



DPLUS094

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

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Setting the Scene

Providenciales 4<sup>th</sup> and 5<sup>th</sup> February 2020  
Workshop Report



This report was prepared as part of the Darwin PLUS 094 project 'Developing Marine Spatial Planning (MSP) for the Turks and Caicos Islands' for all stakeholders and interested parties in the Turks and Caicos Islands and overseas.

## Acknowledgements

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## Introduction

### Marine Spatial Planning (MSP) background

Like the rest of the world, human use of coastal and marine resources in the Turks and Caicos Islands (TCI) is placing growing and often conflicting demands on natural resources. Consequently, important marine areas are under increasing pressure that threatens the health of coral reefs, mangroves, and seagrass beds and the environmental services they provide, such as coastal protection from storms, fishing grounds (Ulman *et al.*, 2016), and tourism-based economies (Baldwin *et al.*, 2015).

### Spatial data and MSP

The spatial component of MSP involves the collection and collation of multi-disciplinary data, in an accessible format and at multiple scales, from a number of sources (Shucksmith *et al.*, 2014) and stakeholder engagement is central to the process (Ehler and Douvère, 2009). This process can serve to improve stakeholder understanding and involvement in decision-making and governance (Baldwin *et al.*, 2015), which helps in the success of MSP projects (Kelly *et al.*, 2014).

### TCI general background

The TCI is one of 14 United Kingdom Overseas Territories (UKOTs), a small island in the Caribbean that lies south-east of the Bahamas chain, 145 km north of Hispaniola (Haiti and the Dominican Republic) and 925 km south-east of Miami (Figure 1). The easterly occurring Turks Islands are separated from the Caicos Islands by a deep-water channel approximately 35km wide. TCI is relatively flat. Providenciales rises to a high point of 50 m above sea level and Flamingo Hill on the North Western point of East Caicos has an altitude of also approximately 50 m. Sinkholes, caves and ridge formations are common. The islands consist largely of Pleistocene oolitic limestone and unconsolidated Holocene sands. The TCI population is 42,953 (2019), and the total area of the EEZ is 154,058 km<sup>2</sup>. Tourism is the main contributor to the TCI economy, followed by the offshore financial sector, fishing for export to the US (mainly lobster and conch) is the third most important economic sector in the islands.

### An overview of existing MSP in TCI

The Turks and Caicos Island Government (TCIG) has a number of departments e.g. DECR, Tourism, Ports, Police, that work in the Marine environment – some of whom have management and/or enforcement functions. In addition, non-governmental organisations and the private sector also undertake activities in the marine space. However, currently no overall strategic approach to the spatial planning of the marine environment. The

It is to their credit that TCIG have well-established Marine Protected Areas that were originally designated in the 1980's (Mitchell and Barborak, 1991; Zuidema, Plate and Dikou, 2011). Marine parks were created to provide protection for the natural resources of the TCI and to provide management of marine areas for the benefit of tourism, fishing and boating (Logan and Sealey, 2013). The TCI now has 35 protected areas consisting 11 National Parks, 11 Nature Reserves, four Sanctuaries and nine Areas of Historical Interest, all declared under the TCI National Parks Ordinance (Figure 1, Table 1), 28 of which have a marine component.



## DPLUS094 Project Background

The aim of the DPLUS094 MSP project is twofold:

- 1) develop an island wide metadata catalogue with a GIS database so that existing spatial and temporal data can be mapped and analysed to identify areas used by humans and wildlife, most important ecological areas, zones of conflict and any data gaps; and
- 2) create the framework and tools that will facilitate the implementation of MSP in TCI and legislation, which will feed into the long-term planning and decision-making.

## Workshop series background

Stakeholders play a key role in any MSP process, and therefore the DPLUS094 project has a series of workshops built into the project delivery to ensure that there is regular stakeholder consultation and input.

In January and February 2020, a series of 4 workshops (South Caicos 27<sup>th</sup> January 2020, Grand Turk 31<sup>st</sup> January 2020 and Providenciales 4<sup>th</sup> and 5<sup>th</sup> February 2020) were held across TCI to initiate stakeholder dialogue.

The aims of these workshops were:

- to inform the stakeholders of the existence of project, give them background on the MSP process
- to share MSP examples from other overseas territories, to provide context for MSP in TCI
- to discuss and identify what the stakeholders consider to be the important marine values of the TCI.
- for stakeholders to share their overview, expertise, thoughts and vision for the MSP process in TCI.
- to discover what data was currently available for the marine environment on TCI.

Once identified data for the marine values will be collected, collated and loaded into central island wide metadata catalogue and GIS database. Using WebGIS, a GIS database interface that works through a web browser, the spatial and temporal information will be available online. Data will be overlaid and used to identify overlaps between marine values and human uses and gaps in the data that need to be filled. This report focusses on the Providenciales workshops.

## General background to Providenciales

Providenciales (Figure 1) is the north western most island in the TCI and the fourth largest by land mass with a land area of 98 km<sup>2</sup> and a population of 23,769 (2012). Providenciales has the greatest average elevation in relation to other islands in the TCI, with the central Blue Mountain sharing the title of highest point in the TCI with Flamingo Hill on East Caicos at 48 m. The interior of Providenciales consists of the typical tropical dry brushland drought-resistant vegetation common to the Caicos Islands. Providenciales is the most developed and populated island in the TCI, with many hotels, resorts and luxury villas, and is home to popular beaches such as Grace Bay Beach, Leeward Beach, Bight Beach, Long Bay Beach, Malcolm's Road Beach, Sapodilla Bay, and Taylor Bay. In addition, a scenic lagoon called Chalk Sound is located in the south west of Providenciales.

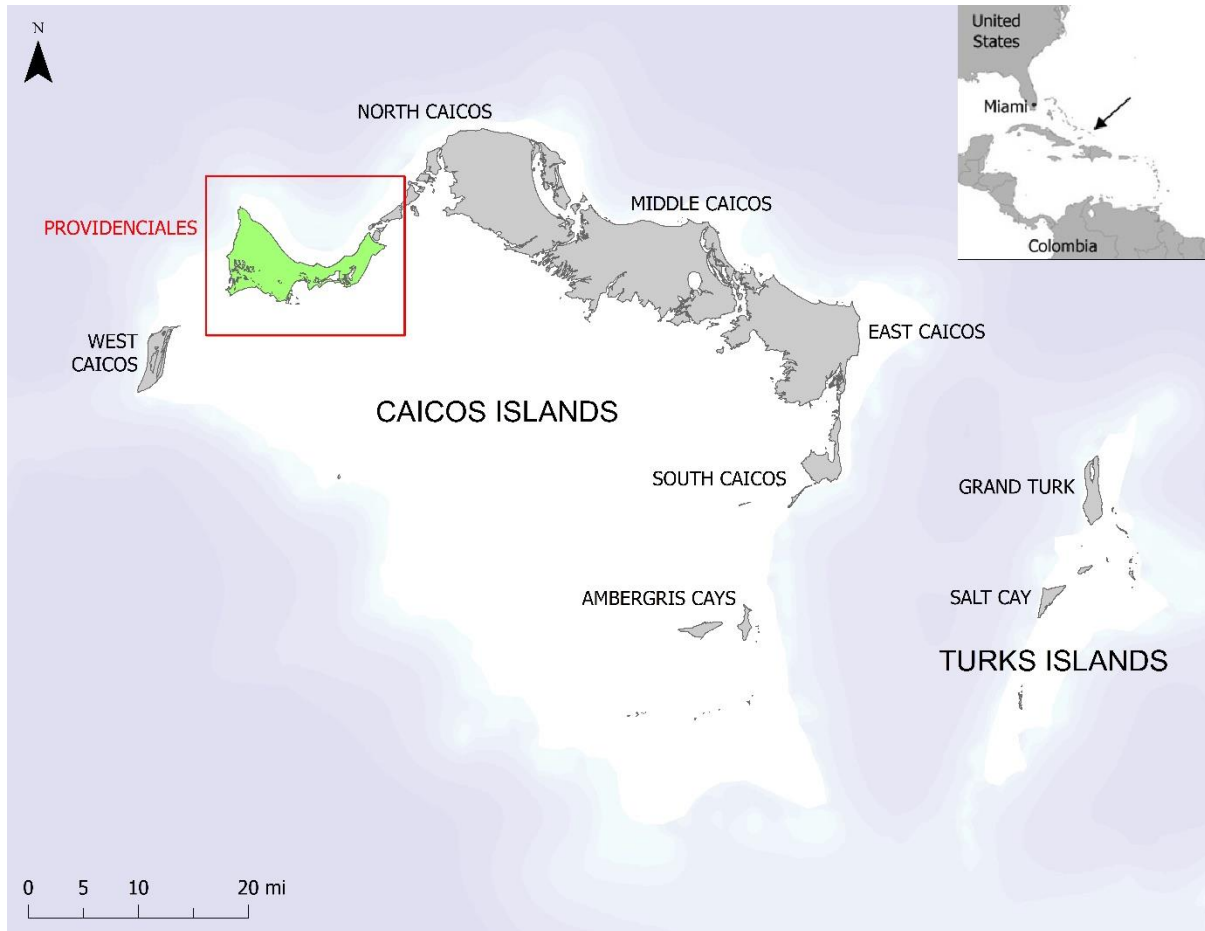


Figure 1 Providenciales and the Turks and Caicos Islands

## Workshop programme and participants

### Participation

On the 4<sup>th</sup> and 5<sup>th</sup> of February 2020, 16 representatives of marine stakeholder groups from Providenciales gathered in the Department of Planning (DOP) conference room, nine on 4<sup>th</sup> Feb and seven on 5<sup>th</sup> Feb, to discuss marine activities and marine values of Providenciales, potential conflicts and how MSP can help mitigate these in the future. ([See annex 1 for list of participants](#))



Figure 2 Providenciales workshop participants on 4<sup>th</sup> February 2020



Figure 3 Providenciales workshop participants on 5<sup>th</sup> February 2020

### Workshop programme

After the presentations, the participants were divided into two groups based on birth month. Both groups were then given maps of Providenciales (Figure 4), to focus on the local marine environment, and the TCI (Figure 5) to focus on the national marine environment. ([See annex 2 for full workshop programme](#))

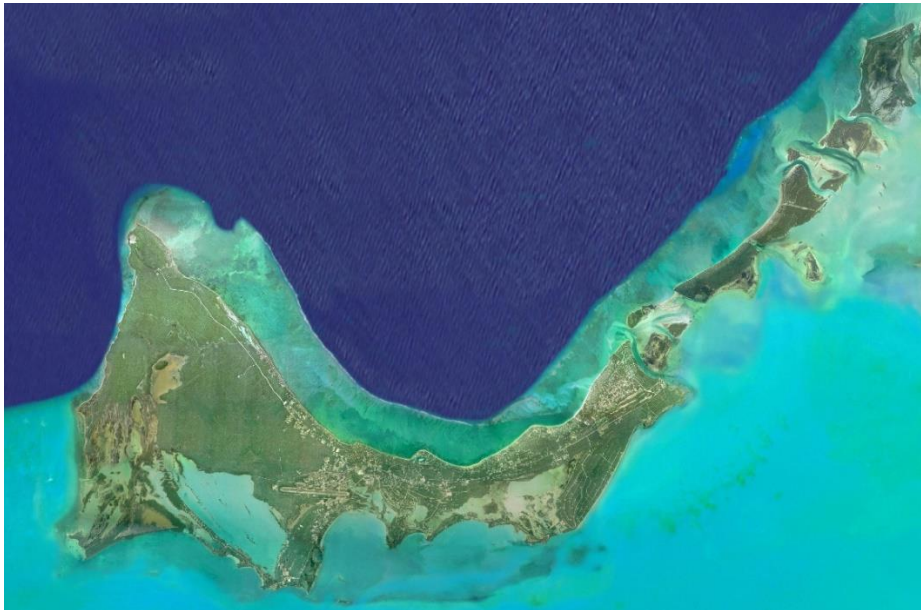


Figure 4 Providenciales



Figure 5 Turks and Caicos Islands

The session was chaired by Luc Clerveaux (DECR)

The groups were then asked to complete each of the following tasks by marking them on the map with different coloured pens and stickers. The groups were given 10 minutes for each task.



1. On your map draw, using a coloured pen, what marine habitats exist in and around Providenciales
  - a. Coral Reefs – Brown Pen
  - b. Mangroves – Red Pen
  - c. Seagrass – Green Pen
  - d. Other (describe) – Yellow Pen
2. What three marine areas do you consider to be most vulnerable, and why?
  - a. Write one word on a pink coloured label for each of your three marine areas, why you consider it to be vulnerable and then stick your label on the map to identify your vulnerable marine area.
3. What do you think are the three marine species that occur around Providenciales that you consider to be most important and where are the main places they occur?
  - a. Write each species on a max of 5 green coloured labels for each species and then stick the labels on the map to identify the main places where the species occur
4. What are your top three favourite marine places in Providenciales, where and why?
  - a. Write one word to describe why this is one of your top three favourite places on an orange label and then stick the labels on the map
5. What current human marine activities are taking place in Providenciales and where?
  - a. Write a list of marine activities
  - b. Code each marine activity
  - c. Write marine activity code in yellow label and stick label on the map

Once these five tasks were complete the maps were swapped between groups and the five tasks were repeated by each group on the swapped maps.

Finally, a discussion and brain storming session involving the whole group to answer the following three questions.

6. What are your suggestions for other information we should include and where could/should we get it from?
7. What keywords should be included in the stakeholder vision for MSP TCI in Providenciales?



*“Ensuring a well managed marine and coastal areas and resources of the Falkland Islands for **sustainable economic development** whilst **protecting our biodiversity** and wild unspoilt areas, and supporting the **safe use** of the sea and celebration of our maritime heritage”.*

Figure 6 Stakeholder vision example from the Falkland Islands

8. What top three things would it be useful for you to have mapped?

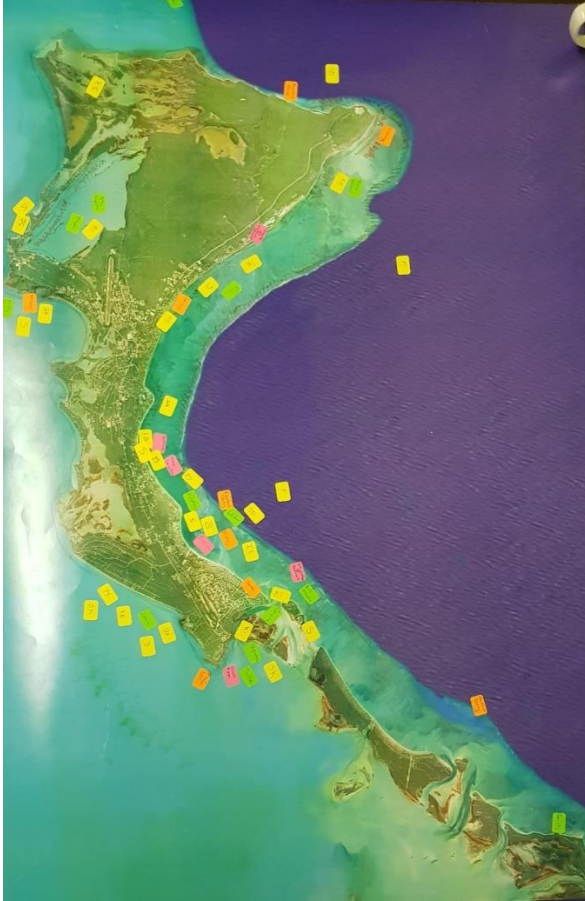
### Workshop outcomes.

A key activity in the workshop was for the participants to go through the process of thinking through the multiple activities in the marine environment, and visually experiencing the overlap of multiple activities within the same space (Figures 7 & 8). It did not follow any formal participatory mapping methodology, as the exercise did not aim to formally ‘place’ activities within the marine space for planning purposes.

The maps below show some of the final outputs from the exercise described in the workshop programme. (Figures 7 & 8) These maps have also been uploaded into the project WebGIS and will be available as a spatial layer online. Also see [annex 3 Feb 4<sup>th</sup>](#) and [annex 4 Feb 5<sup>th</sup>](#) – Outputs from the workshop.



A

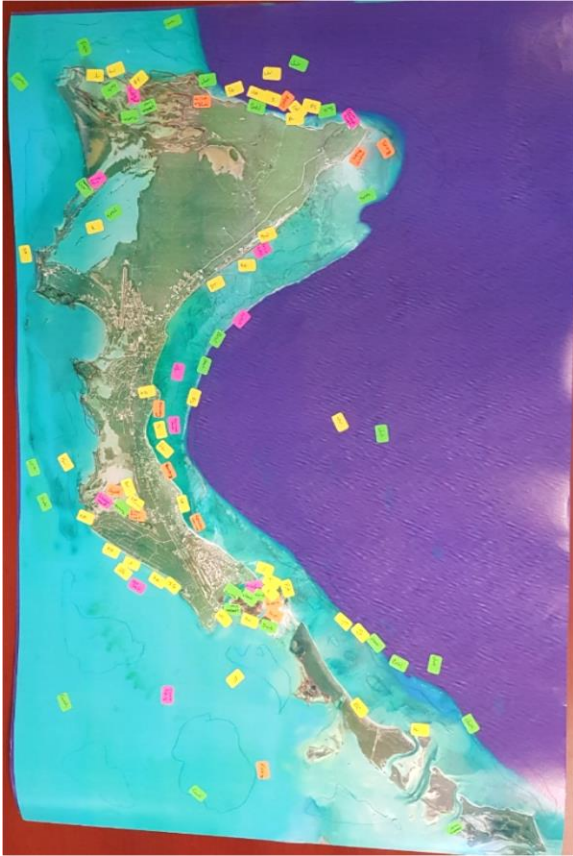


B





C



D

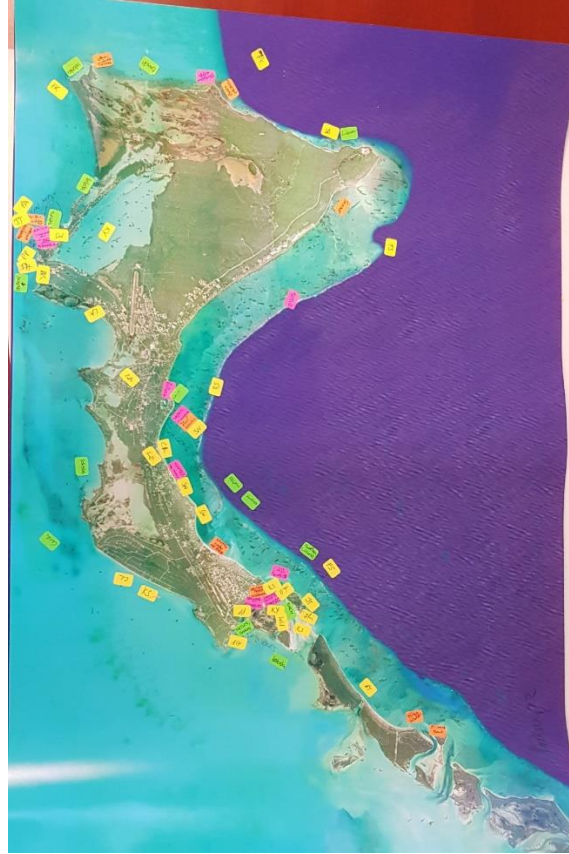


Figure 7 Workshop participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels), participant group 1 (A), participant group 2 (B) on the 4<sup>th</sup> and participant group 1 (C) and participant group 2 (D) 5<sup>th</sup> (C,D) February 2020.



Figure 8 Participant mapping of marine activities in Turks and Caicos: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels), February 5<sup>th</sup> 2020.

Although the purpose of the exercise, as described above, was not to formally locate activity within the marine environment, there were some interesting points that emerged as a result of undertaking this activity. Some of these points are outlined below:

### Marine habitats in and around Providenciales

In Task 1, workshop participants noted that coral reefs, seagrass and mangrove habitats are in and around Providenciales. The coral reefs are all along the north side of Providenciales fringing the deeper waters, while the seagrass is found mainly in the shallower sandy environment of the south side of Caicos Bank. Although seagrass is still present in the northern side of Providenciales. Mangroves are found in Chalk Sound, Mangrove Cay, Five Cays, Leeward Through Way, Little Water Cay, Donna Cay, Water Cay, Pine Cay, Stubbs Cay, Dellis Cay, Parrot Cay and Parrot Cay Channel.

### Vulnerable marine areas

In Task 2, workshop participants considered the following marine areas vulnerable (Figures 4 and 5). The following table lists the areas that were named as vulnerable, with a brief description of their vulnerability.

Marine Area	Vulnerability
North West Point	Stoney Coral Tissue Loss Disease



Chalk Sound	Development
Turtle Cove	LBP? Pollution,
The Bight	Development, Pollution, Nutrients, Illegal Fishing
West Harbour	Development
Blue Hills – Pelican Point	Landfill, Waste, Illegal Development
Leeward Through Way	Dredging, Erosion, Conch Farm, Commercial
Long Bay Hills	Jet Ski
Caicos Bank	Conch Fishing
North Creek	Pollution, Marina
Beach East of North Creek	Sargassum
Reefs	Stoney Coral Tissue Loss Disease, Tourism, Development
Caicos Bank	Illegal Fishing, Poachers
Grace Bay	Development, Erosion, Boating
Proggin Bay	Development
Bonefish Point	Development
Water Cay	Erosion
Five Cays	Pollution, Waste
Smith Reef	Commercial
Sapodilla Bay	Commercial
Coral Garden	Traffic

## Important marine species that occur around Providenciales

In Task 3, workshop participants identified the following marine species to be important around Providenciales (Figures 7 & 8).

Whales, Sharks, Turtles, Lobster, Conch, Coral, Red Snapper, Iguana, Dolphins, Tuna, Wahoo, Grey Snapper, Grouper, Sting Rays

## Favourite marine places in Providenciales

In Task 4, workshop participants coarsely identified the following places to their favourites in Providenciales (Figures 7 & 8). [Also see annex 3 – Outputs from the workshop.](#)

Favourite Place	Why?
Turtle Cove	Snorkelling
The Bight	Beaching
Grace Bay	Sunsets
Mangrove Cay, Little Cay	Stand Up Paddle Boarding, Kayaking, Wildlife Observing, Snorkelling, Scuba Diving
Juba Sound	Kayaking, Sunsets, Birds
Northwest Point	Diving, Unspoiled Beaches, Scenery
Frenchmans Creek	Solitude, Natural Beauty



Long Bay	Swimming
Five Cays Bay	Bait Fish, Fishing, Leisure
Cove Point	Leisure
Reefs	Diving
Leeward	Home
Bird Rock	Fishing Spot
Malcolm Roadstead	Diving
Sapodilla Bay	Beach, Residential
Smith Reef	Snorkelling
Grace Bay Beach	Tourism
Leeward Beach	Tourism
Fort George Cay	Beach, Reefs and Islands
Wiley Point	Snorkelling, Reefs

## Human marine activities taking place in Providenciales

In Task 5, the workshop participants created a list of the human activities taking place in and around Providenciales (Figures 7 & 8). There was no weighting or prioritisation of these activities. Also see [annex 3 Feb 4<sup>th</sup>](#) and [annex 4 Feb 5<sup>th</sup>](#) – Outputs from the workshop.

Human Activities	
Illegal Fishing / Poaching	Diving
Scuba diving	Polluting
Snorkelling	Water sports (general)
Parasailing	Boating
Jet Ski	Wake boarding
Tours	Swimming
Kite boarding	or Commercial?
Whale watching	Sitting on a beach / Beaching
Sun bathing	Shipping (cruise, cargo, oil)
Sting ray feeding	Pooping on a beach
Shipping	Kite surfing
Boat Racing	Kayaking
Fishing (general)	Dredging & Construction
Bone fishing	Clean up (beach, dive)
Sport fishing	Parties
Commercial fishing	Coastal landfill, waste management
Recreational fishing	Leaching, seepage runoff
Poaching	Tubing / Banana Boating
Sailing	Commercial Fishing
Stand up Paddle Boards	Recreational Fishing
Hydrofoil	Dumping of bilge
Shipping	Cruise lines
Wreck diving	Coral nursery
Water skiing	Bird watching
Dumping of trash	



## Additional Information

The workshop participants suggested that the following data be included in the development of the MSP tool. These data will need to be mined and collated, and if not available, will be identified as data gaps (also see [annex 3 Feb 4<sup>th</sup>](#) and [annex 4 Feb 5<sup>th</sup>](#) – Outputs from the workshop).

Additional Information	
Shipping Data	Nautilus Deposits
Marine Traffic	Data from School for Field Studies (South Caicos)
Navigation Aids	Wetland Data
Tide Gauges – Charts	Residential and Commercial Activities
Sea Temperature and Salinity	Health of Coral Reefs
Research Permits (International)	Important Biodiversity Sites
Fish Base	Historical and Cultural Sites
Caribbean Port Management	Bathymetry
Caribbean Fisheries Information System	Habitats
Shipping Routes	Currents
More Protected Areas	Analyses and Identification of Hot Spots
Sensitive Habitats	Coastal Processes
Public Use	National Parks and Protected Areas
Beach Access	Zoning
Swim Zones	Threats
Carrying Capacity for Marine and Coastal Areas	Coastal Population Density
Territorial Waters	Setbacks (Land Use)
Enforcement	Water Quality
Illegal Activities	Coastal Evaluation
Assessment Beyond EEZ	Ecosystem Services
Accidents/Spillage	Changes in Use
Historical Data	Wrecks
AGGRA Reef Monitoring	Fisheries Data
Environmental Impact Assessments	The Future of Reef (East Caicos)
Water Quality Data	

## Priority Mapping

The workshop participants thought that it would be important to map the following as priorities:

Residential and Commercial, Activities, Health of Coral Reefs, Important Biodiversity Sites, Historical and Cultural Sites, Bathymetry, Habitats, Currents, Analyses and Identification of Hot Spots, Coastal Processes, National Parks and Protected Areas, Zoning, Threats, Coastal Population Biology, Setbacks (Land Use), Water Quality, Coastal Evaluation, Ecosystem Services, Changes in Use, Wrecks, Fisheries Data, The Future of Reef (East Caicos) Also see [annex 3 Feb 4<sup>th</sup>](#) and [annex 4 Feb 5<sup>th</sup>](#) – Outputs from the workshop.





The process of sticking labels on maps provided the stakeholders with a visual representation of the potential overlap in marine activities and marine values around Providenciales.

These Providenciales workshops were attended by a range of stakeholders from a variety of sectors, NGO, environmental agencies, shipping, property owners and Government departments.

### Next steps

The information gathered during this workshop will be used in the development of the MSP GIS database and data portal, and to help develop a framework for MSP in the TCI.

It was agreed that feedback/consultation meetings happen every two months to discuss MSP TCI progress and that the MSP TCI project team will work on the vision with the Grand Turk stakeholders. The project team will also spend time with the Department of Survey and Mapping each month.

Workshop reports will be circulated to the Project Stakeholder Group (PSG). Other workshop reports can be found [here](#)

Maps from the stakeholder workshops uploaded to the WebGIS. We will provide a link to the WebGIS once it is available.



## Annex 1 – Workshop invitees and attendees

The following were invited to the workshop 4<sup>th</sup> February

Education Department
Department of Maritime and Shipping
Coastal Radar (Border Control)
Department of Planning (DoP)
Port Authority
Survey and Mapping Dept (SMD)
Disaster Management and Emergencies (DDME)
Permanent Secretary and Ministry
Education, youth, culture, social and library services
Royal Turks and Caicos Islands Police Force Maritime Division (RTCIPF)
Environmental Health Department (EHD)
Department of Agriculture
Public Works Department
Central Information and Technology Unit (CITU)
Director of Culture
Department of Environment and Coastal Resources (DECR)

The following people participated in the workshop on 4<sup>th</sup> February

Cyprian Smith (Survey and Mapping Dept)
Gervin Simmons (Survey and Mapping Dept)
Walter Hanchell (Port Authority)
Roddy McLeod (Department of Environment and Coastal Resources)
Carlos Tamayo (Department of Planning)
Lanardo Jolly (Public Works Department)
Rodman Johnson (Coastal Radar)
Elwood Harvey (Central Information and Technology Unit)

The following were invited to the workshop 5<sup>th</sup> February

Turks and Caicos Reef Fund
Turks and Caicos Sailing Association/academy and or Sailing Club
Turks and Caicos Water Sports Association
Turks and Caicos National Trust (TCNT)
Turks and Caicos Hotel Tourism Association (TCHTA)
Turks and Caicos Tourist Board
SWA Environmental
Provo Seafood
Marine Environment Services
Property Owners
Tropical Shipping

The following people participated in the workshop on 5<sup>th</sup> February

Marsha Pardee (Marine Environment Services)
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Don Stark (Turks and Caicos Reef Fund)
Kathleen Wood (SWE Environmental)
Mary Lightbourne (Turks and Caicos Tourist Board)
W Sanders-Penn (Turks and Caicos National Trust)
Carl Simmons (Tropical Shipping)
Ilana and Scott Turak (Property Owners)

## Annex 2 – Workshop Programme

The workshops were organised and facilitated by Luc Clerveaux (DECR), Dr Julian Tyne (SAERI) and Tara Pelembe. A prayer was given at the start of the workshop given by Luc Clerveaux followed by a presentation on the MSP process in the Falkland Islands by Dr Paul Brickle and MSP in the wider context by Lucy Beagley (JNCC), then an overview of the project in the TCI by Dr Julian Tyne, a demonstration of WebGIS by Marcin Gorny, discussions, group sessions and brain storming. Participants were provided with an overview of the workshop and how it was part of the initial step to inform and consult with stakeholders to help define the needs and contexts of MSP in the TCI. This is an important process as it sets the scene for stakeholders to understand and be involved in assessing the needs and benefits of MSP in the TCI, from a Providenciales perspective.

### Developing Marine Spatial Planning (MSP) Tools for the Turks and Caicos Islands – Stakeholder Workshop.

**Providenciales: 4<sup>th</sup> and 5<sup>th</sup> February 2020**

Time	Topic	Presenter
9:00 – 9:10	Opening remarks and introductions	DECR Director Lormeka Williams
9:10 – 9:30	<i>Introduction to SAERI and the Falkland Island MSP example</i>	<i>Dr Paul Brickle</i>
9:30 – 9:50	<i>MSP in the wider context of the Environment Strategy</i>	<i>Lucy Beagley</i>
9:50 – 10:00	<i>Present ‘Developing Marine Spatial Planning (MSP) Tools for the Turks and Caicos’ project</i>	<i>Dr Julian Tyne</i>
10:00 – 10:10	Introduction to the breakout session	Dr Julian Tyne
10:10 – 10:20	What marine habitats exist in and around TCI (Coral Reef, Mangroves, Seagrass and other)	Facilitated session (Dr Julian Tyne)
10:20 – 10:30	What 3 marine areas do you consider to be most	Facilitated session (Dr Julian Tyne)



	vulnerable? To what and why?	
10:30 – 10:40	What three (3) marine species occur around TCI, do you consider most important. Where are the main places that they occur?	Facilitated session (Dr Julian Tyne)
10:40 – 10:50	What are your top 3 favourite marine related places in TCI – why, where.	Facilitated session (Dr Julian Tyne)
10:50 – 11:00	What current marine activities are taking place in TCI and where (human).	Facilitated session (Dr Julian Tyne)
11:00 – 11:10	Coffee Break	
11:10 – 12:00	Swap maps and repeat workshop tasks	Facilitated session (Dr Julian Tyne)
12:00 – 1:00	<i>Lunch</i>	
1:00 – 1:10	WebGIS demonstration to show marine spatial data for TCI	Marcin Gorny
1:10 – 1:20	What are your suggestions for others information should we include and where could/should we get it from?	Facilitated session (Dr Julian Tyne)
1:20 – 1:40	Stakeholder vision for TCI MSP (Grand Turk context) List three keywords that would be in your vision statement	Facilitated session (Dr Julian Tyne)
1:40 – 1:55	What top 3 things would it be useful for you to have mapped?	Facilitated session (Dr Julian Tyne)
1:55 – 14:00	Wrap up and next steps	Luc Clerveaux



Annex 3 – Outputs from the workshop Feb 4<sup>th</sup>

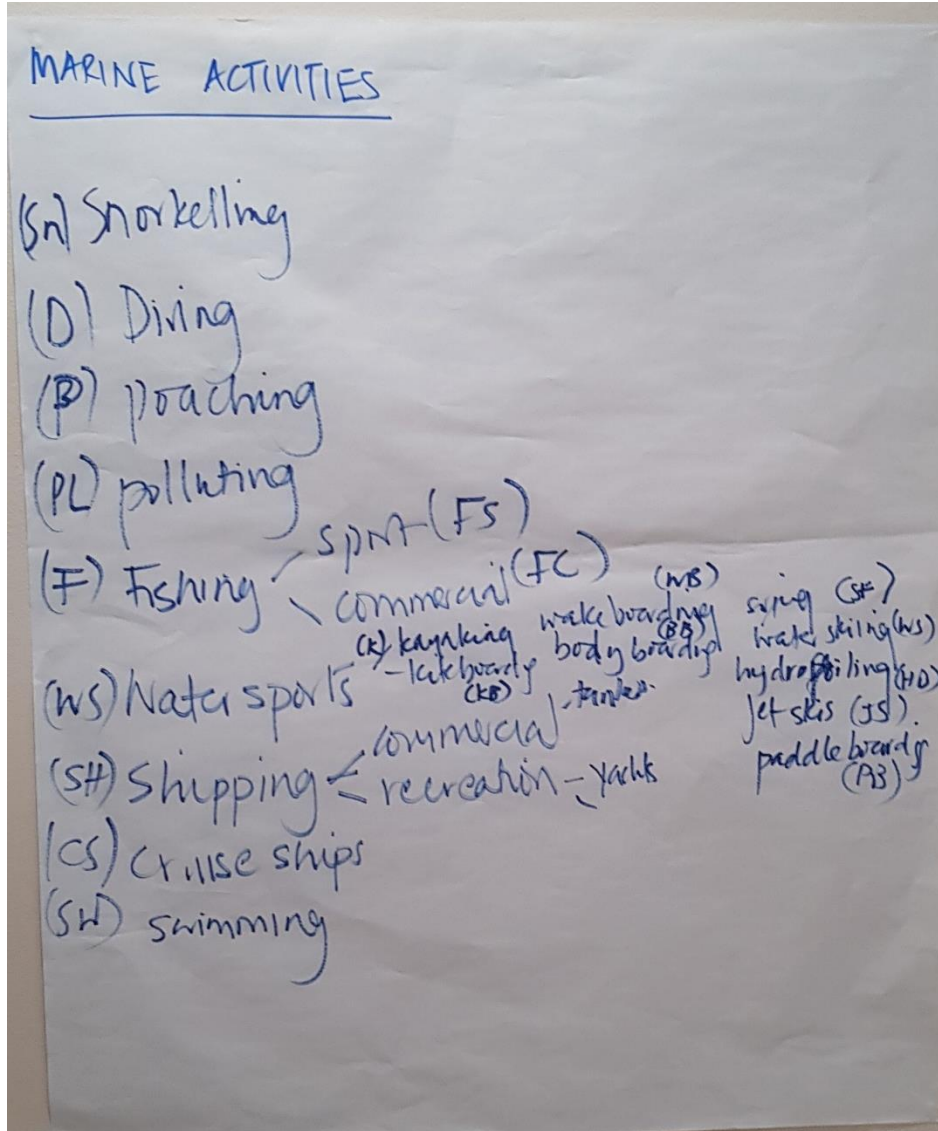


Figure 10 Group 1 list of marine activities around Providenciales Feb 4<sup>th</sup>



## MARINE ACTIVITIES

SNORKELLING (SK)

SCUBA (SD)

FISHING (F) - CF - COMMERCIAL  
RF - RECREATION

SWIMMING (S)

TUBING/BIWANA BOATING (B)

KITE BOARDING (KB)

JET SKI (JS)

KAYAKS/SUP (KS)

PARASAILING (PS)

WRECK VISITING (WV)

(WAKE BOARDING (WB))

(WAKE SKIING (WS))

BOATING (BT)

HORSE BACK RIDING (HB)

Figure 11 Group 2 list of marine activities around Providenciales Feb 4th



## What else to map

SHIPPING ROUTES

MARINE PROTECTED AREAS

SENSITIVE HABITATS

PUBLIC USE

BEACH ACCESS

SWIM ZONES

NAVIGATIONAL MARKERS

CARRYING CAPACITY - MARINE PROTECTED AREAS

TERRITORIAL WATERS, EEZ

ENFORCEMENT

ILLEGAL ACTIVITIES

ASSESSMENT BEYOND TERRITORIAL WATERS

ACCIDENTS / SPILLAGE

EEZ

Figure 12 Additional information suggested by the stakeholders to be included in the development of the MSP tool Feb 4th



## What information to include?

SHIPPING DATA

MAINE TRAFFIC

NAVIGATION MARKERS

TIDE GAUGES - CHARTS

SEA TEMPERATURE/SALINITY

RESEARCH PERMIT (INTERNATIONAL)

CARIBBEAN PORT MANAGEMENT

CARIBBEAN ASTERIES INFO SYSTEM.

FISHBASE.

Figure 13 Priority mapping suggestions by the stakeholders Feb 4th



## KEY WORDS

1. SUSTAINABILITY

BEAUTIFUL BY NATURE

3 } COLLABORATION

MARINE PROTECTION.

PROTECTING

MARINE CULTURAL HERITAGE

EQUALITY BETWEEN ISLANDS / PEOPLE

CLEAN ENVIRONMENT

CLEAN, GREEN & PRISTINE.

SUSTAINED ENVIRONMENT.

2. EDUCATION

MARK, SCUBA DIVE, SWERKEL, REC FISHING

LOTS OF FISH, NO JET SKI

RESOURCES

NO GROUNDINGS

OILSPILLS

NO POLLUTION

TOO MANY ACTIVITIES

NO DEMO MARQUESAS

NO BYCATCH

NO PETCHING.

NO LITTER

NO WRECKS.

NO BLEACHING

NO DEMO COOK.

NO TOXIC TCI

Figure 14 List of keywords suggested by the stakeholders to be included in the MSP vision statement

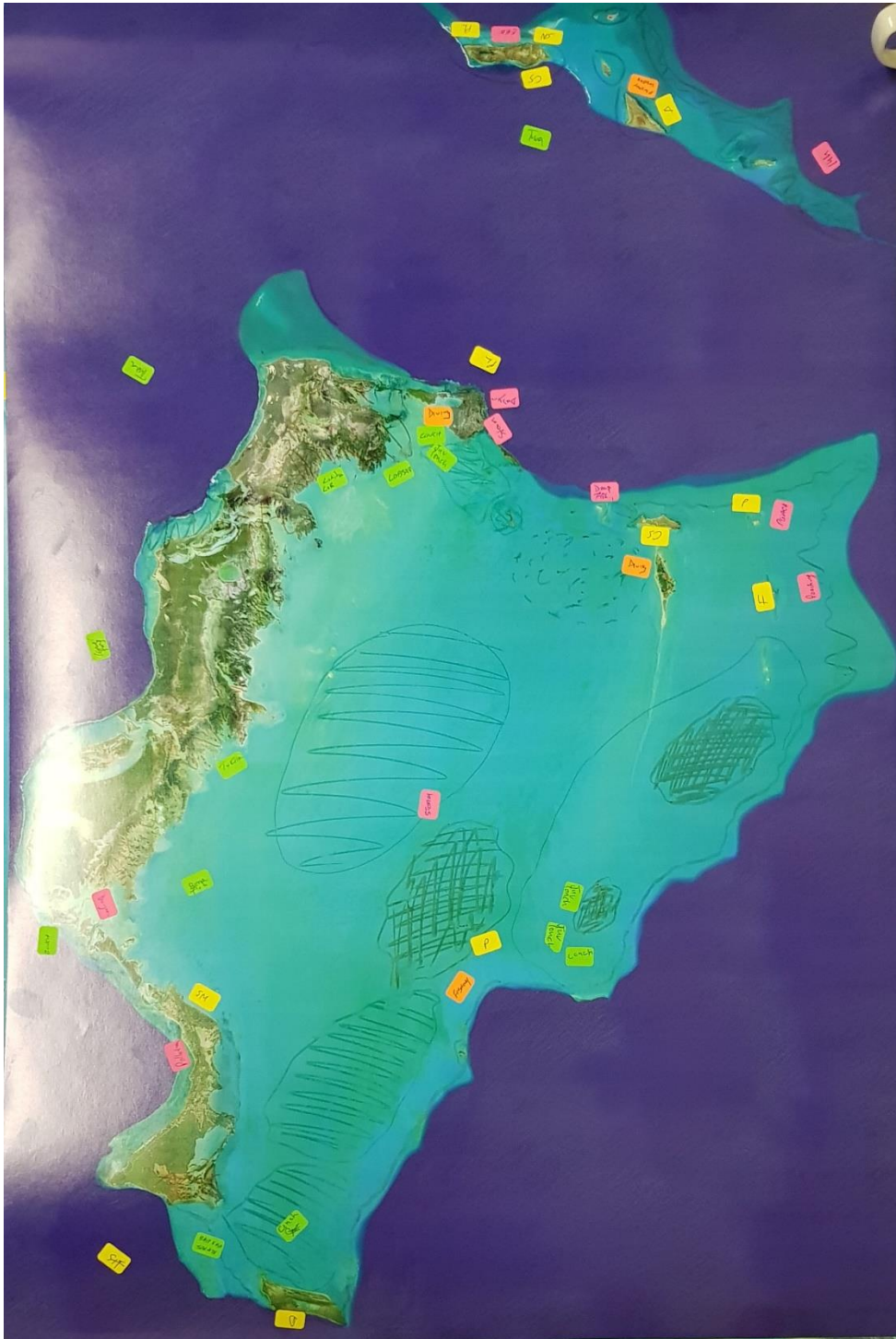


Figure 15 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 4<sup>th</sup> 2020.



Figure 16 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 4<sup>th</sup> 2020.

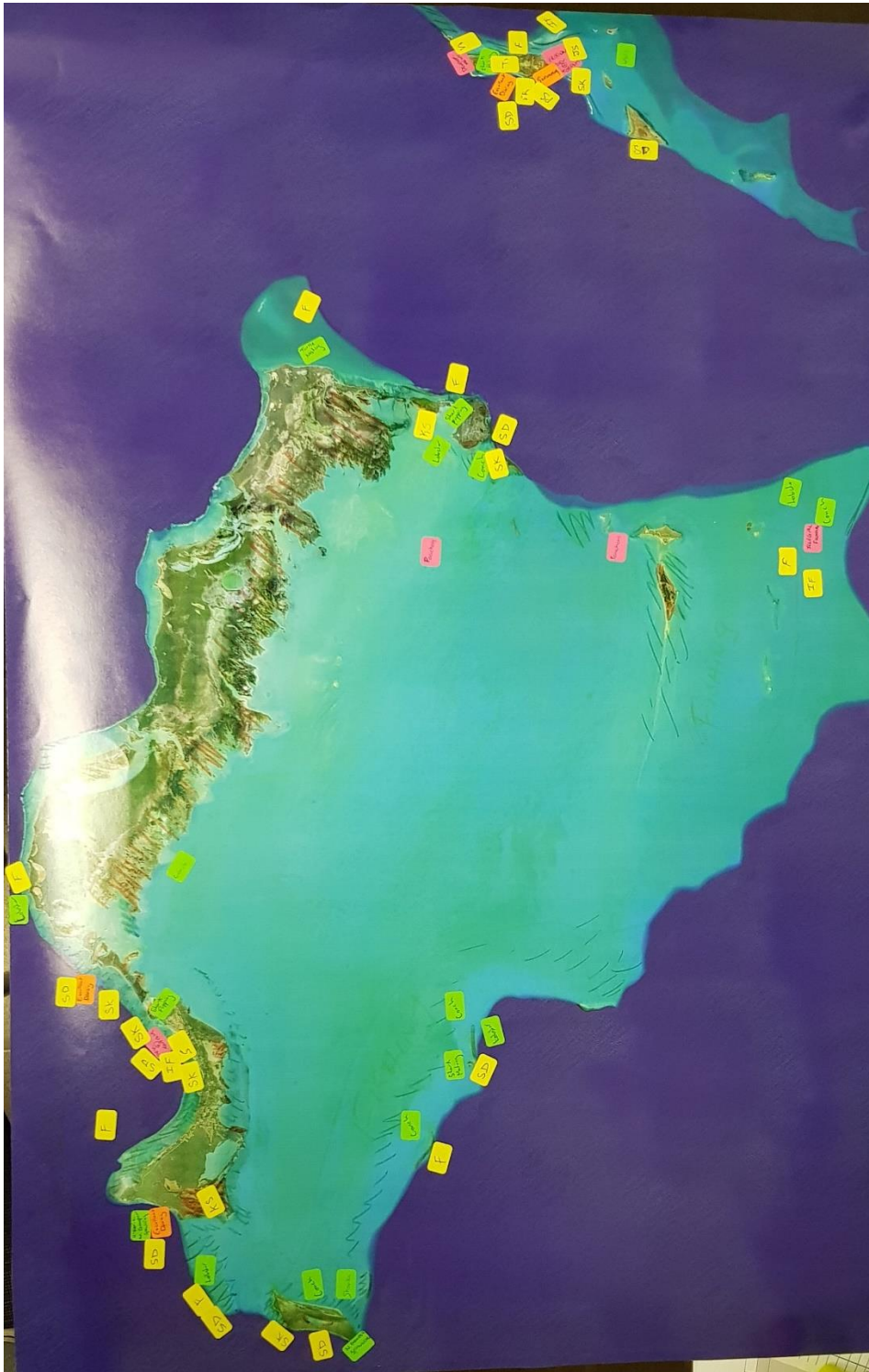


Figure 17 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 4<sup>th</sup> 2020.



Annex 4 – Outputs from the workshop Feb 5<sup>th</sup>

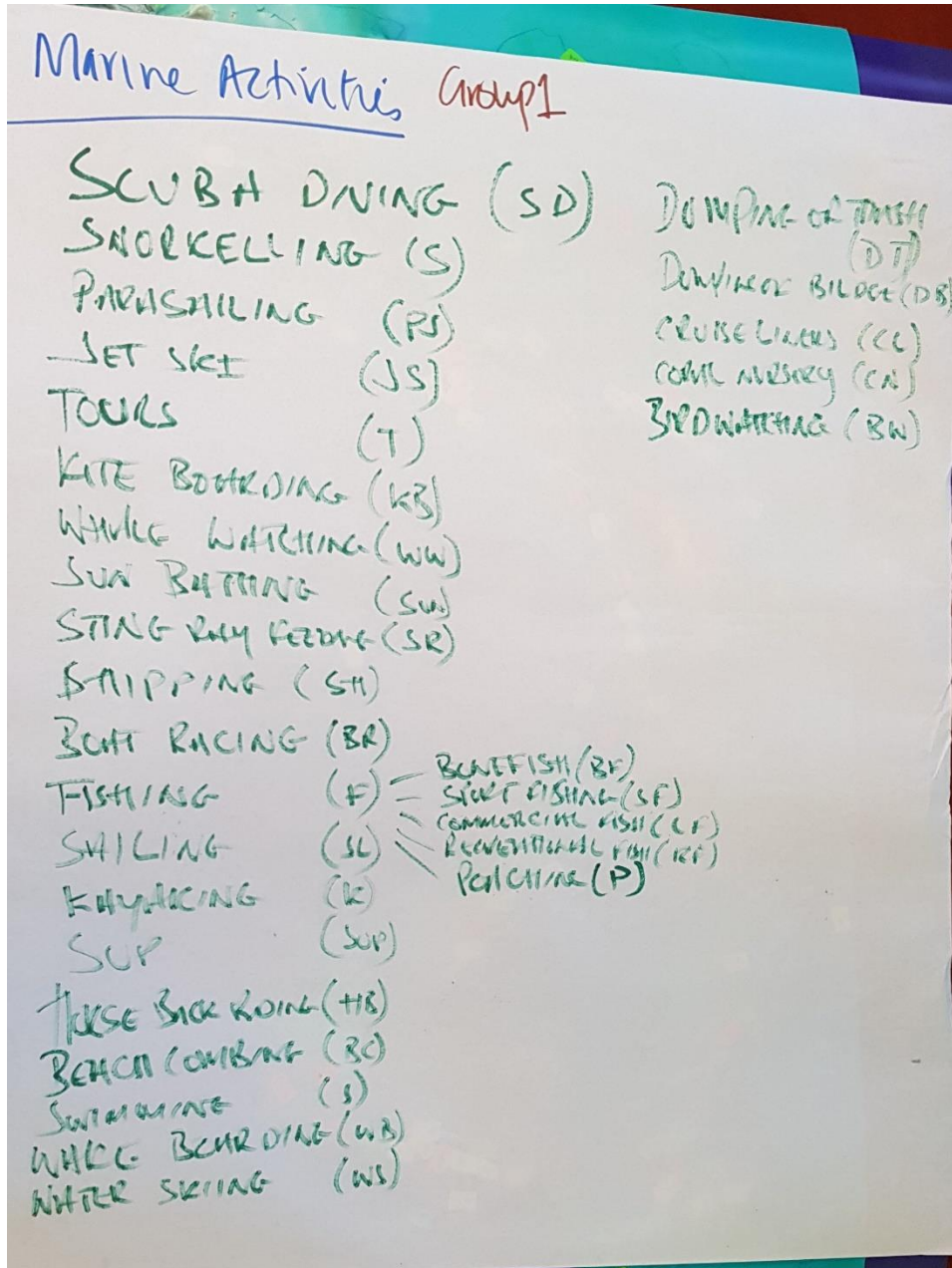


Figure 18 Group 1 list of marine activities around Providenciales February 5<sup>th</sup> 2020



## Marine Activities

- Snorkelling - SN
- Diving - SD
- Boating - BT
- Jet Ski - JT
- Swimming - SW
- Fishing - Rec, Sport, Com, IUL, over FS
- Sitting on beach/bronzers - BZ
- Shipping - Cruise, Cargo, oil - SH
- Pooping on beach - PP
- Kite Surfing - KS
- Kayaking - Ky
- Dredging & construction - Maintenance - DR
- Cleanups - beach, dive - CL
- Parties - P - LA
- Coastal landfill/waste mgmt. - LE
- Leachate ~ seepage, runoff (Pesticides)
- Parasailing - PS
- Tubing - TU

Figure 19 Group 2 list of marine activities around Providenciales February 5<sup>th</sup> 2020



## What information do you have?

HISTORICAL DATA

AGRI - REEF MONITORING

HISTORICAL ~~REEF~~ AERIAL IMAGES

ENVIRONMENTAL IMPACT ASSESSMENTS.

FISHERIES DATA

SPREAD SHEETS

THE FUTURE OF REEFS - EAST CAICOS

DATA STANDARDS FOR SUBMISSIONS.

- WETLAND DATA.

- STEEL REQUIREMENT (NEW)

WATER QUALITY DATA

NAUTILUS REPORTS.

SFS

Figure 20 Additional information suggested by the stakeholders to be included in the development of the MSP tool February 5<sup>th</sup> 2020



What would you like mapped? **MARINE**

RESIDENTIAL <sup>DEVELOPMENT</sup> ✓ COMMERCIAL ACTIVITIES

HEALTH OF CORAL REEFS WRECKS

IMPORTANT BIODIVERSITY SITES

HISTORICAL & CULTURAL SITES WATER QUALITY (PHE)

BATHYMETRY COASTAL ELEVATION

HABITATS ECOSYSTEM SERVICES

SEA TEMP CHANGE IN USE

SALINITY

CURRENTS

ANALYSES identify hot spots

COASTAL PROCESSES

NATIONAL PARKS PROTECTED AREAS

ZONING

THREATS

COASTAL POPULATION DENSITY

SET BACKS

NOT ZONED

Figure 21 Priority mapping suggestions by the stakeholders February 5<sup>th</sup> 2020



# Key words

\* ZONING \*\*

FISHING SITES

KEY BIODIVERSITY AREAS

ENVIRONMENTALLY FRIENDLY

AGGREGATIONS

NURSERIES HABITS

IMPORTANT AREAS - LIFE CYCLES

ENDANGERED SPECIES FOR IMPLEMENTATION

\* RESOURCES \*\*\* ECONOMIC - ENVIRONMENTAL

POLLUTION SOURCES

ENVIRONMENTAL ENHANCEMENTS

ECOSYSTEM SERVICES

PROTECTION AGAINST CLIMATE CHANGE

\* EDUCATION \*\*\* PRESERVATION \*\*\*\*

CONSERVATION. CONTROLLED DEVELOPMENT!

OPTIONS  
ALTERNATIVES

REGULATORY FRAMEWORK

TRANSPARENCY

COOPERATION

\* PUBLIC PARTICIPATION \*\*

→ LINK WITH  
EDUCATION

\* EQUITY \*

DECISIONS

SOCIAL JUSTICE

RESTORATION

Figure 22 List of keywords suggested by the stakeholders to be included in the MSP vision February 5<sup>th</sup> 2020



Figure 23 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 5<sup>th</sup> 2020.



Figure 24 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 5<sup>th</sup> 2020.



Figure 25 Participant mapping of marine activities in Providenciales: Habitats (coral – brown pen, seagrass – green pen, mangroves – red pen, other – yellow pen), vulnerable marine areas (pink labels), marine species (green labels), favourite marine places (orange labels), human activities (yellow labels) February 5<sup>th</sup> 2020.



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