business interview questions provided in this study can be repeated intermittently to verify the results of this study and monitor change over time. Overall it is clear that the coastal and marine environment is highly valued for cultural use by TCI residents, and should be studied further and factored in to any decision making which impacts the environment.

Appendix A: Online survey

This appendix presents the online survey used in the study. Note that questions 5 to 14 have the following syntax: [question(11962397)][question(11962398)] [question(11962399)], in the online survey, this was filled in based on the respondents top 3 beaches.

TCI Coastal Survey

1. TCI Cultural Value of the Coastal Environment



Hello,

Thank you for agreeing to take part in this survey.

As part of Marine Spatial Planning (MSP) in the Turks and Caicos Islands (TCI), the Department of Environment and Coastal Resources (DECR) is working with partners to better understand the cultural values of the coastal and marine environments, to TCI residents. This information will be used to create maps that show where TCI residents utilise the marine environment, which will feed into the MSP process. We are especially interested in your outdoor recreational activities, as well as your perspectives on other cultural aspects of the environment, such as heritage, identity, and aesthetics.

Please note, only TCI residents will be able to complete the survey.

The survey should take around 10 minutes, and is anonymous. For those who complete the survey and wish to be entered in a prize draw for a gift voucher, please leave a contact email address or telephone number at the end of the survey.

Thank you very much for your time!

2. TCI residency

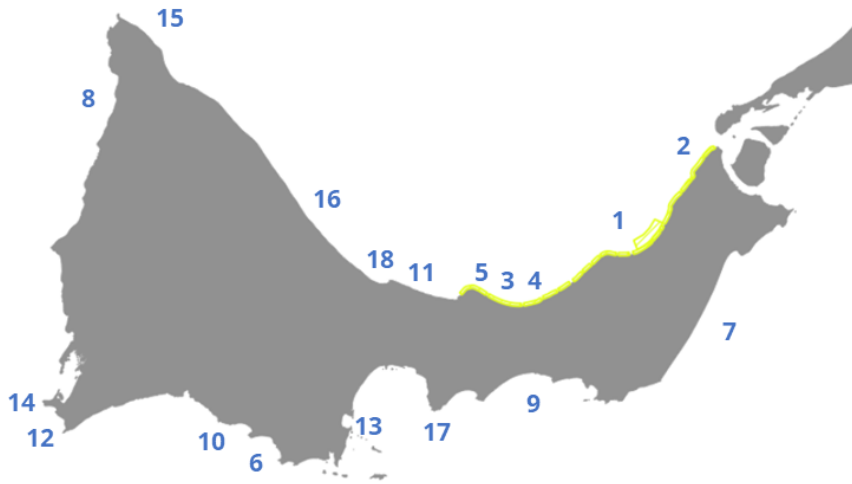
1. Are you a current resident of the Turks and Caicos Islands?

Yes

No

3. Favourite coastal locations

Please use the following maps as a reference in answering the questions below on your most visited beaches or coastal sites.



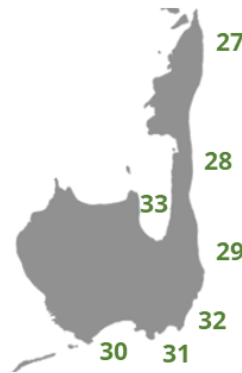
Providenciales

- 1 Grace Bay Beach
- 2 Leeward Beach
- 3 The Bight Beach
- 4 The Bight Reef
- 5 Smith's Reef
- 6 Sapodilla Bay
- 7 Long Bay Beach
- 8 Malcolm's Road Beach
- 9 Turtle Tail Beach
- 10 Taylor Bay
- 11 Babalua Beach
- 12 West Harbour Bluff
- 13 Five Cays Beach
- 14 Bonefish Point
- 15 Northwest Point National Park
- 16 Blue Hills Beach
- 17 Cooper Jack Bay Beach
- 18 Thompson Cove Beach



Grand Turk

- 19 Governor's Beach
- 20 Cruise Center Beach
- 21 Cockburn Town Beach
- 22 Pillory Beach
- 23 English Point Beach
- 24 Boaby Rock Point
- 25 White Sands Beach
- 26 East Side Beach



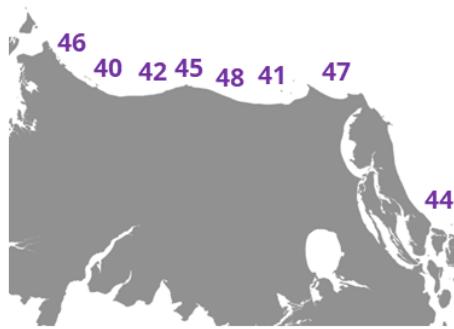
South Caicos

- 27 Plandon Cay
- 28 Long Beach
- 29 Valley Bay Beach
- 30 East Bay
- 31 Shark Bay
- 32 Highlands Bay
- 33 Bell Sound



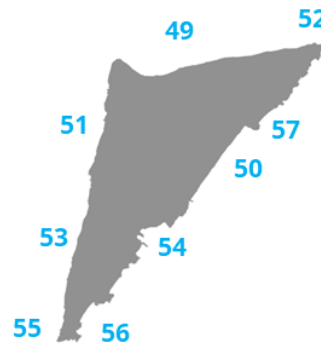
North Caicos

- 34 Sandy Point Beach
- 35 Hollywood Beach
- 36 Whitby Beach
- 37 Horstable Beach
- 38 Pumpkin Bluff Beach
- 39 Three Marys Cays



- Middle Caicos**
- 40 Mudjin Harbour
 - 41 Bambarra Beach
 - 42 Conch Bar Beach
 - 43 Wild Cow Run
 - 44 Cedar Point
 - 45 Platico Point
 - 46 Norbellis Coves
 - 47 Haulover Point
 - 48 Nongatown Landing

- Salt Cay**
- 49 North Bay
 - 50 Long Bay
 - 51 Balfour Town Beach
 - 52 Northeast Point
 - 53 South District Beach
 - 54 South Creek
 - 55 South Point
 - 56 South Bay
 - 57 Whale House Bay



2. Please choose the beach or coastal site that you visit the most often. *

- 1. Grace Bay Beach, Providenciales
- 2. Leeward Beach, Providenciales
- 3. The Bight Beach, Providenciales
- 4. The Bight Reef, Providenciales
- 5. Smith's Reef, Providenciales
- 6. Sapodilla Bay, Providenciales
- 7. Long Bay Beach, Providenciales
- 8. Malcolm's Road Beach, Providenciales
- 9. Turtle Tail Beach, Providenciales
- 10. Taylor Bay, Providenciales
- 11. Babalua Beach, Providenciales
- 12. West Harbour Bluff, Providenciales
- 13. Five Cays Beach, Providenciales
- 14. Bonefish Point, Providenciales
- 15. Northwest Point National Park, Providenciales
- 16. Blue Hills Beach, Providenciales
- 17. Cooper Jack Bay Beach, Providenciales
- 18. Thompson Cove Beach, Providenciales
- 19. Governor's Beach, Grand Turk
- 20. Cruise Center Beach, Grand Turk
- 21. Cockburn Town Beach, Grand Turk
- 22. Pillory Beach, Grand Turk
- 23. English Point Beach, Grand Turk
- 24. Boaby Rock Point, Grand Turk
- 25. White Sands Beach, Grand Turk
- 26. East Side Beach, Grand Turk
- 27. Plandon Cay, South Caicos
- 28. Long Beach, South Caicos
- 29. Valley Bay Beach, South Caicos
- 30. East Bay, South Caicos

- 31. Shark Bay, South Caicos
- 32. Highlands Bay, South Caicos
- 33. Bell Sound, South Caicos
- 34. Sandy Point Beach, North Caicos
- 35. Hollywood Beach, North Caicos
- 36. Whitby Beach, North Caicos
- 37. Horstable Beach, North Caicos
- 38. Pumpkin Bluff Beach, North Caicos
- 39. Three Marys Cays, North Caicos
- 40. Mudjin Harbour, Middle Caicos
- 41. Bambarra Beach, Middle Caicos
- 42. Conch Bar Beach, Middle Caicos
- 43. Wild Cow Run, Middle Caicos
- 44. Cedar Point, Middle Caicos
- 45. Platico Point, Middle Caicos
- 46. Norbellis Coves, Middle Caicos
- 47. Haulover Point, Middle Caicos
- 48. Nongatown Landing, Middle Caicos
- 49. North Bay, Salt Cay
- 50. Long Bay, Salt Cay
- 51. Balfour Town Beach, Salt Cay
- 52. Northeast Point, Salt Cay
- 53. South District Beach, Salt Cay
- 54. South Creek, Salt Cay
- 55. South Point, Salt Cay
- 56. South Bay, Salt Cay
- 57. Whale House Bay, Salt Cay
- None
- Other (please specify):

3. Please choose the beach or coastal site that you visit the second most often. *

- 1. Grace Bay Beach, Providenciales
- 2. Leeward Beach, Providenciales
- 3. The Bight Beach, Providenciales
- 4. The Bight Reef, Providenciales
- 5. Smith's Reef, Providenciales
- 6. Sapodilla Bay, Providenciales
- 7. Long Bay Beach, Providenciales
- 8. Malcolm's Road Beach, Providenciales
- 9. Turtle Tail Beach, Providenciales
- 10. Taylor Bay, Providenciales
- 11. Babalua Beach, Providenciales
- 12. West Harbour Bluff, Providenciales
- 13. Five Cays Beach, Providenciales
- 14. Bonefish Point, Providenciales
- 15. Northwest Point National Park, Providenciales
- 16. Blue Hills Beach, Providenciales
- 17. Cooper Jack Bay Beach, Providenciales
- 18. Thompson Cove Beach, Providenciales
- 19. Governor's Beach, Grand Turk
- 20. Cruise Center Beach, Grand Turk
- 21. Cockburn Town Beach, Grand Turk
- 22. Pillory Beach, Grand Turk
- 23. English Point Beach, Grand Turk
- 24. Boaby Rock Point, Grand Turk
- 25. White Sands Beach, Grand Turk
- 26. East Side Beach, Grand Turk
- 27. Plandon Cay, South Caicos
- 28. Long Beach, South Caicos
- 29. Valley Bay Beach, South Caicos
- 30. East Bay, South Caicos

- 31. Shark Bay, South Caicos
- 32. Highlands Bay, South Caicos
- 33. Bell Sound, South Caicos
- 34. Sandy Point Beach, North Caicos
- 35. Hollywood Beach, North Caicos
- 36. Whitby Beach, North Caicos
- 37. Horstable Beach, North Caicos
- 38. Pumpkin Bluff Beach, North Caicos
- 39. Three Marys Cays, North Caicos
- 40. Mudjin Harbour, Middle Caicos
- 41. Bambarra Beach, Middle Caicos
- 42. Conch Bar Beach, Middle Caicos
- 43. Wild Cow Run, Middle Caicos
- 44. Cedar Point, Middle Caicos
- 45. Platico Point, Middle Caicos
- 46. Norbellis Coves, Middle Caicos
- 47. Haulover Point, Middle Caicos
- 48. Nongatown Landing, Middle Caicos
- 49. North Bay, Salt Cay
- 50. Long Bay, Salt Cay
- 51. Balfour Town Beach, Salt Cay
- 52. Northeast Point, Salt Cay
- 53. South District Beach, Salt Cay
- 54. South Creek, Salt Cay
- 55. South Point, Salt Cay
- 56. South Bay, Salt Cay
- 57. Whale House Bay, Salt Cay
- None
- Other (please specify):

4. Please choose the beach or coastal site that you visit the third most often. *

- 1. Grace Bay Beach, Providenciales
- 2. Leeward Beach, Providenciales
- 3. The Bight Beach, Providenciales
- 4. The Bight Reef, Providenciales
- 5. Smith's Reef, Providenciales
- 6. Sapodilla Bay, Providenciales
- 7. Long Bay Beach, Providenciales
- 8. Malcolm's Road Beach, Providenciales
- 9. Turtle Tail Beach, Providenciales
- 10. Taylor Bay, Providenciales
- 11. Babalua Beach, Providenciales
- 12. West Harbour Bluff, Providenciales
- 13. Five Cays Beach, Providenciales
- 14. Bonefish Point, Providenciales
- 15. Northwest Point National Park, Providenciales
- 16. Blue Hills Beach, Providenciales
- 17. Cooper Jack Bay Beach, Providenciales
- 18. Thompson Cove Beach, Providenciales
- 19. Governor's Beach, Grand Turk
- 20. Cruise Center Beach, Grand Turk
- 21. Cockburn Town Beach, Grand Turk
- 22. Pillory Beach, Grand Turk
- 23. English Point Beach, Grand Turk
- 24. Boaby Rock Point, Grand Turk
- 25. White Sands Beach, Grand Turk
- 26. East Side Beach, Grand Turk
- 27. Plandon Cay, South Caicos
- 28. Long Beach, South Caicos
- 29. Valley Bay Beach, South Caicos
- 30. East Bay, South Caicos

- 31. Shark Bay, South Caicos
- 32. Highlands Bay, South Caicos
- 33. Bell Sound, South Caicos
- 34. Sandy Point Beach, North Caicos
- 35. Hollywood Beach, North Caicos
- 36. Whitby Beach, North Caicos
- 37. Horstable Beach, North Caicos
- 38. Pumpkin Bluff Beach, North Caicos
- 39. Three Marys Cays, North Caicos
- 40. Mudjin Harbour, Middle Caicos
- 41. Bambarra Beach, Middle Caicos
- 42. Conch Bar Beach, Middle Caicos
- 43. Wild Cow Run, Middle Caicos
- 44. Cedar Point, Middle Caicos
- 45. Platico Point, Middle Caicos
- 46. Norbellis Coves, Middle Caicos
- 47. Haulover Point, Middle Caicos
- 48. Nongatown Landing, Middle Caicos
- 49. North Bay, Salt Cay
- 50. Long Bay, Salt Cay
- 51. Balfour Town Beach, Salt Cay
- 52. Northeast Point, Salt Cay
- 53. South District Beach, Salt Cay
- 54. South Creek, Salt Cay
- 55. South Point, Salt Cay
- 56. South Bay, Salt Cay
- 57. Whale House Bay, Salt Cay
- None
- Other (please specify):

4. Use of the coast and marine environment

5. On average throughout the whole year, how frequently do you visit these beaches? (Tick one)

[question(11962397)]

[question(11962398)]

[question(11962399)]

Frequency of visits

6. What do you do when you visit each beach?

	[question(11962397)]	[question(11962398)]	[question(11962399)]
Fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Snorkelling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Swimming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Running	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hiking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kayak/iguana tours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bird watching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whale watching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jet skiing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parasailing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wake boarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kite boarding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunbathing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sailing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water skiing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sight seeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nature photography	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hanging out with friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Religious / ceremonial (e.g.wedding, baptism, retreats)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other (please state)

7. How many people do you typically go to each beach with?

	[question(11962397)]	[question(11962398)]	[question(11962399)]
Number of people	<input type="text"/>	<input type="text"/>	<input type="text"/>

8. How far is the beach to your home?

Distance to beach from home (meters) [question(11962397)] [question(11962398)] [question(11962399)]

9. What is the average time spent at each beach?

Average time spent at beach (minutes) [question(11962397)] [question(11962398)] [question(11962399)]

10. On average, how much money do you spend at each beach?

Average \$ spent at beach [question(11962397)] [question(11962398)] [question(11962399)]

11. What percentage of time do you use the following modes of transport to get to [question(11962397)]? Answers must add up to 100%.

Walk
Car
Cycle
Taxi
Scooter
Other
Total:

12. What percentage of time do you use the following modes of transport to get to [question(11962398)]? Answers must add up to 100%.

Walk
Car
Cycle
Taxi
Scooter
Other
Total:

13. What percentage of time do you use the following modes of transport to get to [question(11962399)]? Answers must add up to 100%.

TCI Cultural use of coastal ecosystems

Walk	<input type="text"/>
Car	<input type="text"/>
Cycle	<input type="text"/>
Taxi	<input type="text"/>
Scooter	<input type="text"/>
Other	<input type="text"/>
Total:	<input type="text"/>

14. How long does it take on average to get to the beach in the modes of transport you use (in minutes)? Leave blank if you do not use that mode of transport to access the beach.

	[question(11962397)]	[question(11962398)]	[question(11962399)]
Walk	<input type="text"/>	<input type="text"/>	<input type="text"/>
Car	<input type="text"/>	<input type="text"/>	<input type="text"/>
Cycle	<input type="text"/>	<input type="text"/>	<input type="text"/>
Taxi	<input type="text"/>	<input type="text"/>	<input type="text"/>
Scooter	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>

5. Recreational activity

15. How important to you is having access to the natural environment for recreation? Slide the scale from 0 (Not very important) to 10 (Very important).

16. What percentage of outdoor recreation time is spent at the following locations? Answers must add to up 100%.

Coastline (e.g. beaches, near-shore areas)	<input type="text"/>
On the sea (e.g. on a boat, activities which relate to open water)	<input type="text"/>
Inland (e.g. away from the beach and sea, such as over 100 meters)	<input type="text"/>
Other (e.g. sports pitches)	<input type="text"/>
Total:	<input type="text"/>

17. What specific sites or features of TCI's natural environment are important for outdoor recreation (up to five)?

18. How do you generally feel about the value of these features of TCI's natural environment?

19. How important are outdoor recreational sites as a space for your community to gather? Slide the scale from 0 (Not very important) to 10 (Very important).

20. Why is having access to the natural environment important to your community?

6. Cultural value

21. How important is TCI's natural environment to its heritage and identity? Slide the scale from 0 (Not very important) to 10 (Very important).

22. What specific sites or features of the natural environment do you think are important to the heritage and identity of TCI (up to five)?

23. How do you generally feel about the value of these features of TCI's natural environment?

24. How important is TCI's natural environment to your enjoyment of where you live? Slide the scale from 0 (Not very important) to 10 (Very important).

25. What specific sites or features of TCI's natural environment do you regularly appreciate the sights and sounds of (up to five)?

26. How do you generally feel about the value of these features of TCI's natural environment?

7. Environmental statements

27. The coastal and marine environment is a valuable place for recreation.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

28. The coastal and marine environment helps support community togetherness.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

29. The coastal and marine environment is an important part of TCI heritage and identity.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

30. The coastal and marine environment provides a scenic background that enhances my day to day life.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

31. The coastal and marine environment should be recognised as a valuable asset to TCI.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

8. Background questions

32. What is your island of residence?

- Providenciales
- Grand Turk
- North Caicos
- South Caicos
- Middle Caicos
- Parrot Cay
- Salt Cay

33. What is your origin?

- Turks and Caicos Islands
- Other Caribbean island
- Other non-Caribbean country

34. What is your gender?

- Male
- Female
- Other
- Prefer not to say

35. What is your age?

- 17 or less
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55+

36. Lastly, if you would like to be entered into a prize draw for a gift voucher for completing this survey, please leave a contact email address or phone number below.

9.

You have selected 'No', I am not a TCI resident. Therefore, you are unable to complete the survey.

- [Add survey](#)

Appendix B: Tourism business interview guide

A small number of interviews were conducted with coastal businesses to gain further insight to the value provided by coastal ecosystems. These were done by phone call facilitated by on-island support.

Interview – discussion points

Overall project objectives

The aim of the project is to contribute to the development evidence and a better understanding of the cultural benefits provided by coastal and marine ecosystems to the people of the Turks and Caicos Islands (TCI).

Interview objectives

As part of the TCI spatial marine mapping, we are conducting interviews with local business owners to build an understanding of cultural values in TCI. An online survey is currently being circulated to the residents of TCI. This interview is intended to accompany the survey by adding a business perspective to TCI's cultural value and aims to capture some tourism values.

Stakeholder questionnaire – qualitative questions

Questions

What type of business do you own?

How many employees do you have?

How would you describe the location of your business?

How important is the environment at attracting customers to your business?

What types of activities do you customers participate in at your business?

What types of activities do your customers participate at the location before or after your business?

What types of activities do other people (not your customers) participate in at your location?

What feedback do you typically get from your guests about the location of your business?

How many customers do you typically host in a week?

What time of year is the busiest for your business?

Are any events or festivals hosted at your location?

Do you have any thoughts about the value of the environment to your business?

Do you have any thoughts on the value of the environment to TCI more generally?

Appendix C: Sample selection based on key demographic characteristics

The table below summarises the population within each key demographic characteristic and the targeted quote within the sample.

Key characteristic	TCI population (%)	Targeted sample quota (#)
Gender		
Male	51%	194
Female	49%	186
Age¹		
18 - 34	36%	139
35 - 54	48%	182
55+	16%	60
Island of residence		
Providenciales	76%	287
Grand Turk and Salt Cay	15%	59
Caicos islands (North, Middle and South) and Parrot Cay	9%	34
Origin		
TCI	39%	148
Other Caribbean	41%	157
Other	19%	75

Source: TCI Department of Statistics (2020) Population data. Available at: <https://www.gov.tc/stats/statistics/social/5-population>

Notes: Gender and age split is based on 2017 data, while island and place of residence is based on 2012 data.

¹ Percentages reweighted to exclude people aged between 0 and 17.

Appendix D: Raw data



TCI cultural value
RAW DATA.xlsx

Appendix E: Consolidated feedback from pilot survey

Feedback	Response
<ul style="list-style-type: none"> Too repetitive – e.g. description of feelings too lengthy, too many ‘how do you feel’ questions in relation to natural environment, cultural value too repetitive and most people won’t bother typing out answers, better to have them defined 	<p>‘Cultural Value’ section has been amended based on consistent feedback.</p>
<ul style="list-style-type: none"> Questions about heritage and identity refer to same features (natural environment). The question about the heritage was unclear as it refers to the natural environment. It is not clear if other non-environment heritage features could be added here for example plantation remains, historical buildings, wrecks etc. 	<p>‘Heritage’ and ‘identity’ questions combined.</p> <p>So two parts, ‘heritage/identity’ and ‘sights and sounds’. For each, a slider question for importance, list up to 5 features, then how do you feel about these.</p>
<ul style="list-style-type: none"> Can be more limited/specific than vague how do you feel questions (e.g. do you value the features of the environment that you have identified as appreciating, and to what extent?). More specific options for responses (include key words phrases or explanations), or respondent may lose interest, include ‘other’ / Consider providing potential responses along with ‘other’. 	<p>Ask to mention specific features, then left open ended response for follow up reasons in order to not prompt responses.</p> <p>Moved ‘community use’ questions to recreation section.</p> <p>A bit of change in ‘environmental statement’ questions to align with previous sections.</p>
<ul style="list-style-type: none"> Perhaps an additional question should be added similarly to the beaches: What places do you consider to be the most important for the TCI heritage: 1st, 2nd and 3rd. And why. 	
<ul style="list-style-type: none"> More clarification on terms, what is coastal vs inland (e.g. all of TCI is ‘coastal’) 	<p>Text amended, defined as:</p> <p>Coastline (e.g. beaches, near-shore areas) On the sea (e.g. on a boat, activities which relate to open water) Inland (e.g. away from the beach and sea, such as over 100 meters) Other (e.g. sports pitches)</p>
<ul style="list-style-type: none"> Include map (some people will have different names for beaches, some coastal areas may not be named beaches) 	<p>MAP TO BE ADDED.</p>
<ul style="list-style-type: none"> Questions about feelings may be different depending on if someone had an ‘off day’ 	<p>Text amended to ‘how do you <i>generally</i> feel about these features’ – in average across the population, should ‘average’ out whether someone is influenced by having a good / bad day.</p>
<ul style="list-style-type: none"> Add ‘religious ceremonies’ (wedding / baptism/retreats/etc.) to activities 	<p>Added to beach activities.</p>
<ul style="list-style-type: none"> It’d be better if the purpose of the survey is clarified. (is this in relation to the national development plan, is it regarding how protected areas are to be developed, is it regarding increasing or decreasing protected areas, is it about something else?). Clarify what the intention of the survey is. Is this for guidance on how protected areas will be developed, is it broader reaching and in relation to the national development plan? 	<p>The purpose of the survey is described in the upfront text. It is not directly related to the national development plan, protected areas, or something else though could provide evidence to feed into them.</p> <p>The introductory email / ‘advertisements could explain further if useful.</p>
<ul style="list-style-type: none"> More activities – mountain biking, nature hiking, running trails, nature photography, off road tracks 	<p>Non-coastal / marine activities are not included in the survey. While general questions about inland activities are included, the ‘marine spatial data’ element is what</p>

	dictates the activity list (e.g. what activities do you do on the beach?). Added hiking, running and photography as these may occur at beach.
<ul style="list-style-type: none"> Ask specific questions such as: Do people want small lane beach accesses, or park accesses such as the Children's Park in the Bight that have ample parking? Are boat ramps and kayak water accesses for recreational use around our main islands wanted? 	The purpose of the survey is to understand current recreational use and cultural value, not to identify wanted infrastructure etc. to directly feed in to planning.
<ul style="list-style-type: none"> Add a question about a favourite beach as well (and why)? Not necessarily one which is the most often visited. And, also the question what are the best beaches something like rate the beaches from the list? I wonder if people use their most favourite beaches or the closest ones. 	<p>This is a bit tricky, the point makes sense, however for the cultural value survey we are interested primarily in use and use value. It might be that a 'favourite' beach is not the most used, and that it has 'value' to the respondent, but in terms of being able to quantify (and consider economic value), the focus is on 'use value' to simplify (this is also more in line with current 'accounting' practices). However, it is correct to identify this as a potential gap.</p> <p>On the second point, we do not necessarily need a 'rating' of best beaches (as might be done in a tourism survey), but rather local resident use of beaches, 'access' (/closeness) is a factor in use (not just amenity or 'favourite') so it is ok if the survey is picking up on this to some degree.</p>

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