

# Bahamas Protected



## Marine Protected Area Management Guidance Document

A Guide for Policy-Makers & Protected Area Managers

SEATHE FUTURE

September 2018

Prepared by the Bahamas National Trust



**A Companion Document to the  
*Marine Protection Plan for expanding The Bahamas Marine Protected Areas Network  
to meet The Bahamas 2020 declaration (September 2018)***



Prepared by Global Parks & the Bahamas National Trust  
with support from The Nature Conservancy

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*Bahamas Protected* is a three-year initiative to effectively manage and expand the Bahamian marine protected areas (MPA) network. It aims to support the Government of The Bahamas in meeting its commitment to the Caribbean Challenge Initiative (CCI); a regional agenda where 11 Caribbean countries have committed to protect 20 percent of their marine and coastal habitat by 2020. CCI countries have also pledged to provide sustainable financing for effective management of MPAs.

*Bahamas Protected* is a joint effort between The Nature Conservancy, the Bahamas National Trust, the Bahamas Reef Environment Educational Foundation and multiple national stakeholders, with major funding support from Oceans 5.

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## Contents

<b>I. INTRODUCTION</b> .....	7
<b>II. THE BAHAMAS NETWORK OF MARINE PROTECTED AREAS</b> .....	8
<b>III. BAHAMAS PROTECTED AREA MANAGEMENT CATEGORIES</b> .....	8
<b>IV. PROTECTED AREAS ZONING</b> .....	10
<b>V. GOVERNANCE OF PROTECTED AREAS</b> .....	11
1. Government-Managed Protected Areas - .....	12
2. Governance by various stakeholders together (shared or co-managed) .....	12
3. Governance by private individuals and organizations.....	14
4. Governance by local communities.....	14
<b>VI. RECOMMENDED MANAGEMENT REGIMES FOR 2018 PROPOSED MPAS</b> .....	14
<b>VII. CONCLUSION</b> .....	21
<b>VIII. BIBLIOGRAPHY</b> .....	22
<b>ANNEX 1 – Listing of Protected Areas in The Bahamas with IUCN Categories</b> .....	23
<b>ANNEX 2 – Examples of Protected Areas Zoning Plans</b> .....	25
<b>ANNEX 3 – Elements of Management for BNT National Parks</b> .....	38

## List of Acronyms and Abbreviations

AMMC	Antiquities, Monuments & Museums Corporation
ANMP	Andros North Marine Park
ANP	Abaco National Park
ASMP	Andros South Marine Park
AWSNP	Andros West Side National Park
BEST	Bahamas Environment, Science and Technology Commission
BHNP	Blue Holes National Park
BNPAS	Bahamas National Protected Area System
BNT	Bahamas National Trust
BPNP	Bonfish Pond National Park
BREEF	Bahamas Reef Environment Educational Foundation
BSCNR	Black Sound Cay National Reserve
CCI	Caribbean Challenge Initiative
CCMR	Crab Cay Marine Reserve
CHA	Clifton Heritage Authority
CHNP	Clifton Heritage National Park
CINP	Conception Island National Park
CRR	Crab Replenishment Reserve
DMR	Department of Marine Resources
ECLSP	Exuma Cays Land and Sea Park
EJCMR	Exuma (Jewfish Cay) Marine Reserve
FCNP	Fowls Cay National Park
HGH	Hope Great House
HWPNP	Harrold & Wilsons Ponds National Park
INP	Inagua National Park
IUCN	International Union for the Conservation of Nature
LINP	Little Inagua National Park
LLNPP	Leon Levy Native Plant Preserve
LNP	Lucayan National Park
MF	Marine Farm
MHCNP	Moriah Harbour Cay National Park
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MPP	Marine Protection Plan
NFE	National Forestry Estate
NGO	Non-Government Organization
NNCMR	No Name Cay Marine Reserve
PA	Protected Area
PCLSP	Pelican Cays Land and Sea Park
PCNP	Peterson Cay National Park
PFNP	Primeval Forest National Park
RBDF	Royal Bahamas Defence Force

RNC	Rand Nature Centre
SBIMR	South Berry Islands Marine Reserve
TCR	Tilloo Cay Reserve
The Retreat	The Retreat Gardens
TNC	The Nature Conservancy
UCR	Union Creek Reserve
WCNP	Walker's Cay National Park

### List of Key Terms

<b>BAHAMAS PROTECTED</b>	<i>Bahamas Protected</i> is a joint effort between The Nature Conservancy, the Bahamas National Trust, the Bahamas Reef Environment Educational Foundation and multiple national stakeholders, with major funding support from Oceans 5.
<b>CATEGORIES (IUCN)</b>	IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognized by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.
<b>CO-MANAGEMENT</b>	The shared management of a protected area; usually between a management agency and a local community group, or two management agencies.
<b>DECLARATION</b>	A formal or explicit statement or announcement; in this context of an approved protected area.
<b>FRAMEWORK</b>	An essential template used to outline a basic system, concept or operating procedures.
<b>GAP ANALYSIS</b>	A gap analysis is an assessment of the extent to which a protected area system meets protection goals set by a nation or region to represent its biological diversity. Gap analyses can vary from simple exercises based on a spatial comparison of biodiversity with existing protected areas to complex studies that need detailed data gathering and analysis, mapping and use of software decision packages.
<b>GOVERNANCE</b>	The act of manner of managing a protected area
<b>IUCN</b>	The International Union for Conservation of Nature (IUCN; officially International Union for Conservation of Nature and Natural Resources) is a global organization working in the field of nature conservation and sustainable use of natural resources. It is the world's largest and most diverse environmental network.
<b>MARINE PROTECTED AREA</b>	The IUCN defines a Marine Protected Area as “an area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of its enclosed environment”.

<b>MANAGEMENT REGIMES</b>	A system or ordered ways of controlling activities within a protected area. Different systems are implemented based on the purpose of the protected area and factors affecting the area of concern.
<b>MOU</b>	An MOU (memorandum of understanding) is a non-binding agreement between two or more parties outlining the terms and details of an understanding, including each parties' responsibilities. An MOU is often the first stage in the formation of a formal agreement.
<b>OCEANS 5</b>	Oceans 5 is an international funders' collaborative comprised of new and experienced philanthropists dedicated to protecting the world's five oceans.
<b>PROTECTED AREA</b>	A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. In the case of marine protected areas (MPAs) this defined geographic area exists within the sea and may include the coastline.
<b>STAKEHOLDER</b>	a person with an interest or concern in something; particularly the protected area.
<b>STAKEHOLDER CONSULTATION</b>	a formal or informal meeting held to engage relevant stakeholders on issues related to the protected area of interest.
<b>WHITE PAPER</b>	A report or document prepared for or by the government giving information or proposals on an issue.
<b>ZONING</b>	The process or practice of sub-dividing a protected area into sections, where each section has a different purpose or different regulations.



*Figure 1. Aerial view of the flats of Andros West Side National Park. Photo courtesy of Heather Carey, BNT.*

## I. INTRODUCTION

This ***Marine Protected Area (MPA) Management Guidance Document*** is a companion document to the *20 by 20 White Paper: Marine Protection Plan for expanding The Bahamas Marine Protected Areas Network (September 2018)*. It presents policy-makers, MPA managers and key stakeholders with further insight on management regimes applicable to Bahamian protected areas (PA) including management categories, zoning and governance.

The ensuing sections will provide a high-level overview of the following:

- protected area management types recommended for the 2018 proposed MPAs and IUCN<sup>1</sup> management categories that may be ascribed to all MPAs;
- the use of zoning as a management tool;
- four governance options for management of areas within The Bahamas National Protected Area System (BNPAS); and
- recommended management regimes for the 43 proposed MPAs listed in the 20-by-20 Marine Protection Plan.

### Background Information

In 2016, The Nature Conservancy (TNC) partnered with the Bahamas National Trust (BNT) and the Bahamas Reef Environment Educational Foundation (BREEF) to launch the *Bahamas Protected* project, with major funding support from Oceans 5. This three-year initiative to effectively manage and expand the Bahamian marine protected areas network aims to support the Government of The Bahamas in meeting its commitment to protect 20 percent of the country's near-shore and marine environments, by the year 2020.

After completing a national marine gap analysis, using the best available science and conducting extensive stakeholder consultations across 11 islands, the *Bahamas Protected* team presented the "*20 by 20 White Paper: Marine Protection Plan for expanding The Bahamas Marine Protected Area Network*" to the Government of The Bahamas. This momentous event took place on September 18<sup>th</sup>, 2018, at a breakfast meeting at the Hilton Hotel in Nassau, New Providence. The *20 by 20 White Paper: Marine Protection Plan* was received by the Minister of the Environment & Housing and the Minister of Agriculture & Marine Resources. The plan proposes 43 new and expanded sites to be declared and legally established as marine protected areas in The Bahamas, along with proposed management categories and protected area management agencies.

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<sup>1</sup> IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation. (source: [www.iucn.org](http://www.iucn.org))



## II. THE BAHAMAS NETWORK OF MARINE PROTECTED AREAS

The existing network of MPAs in The Bahamas currently protects about 10% of the country's coastal, near-shore and deep-water habitats. (See map on pg.20). These MPAs encompass a range of species and habitats to help achieve national biodiversity conservation targets. They also represent a range of management types, from highly protected fishery replenishment areas to marine managed areas with multiple zones that allow varying levels of human interaction and extraction. The responsibility for management of these areas is currently vested in either a government agency, or its legal designee.

### WHAT IS A MARINE PROTECTED AREA?

*The International Union for the Conservation of Nature (IUCN) defines a protected area as: "A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values." In the case of marine protected areas (MPAs) this defined geographic area exists within the sea and may include the coastline.*

Existing Bahamian MPAs are primarily managed by two agencies: the Bahamas National Trust (BNT) and the Department of Marine Resources (DMR). The Forestry Unit was formally established with the Forestry Act in 2010, to manage all forest types on Crown Lands, including pine forests, coppice, and mangroves, subject to declaration under the three categories of the proposed National Forest Estate (NFE).

Based on their legal mandates and/or policies, The Ministry of the Environment & Housing, the Bahamas Science & Technology (BEST) Commission, Antiquities Monuments & Museums Corporation (AMMC), the Royal Bahamas Defence Force (RBDF) and some NGOs may also support MPA management or are involved in MPA governance. The Clifton Heritage Authority (CHA) also manages the Clifton Heritage National Park; however, there is no marine component.

## III. BAHAMAS PROTECTED AREA MANAGEMENT CATEGORIES

Categorization of protected areas is important, particularly if it is legislated, as it gives direction for the management of the protected area to meet its intended purpose upon its establishment. Without categorization protected areas, established particularly for preservation or conservation purposes, tend to drift towards an array of purposes and potentially away from their originally intended purpose.

The IUCN recognizes six categories of protected areas, including two sub categories of the initial category. These categories referenced numerically and descriptively, include:

*Table 1: ICUN Protected Area Categories System*

Ia.	Strict Nature Reserve	Areas strictly set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.
Ib.	Wilderness Area	Usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II.	National Park	Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.
III.	Natural Monument or Feature	Areas set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.
IV.	Habitat/Species Management	Areas aimed to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.
V.	Protected Landscape/Seascape	A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
VI.	Protected Area with Sustainable Use of Natural Resources	Areas to conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.

In 2014, protected area managers and other conservation partners initiated the IUCN categorization of The Bahamas National Protected Area System (BNPAS) as part of a workshop facilitated and sponsored by the Biodiversity and Protected Areas Management Programme

(BIOPAMA) and the IUCN through the European Union's 10<sup>th</sup> European Development Fund (EDF). The outcomes of that exercise are reflected in **Annex 1**.

It was recommended by workshop participants that the IUCN category system and its application to the protected area system be adopted by the Government of The Bahamas and the BNT Council. This action is still pending.

In the meantime, areas listed in the *20 by 20 White Paper: Marine Protection Plan* have been proposed under two general categories. These overarching designations are intended to provide guidance to policy-makers and protected area managers regarding the type or level of protection proposed for each MPA:

1. Highly Protected Areas (or Marine Reserves) are defined as “*Any designated area with its surrounding waters a protected area; the removal of any fisheries resource is prohibited except with the written permission of the Minister for educational, scientific and research purposes.*” These areas are primarily fish spawning or breeding grounds set aside as fishery replenishment areas. As fishes there grow bigger they produce more offspring which eventually move outside of MPA boundaries helping to increase fish catch in the surrounding areas. Examples include Exuma Cays Land and Sea Park managed by the BNT and South Berry Islands Marine Reserve managed by the DMR.

Highly Protected Areas may also be established to protect endangered or other species deemed to be of high ecological, economic or cultural value. One example is the Inagua National Park which protects the world's largest breeding colony of West Indian Flamingos.

2. Multiple-use MPAs (or Marine Managed Areas) by comparison may permit a broader range of uses consistent with the conservation purpose for which the area was established. This includes, but is not limited to, fishing areas, fishery replenishment areas, recreational zones, etc. Certain types of fishing gear may be restricted, and seasonal closures may also be implemented based on resource conditions. Examples include San Salvador National Park and Andros West Side National Park managed by the BNT.

#### IV. PROTECTED AREAS ZONING

A MPA may be sub-divided into sections, where each section has a different purpose or different regulations. This process or practice is referred to as zoning and is a common tool used to manage the varied and sometimes competing uses in an area while ensuring that the conservation purpose is achieved.

In general, zones are established to reflect protected area values and are differentiated by objective, intended use level, means of access, size, recreation opportunity and facility development needs.

Zoning plans for a MPA are usually created during the management planning process, in close collaboration with community stakeholders. Each plan is designed to meet a unique balance between the conservation needs of the area and the socio-economic needs of the resource users. The types and names of zones may differ.

One example of zoning is depicted in the Walker’s Cay National Park map shown below. Other examples of zoning plans for a highly protected area and marine managed area can be found in **Annex 2**.

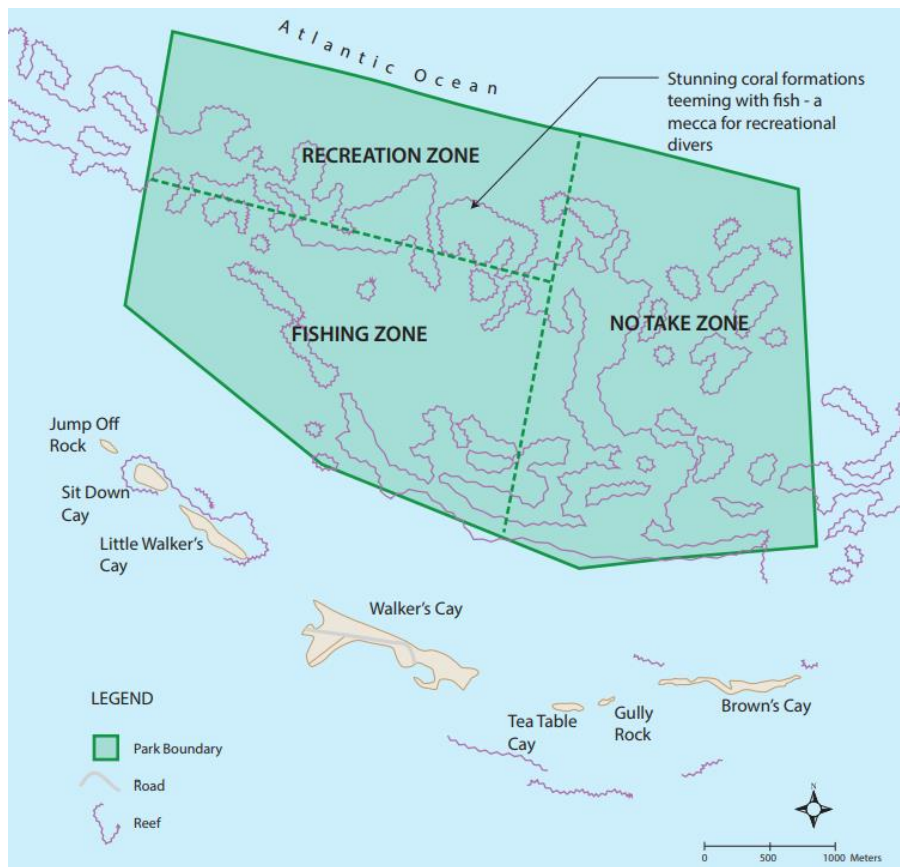


Figure 2. Map showing zones in Walker's Cay National Park, Abaco

## V. GOVERNANCE OF PROTECTED AREAS

Governance is the act or manner of managing a protected area. “Fundamentally, it is about power, relationships and accountability: who has influence, who decides, and how decision-makers are held accountable.” (Institute on Governance, 2003)

The 2012 *Master Plan for The Bahamas National Protected Area System (BNPAS)* identified four governance options for areas within the BNPAS.

## 1. Government-Managed Protected Areas -

The government is responsible for protected area management, and often owns the land and any associated resources. The following government agencies have mandates that include responsibility for one or more protected areas:

- DMR - The *Fisheries Resources (Jurisdiction and Conservation) Act (1977)*, administered by the Department of Marine Resources, provides for the declaration, by the Minister, of any area of waters, together with any area of adjacent land as a protected area. This *Act* further provides the opportunity for prohibition, under an order, of fishing and fishery resources. The associated regulations control use under permits.
- Forestry Unit - The *Forestry Act (2010)* provides for the declaration of three types of protected areas: forest reserves, protected forests and conservation forests. Each designation has a specific management objective, which dictates how the forest resources should be managed. The Forestry Unit is currently working on establishing the National Forestry Estate (NFE) and proposes to have mangroves species added to the national protected trees list.
- Ministry of the Environment & Housing – The *Wild Birds Protection Act (1952)* makes *provision* for the Minister to establish reserves for the protection of any wild bird and from time to time to vary, enlarge or reduce the extent of such reserves. A reserve may comprise of Crown or privately-owned land.
- Clifton Heritage Authority (CHA) – was created by an Act of Parliament in 2004. CHA has responsibility for managing and preserving that area known as Clifton Heritage as a national park and historical site and for matters incidental.

In some cases, the government retains control of the protected areas, but delegates their management to a non-government organization (NGO). The BNT is a NGO created by an Act of Parliament in 1959 to hold, maintain and manage “lands, tenements and submarine areas of beauty or natural or historic interest...as open spaces, or wildlife sanctuaries, or places of public resort.” The BNT currently manages most of the MPAs in the BNPAS.

## 2. Governance by various stakeholders together (Co-managed Protected Areas) -

Management is shared by a number of stakeholders, such as a government agency, local community, landowners and/or private entrepreneurs. A few protected areas in The Bahamas are co-managed between the BNT, government and local non-government organizations on various islands.

The current protected area system of The Bahamas covers more than 13 million acres of marine and terrestrial habitat. However, many areas experience management challenges due to limited funding and human resources. Effective management of these areas is further compounded by the archipelagic nature of the country with most protected area management agencies and resources centralized in New Providence.

The practice of communities or other stakeholders collaborating with PA management agencies to manage protected areas is a growing global trend, which has been shown to improve compliance while strengthening on-the-ground enforcement. Consequently, in 2017 The Nature Conservancy (TNC) completed a suggested framework for co-management for The Bahamas.

In TNC's 2017 study, Brumbaugh notes that the formal sharing of management roles and responsibilities may occur

- between a national PA management agency and local MPA stakeholders (Local co-management);
- between a national PA management agency and another government/national-level agency (Agency co-management); or
- between a national PA management agency and national-level stakeholder group (National co-management).

In any case, power sharing may range from that which is merely consultative to complete delegation of authority for the day-to-day management of a MPA. Responsibilities that may be shared or delegated include (but are not limited to) education & outreach, surveillance & enforcement, scientific monitoring & research, species or habitat management, facilities operations & management, training & capacity-building, fund-raising, and administrative duties. See **Annex 3 - BNT Elements of Management**.

In 2018, the BNT adopted a co-management policy and signed its first formal co-management agreement with a community group to share responsibility for management of the five (5) national parks on San Salvador. Both documents will guide any future shared management agreements. Similarly, other government PA management agencies could establish co-management agreements, but their Acts would need to be amended and/or policies created to allow for delegation of authority.



Figure 2. Representatives of the BNT, San Salvador Living Jewels (SSLJ) Foundation and Global Parks consultants at signing of co-management agreement, October 2018.

### 3. Governance by private individuals and organizations -

Private protected areas include lands bought and managed by non-government organizations to conserve them, as well as land set aside by individual landowners or development companies for conservation purposes. This may be done purely to preserve an area's ecological integrity but may also be done for tax breaks or for ecotourism ventures. Private protected areas do exist in The Bahamas, mainly as components of large development projects created under Heads of Agreement (e.g. Bahamar's Hobby Horse Nature Trail).

It is recommended that legislation and/or other guidelines be created to formally recognize private PAs, and to ensure they are managed in alignment with other relevant legislation and best practices.

### 4. Governance by local communities -

Management by indigenous or local communities. While these may exist on an informal basis on some of the family islands, there are no official or legally established protected areas that fit this governance type. However, local communities may be engaged through co-management agreements, where the capacity exists to do so.

## VI. RECOMMENDED MANAGEMENT REGIMES FOR 2018 PROPOSED MPAS

Table 2 on the following page lists recommended management agencies and types/levels of protection for proposed protected areas in the *20 by 20 White Paper: Marine Protection Plan*. A map showing existing and proposed MPAs also follows.

All areas proposed in the *20 by 20 White Paper* are recommended as government- managed protected areas, however co-management may also be considered where this approach is deemed suitable for increasing effective management of an area.

Table 2. Recommended Management Type and Management Agency for Proposed Protected Areas, 2018

	Island	Site Name	Proposed Management Type	Proposed PA Management Agency	Conservation Targets & Other Resources
1	Abaco	Sandy Point Marine Managed Area	Zoned for multiple-uses	DMR/ BNT	<i>Nursery area (for conch), rocky shore, tidal creek, mangroves, seagrass, sand/mud, blue holes, bonefish habitat</i>
2	Berry Islands	West Berry Islands Marine Managed Area	Zoned for multiple-uses	DMR	<i>Bonefish flats, hardbottom, patch reefs, turtle habitat, sand/mud, seagrass, nursery habitat for conch</i>
3		Kemps Cay & Pigeon Cay	Highly protected area	BNT	<i>Bonefish flats, Important Bird Area (IBA), sand/mud, seagrass, tidal flats, turtle habitat</i>
4	Bimini	North Bimini Marine Reserve	Highly protected area	DMR	<i>Bonefish flats, mangroves, sand/mud, sandy beach, seagrass, patch reefs, tidal creek</i>
5	Cat Island	North Cat Island (Orange Creek/Port Royal)	Zoned for multiple-uses	BNT	<i>Mangroves, seagrass, sandy beaches, rocky shore, tidal creek, sand/mud, marine mammal area, Kirtland's warbler, roseate tern, Important Seabird and Marine Bird species (marine IBA), turtle habitat, fish spawning aggregation site, bonefish flats, hardbottom, blue holes, nursery grounds, sand/mud, patch reef, important deep-water features, land crabs, endemic plants</i>
6		Alligator Creek	Zoned for multiple-uses	BNT	<i>Mangroves, sandy beaches, rocky shores, seagrass, sand/mud, turtle habitat and tidal creeks</i>
7		Fernandez Bay/Joe Sound/ Armbrister Creeks	Highly protected area	DMR	<i>Sandy beach, tidal creeks, bonefish flats, seagrass, turtle habitats, blue hole, rocky shore, land crabs, shark breeding site</i>



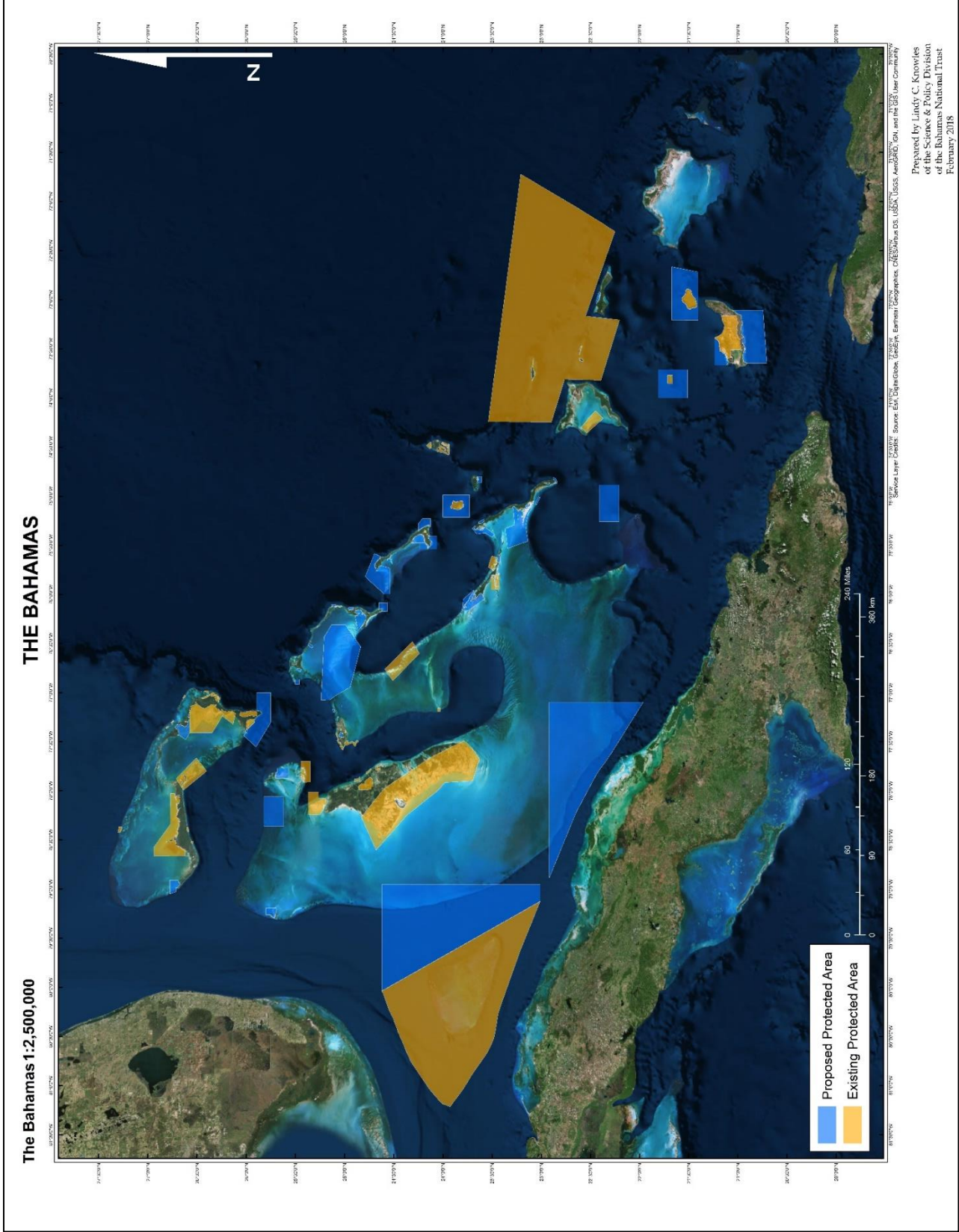
	Island	Site Name	Proposed Management Type	Proposed PA Management Agency	Conservation Targets & Other Resources
8	Cat Island cont'd.	Hawksnest & Cutlass Creeks	Zoned for multiple-uses	DMR	<i>Bonefish flats, deep water habitat, marine IBA, turtle habitat, sandy beach, seagrass, tidal creeks, sand/mud, nursery habitat for fish, conch and turtles, coral reef system, shark spawning site</i>
9		Columbus point	Zoned for multiple-uses	DMR	<i>Marine mammal habitat, Kirtland's Warbler, Important Seabird and Marine Bird area, turtle habitat, bonefish flats, fish spawning aggregation site, hardbottom, rocky shore, sandy beach, nursery area, seagrass, sand/mud and important deep-water features, coral reefs</i>
10	Eleuthera	West Schooner Cays Marine Managed Area	Zoned for multiple-uses	DMR	<i>Marine mammal habitats, hardbottom, coral reefs, fish spawning aggregation, marine Important Bird Area, important deep-water features, mangroves, nursery area (for fish and conch), patch reefs, turtle habitat, sand/mud, seagrass, seabirds (royal tern)</i>
11		Egg Island	Zoned for multiple-uses	BNT	<i>Sandy beach, mangroves, coral reefs, rocky shore, fish spawning aggregation, hardbottom, patch reefs, turtle habitat, Seabirds (nesting)</i>
12		Seahorse National Park	Highly protected area	BNT	<i>Unique ecosystem, anchialine pond, cave system, seahorses</i>
13		Savannah Sound & Plantation Reef	Zoned for multiple-uses	BNT	<i>Turtle habitats, mangroves, nursery area (for crawfish, conch and reef fish), bonefish habitat, seagrass</i>
14		Half Sound North & South	Zoned for multiple-uses	BNT	<i>Turtle habitats, mangroves, nursery area (for reef fish)</i>

	Island	Site Name	Proposed Management Type	Proposed PA Management Agency	Conservation Targets & Other Resources
15	Eleuthera cont'd.	South Eleuthera Marine Managed Area	Zoned for multiple-uses	DMR	<i>Blue holes, fish spawning aggregations, patch reefs, nursery area for fish, lobster and conch, mangroves, sand/mud, bonefish flats</i>
16		Deep Creek	Zoned for multiple-uses	DMR	<i>Nursery area, mangroves, bonefish flats</i>
17		Lighthouse Point Marine Area	Zoned for multiple-uses	BNT	<i>Sand/mud, sandy beaches, seagrass, patch reefs, coral reefs, deep water features, important historical and geological features (submerged bridge connecting north Cat Island), high shark populations and good diversity of shark species</i>
18		Corrie Sound	Highly protected area	DMR	<i>Mangroves, nursery area for fish and conch, sand/mud, bonefish flats</i>
19	Exuma	Southern Exuma Cays	Zoned for multiple-uses	BNT	<i>Coral reefs, bonefish flats, mangroves, sand/mud, tidal creeks, nursery area, shorebirds, sandy beaches, rocky shores, blue hole, major conch ground</i>
20	Grand Bahama	West End	Zoned for multiple-uses	BNT/DMR	<i>Seagrass, sand/mud, nursery grounds for conch, coral reefs, patch reefs, deep water features, turtle habitat</i>
21	Inagua	South Inagua	Zoned for multiple-uses	DMR	<i>Fish spawning aggregations, deep water features (underwater cliffs and coral walls), coral reefs, marine mammal habitat, tidal creeks, turtle habitats, mangroves</i>

	Island	Site Name	Proposed Management Type	Proposed PA Management Agency	Conservation Targets & Other Resources
22	Long Island	North Long Island	Zoned for multiple-uses	DMR	<i>Mangroves, Tidal Creeks and Coral Reef</i>
23		Northeast Long Island	Zoned for multiple-uses	DMR	<i>Fish Spawning Aggregation, coral reef systems</i>
24		Long Island Marine Managed Area	Zoned for multiple-uses	BNT/DMR	<i>Mangroves, tidal creeks, seagrass, bonefish flats, coral reef, sand/mud, nursery areas for all marine life, sponge grounds, conch beds</i>
25		Steven's Rock	Zoned for multiple-uses	DMR	<i>Fish spawning aggregations, soft bed coral and patch reefs, deep water features, bonefish flats, sand/mud</i>
26		Great Lakes	Highly protected area	BNT	<i>Caribbean Flamingo population</i>
27		South Long Island	Zoned for multiple-uses	DMR	<i>Fish spawning aggregations, patch reefs, bonefish habitat</i>
28	Mayaguana	Curtis Creek	Zoned for multiple-uses	BNT/DMR	<i>Mangroves, Seagrass, Coral Reefs, Bonefish Flats, Sand/Mud, Nursery Grounds, turtle habitat, flamingo habitat, bird nesting site</i>
29	New Providence	Lost Blue Holes	Zoned for multiple-uses	DMR	<i>Seagrass, sand, blue hole</i>
30		Athol Island PA	Zoned for multiple-uses	BNT	<i>Rocky shore, sandy beach, mangroves, seagrass, hardbottom, patch reefs, seabirds</i>
31		Eastern New Providence Cays (Green Cay)	Highly protected area	DMR	<i>Rocky shore, mangroves, seagrass, hardbottom, patch reefs, seabirds, turtle habitat, historical fish spawning aggregation</i>
32		Lake Killarney*	Zoned for multiple-uses	BNT/Forestry Unit	<i>Coppice forest pinelands, inland lake, freshwater wetlands</i>

**\*A portion of this area is included in the proposed National Forestry Estate to be managed by the Forestry Unit under Ministry of Environment & Housing.**

	Island	Site Name	Proposed Management Type	Proposed PA Management Agency	Conservation Targets & Other Resources
33	Ragged Island	Cay Verde	Zoned for multiple-uses	DMR/ BNT	<i>Fish spawning aggregation, deep water features, coral reef system, sand/mud</i>
34	Rum Cay	Southeast Rum Cay	Zoned for multiple-uses	DMR	<i>Rocky shore, sandy beach, seagrass, mangrove, patch reef, fore reef, tidal creek</i>
35	Southwest Great Bahama Bank (Columbus Bank) Marine Managed Area		Zoned for multiple-uses	DMR	<i>Turtle habitat, patch reefs, seagrass, sand/mud, marine Important Bird Area (mIBA), fish spawning aggregation, deep-water features, sandy beach</i>
36	Abaco	Expansion of Cross Harbour National Park	Zoned for multiple-uses	BNT	<i>Marine mammal habitats, deep water resources, sand/mud, coral reefs, patch reefs, fish spawning aggregation for multiple species</i>
37		Expansion of the Marls of Abaco National Park	Zoned for multiple-uses	BNT	<i>Bonefish flats, sand/mud, seagrass, mangrove, tidal creeks, nursery area for fish</i>
38	Cay Sal Bank & Great Bahama Bank	Expansion of Cay Sal Marine Managed Area	Zoned for multiple-uses	DMR	<i>Marine mammal habitats, hardbottom, forereefs, patch reefs, seagrass, sand/mud, turtle habitat, deep-water features</i>
39	Conception Island	Expansion of Conception Island National Park	Highly protected area	BNT	<i>Marine mammal habitat, coral reefs, sand/mud, deep water features</i>
40	Exuma	Expansion of Moriah Harbour Cay National Park	Zoned for multiple-uses	BNT	<i>Mangroves, tidal creeks, sand/mud, seagrass, nursery habitat for fish and lobster, bonefish flats, turtle habitat</i>
41	Inagua	Expansion of Inagua National Park	Zoned for multiple-uses	BNT	<i>Coral reef system, hardbottom, mangroves, tidal creeks, sand/mud, nursery area, marine Important Bird Area (mIBA), sandy beach, rocky shore, seagrass</i>
42		Expansion of Little Inagua National Park	Zoned for multiple-uses	BNT	<i>Coral reef system, hardbottom, sand/mud, important deep-water features, turtle habitats, marine mammal habitat</i>
43		Expansion of Hogsty Reef Protected Area	Highly protected area	DMR	<i>Deep-water features, marine mammal habitat</i>



**Map 1.** The current Bahamas National Protected Area System and areas proposed for meeting the 20% protection goal. (courtesy of L. Knowlton, BNT.)

## VII. CONCLUSION

This companion document to the 20 by 20 White Paper: Marine Protection Plan is intended to provide a clearer understanding of management regimes that may be implemented to achieve the goal of protecting of our marine ecosystems through well-managed MPAs.

In addition to sufficient and sustainable funding, effective management of MPAs requires clearly defined and well understood management regimes (i.e. categorization, zoning and governance) that give stakeholders a voice and are appropriately aligned with the purpose for which the area was established. This will help to achieve long-term conservation of key species and habitat, increase nation-wide ecosystem resilience to climate change through proper consideration of MPA design principles, and sustain many other social and economic benefits nature provides for the people of The Bahamas.

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## ANNEX 1 – Listing of Protected Areas in The Bahamas with IUCN Categories

*From the 2014 Protected Areas Management Categories Analysis for the Bahamas: January-September Final Report.*

Protected Areas	Island	Proposed IUCN Category	Size (Acres)	PA Type
<b>Managed by the Bahamas National Trust</b>				
Tilloo Cay Reserve	Abaco	Ia.	11	Terrestrial
Fowl Cays National Park		IV.	3,200	Marine & Terrestrial
Abaco National Park		IV.	22,500	Terrestrial
Walker's Cay National Park		VI.	5,800	Marine
Black Sound Cay National Park		IV.	2	Marine and Terrestrial
Pelican Cays Land and Sea Park		IV.	2,100	Marine & Terrestrial
Blue Holes National Park	Andros	II.	40,000	Terrestrial with freshwater
Crab Replenishment Reserve		VI.	4,000	Marine & Terrestrial
North Marine Park		VI	5,000	Marine & Terrestrial
South Marine Park		VI.	3,500	Marine
West Side National Park		II.	1,500,000	Marine & Terrestrial
Conception Island National Park	Conception Island	II.	30,000	Marine & Terrestrial
Marine Farm	Crooked Island	III.	4.44	Terrestrial
Hope Great House		III.	3.60	Terrestrial
Leon Levy Native Plant Preserve	Eleuthera	IV.	25	Terrestrial
Exuma Cays Land & Sea Park	Exuma	II.	174,194	Marine and Terrestrial



Marine Protected Area Management Guidance Document | September 2018

Moriah Harbour Cay National Park		II.	22,833	Marine and Terrestrial
Rand Nature Centre	Grand Bahama	IV.	100	Terrestrial
Lucayan National Park		III	1,937	Marine & Terrestrial
Peterson Cay National Park		IV	1,090	Marine & Terrestrial
Little Inagua National Park	Inagua	Ib.	62,800	Marine & Terrestrial
Inagua National Park		II with nested Ia. (flamingo nesting habitat)	220,000	Marine & Terrestrial
Union Creek Reserve		IV.	6,150	Marine
The Retreat	New Providence	IV.	11	Terrestrial
Primeval Forest National Park		III.	7.5	Terrestrial
Bonefish Pond National Park		VI.	1,235	Marine & Terrestrial
Harrold & Wilson's Ponds National Park		IV.	250	Terrestrial with freshwater
<b>Managed by the Department of Marine Resources</b>				
Crab Cay Marine Reserve	Abaco	VI.	1,075	Marine
No Name Cay Marine Reserve		IV.	1,210	Marine
South Berry Islands Marine Reserve	Berry Islands	VI.	63,002	Marine
Exuma (Jewfish Cay) Marine Reserve	Exuma	II.	37,165	Marine
<b>Managed by Clifton Heritage Authority</b>				
Clifton Heritage National Park	New Providence	III.	208	Terrestrial

## ANNEX 2 – Examples of Protected Areas Zoning

*Excerpt on Zoning from Andros West Side National Park Management Plan, 2013  
(A Marine Managed/Multiple-Use Area)*



*Table 1, Management Zoning Classification and Expectations*

ZONE	Resource Condition	User/Visitor Experience	Management Actions
<b>Conservation</b>	<p><b>Natural environment with allowable uses and recreation</b></p> <ul style="list-style-type: none"> <li>♦ Natural conditions, processes, and soundscapes predominate; resource harvesting limited to established activities (fishing and hunting)</li> <li>♦ Tolerance for moderate resource impacts related to established uses</li> <li>♦ Managed to enhance visitor experience and safety, protecting resources, minimizing impacts from visitor and commercial use, and restoring disturbed areas</li> </ul>	<p><b>Wide range of uses and recreational opportunities in the wilderness</b></p> <ul style="list-style-type: none"> <li>♦ Established commercial, subsistence, and sport fishing and hunting continue</li> <li>♦ Low to moderate probability of encountering other people</li> <li>♦ Activities could be limited at times to protect resources and enhance public safety</li> <li>♦ Visitor opportunities include fishing, diving, snorkeling, boating, kayaking, paddleboarding, swimming, hiking, nature study, picnicking</li> <li>♦ Recreation disruptive to the park environment (e.g., water skiing, jet skis, motocross) would be prohibited</li> </ul>	<p><b>Patrol, monitoring, and distress assistance</b></p> <ul style="list-style-type: none"> <li>♦ Management focuses on patrol, monitoring, interpretation, boating distress assistance, search and rescue, regulation enforcement, and resource management actions</li> <li>♦ Facilities may include way markers, trails, monitoring and research apparatus; potential for non-intrusive communication tower; no permanent structures or paved road access would be provided</li> <li>♦ Vessel type, size, speed, and acoustic properties could be regulated to protect benthic environment and natural soundscapes</li> </ul>

ZONE	Resource Condition	User/Visitor Experience	Management Actions
<b>Sensitive Resource</b>	<p><b>Complete protection of exceptional and critical resources</b></p> <ul style="list-style-type: none"> <li>♦ Natural conditions, processes, and soundscapes would predominate</li> <li>♦ Disturbance to or harvesting of target species and their habitat would be prohibited</li> <li>♦ No tolerance for impacts to exceptional and critical resources and processes</li> <li>♦ Lasting signs of human use would not be apparent.</li> <li>♦ Intervention and restoration could occur to mitigate and stabilize human-caused disturbance. Otherwise, alterations to natural resources would not occur.</li> <li>♦ The significance and vulnerability of natural resources would be evaluated, and appropriate management actions would be determined.</li> </ul>	<p><b>Observation of target resources by guided tour and resource sensitive protocols</b></p> <ul style="list-style-type: none"> <li>♦ Within the zone human activities will be limited to places, times, and activities that avoid disturbance of exceptional species and their habitat</li> <li>♦ With a registered guide, visitors may observe target species from an appropriate distance</li> <li>♦ Monitoring and research may be allowed under a special permit by BNT</li> <li>♦ Vessels and vehicles would be restricted from the zone except for administrative, monitoring, research, or emergency purposes</li> </ul>	<p><b>Management by monitoring and regulation enforcement</b></p> <ul style="list-style-type: none"> <li>♦ Target species actively monitored and evaluated</li> <li>♦ No permanent facilities allowed; monitoring or research apparatus may be temporarily installed</li> </ul>

ZONE	Resource Condition	User/Visitor Experience	Management Actions
<b>Backcountry Camping</b>	<p><b>A limited area (&lt;0.5 acres) cleared and managed for intensive use</b></p> <ul style="list-style-type: none"> <li>♦ The landscape within the zone would be designed for group activities including outdoor cooking, outdoor dining, tent camping</li> <li>♦ Human sights and sounds predominate</li> <li>♦ Managed to enhance visitor experience, health, and safety</li> <li>♦ Tolerance for intensive resource impacts related to concentrated visitor use; sanitary facilities would be designed and located to avoid impacts to surrounding Conservation Zone</li> </ul>	<p><b>Visitors camp in a wilderness setting</b></p> <ul style="list-style-type: none"> <li>♦ The campsite would have a social, interactive environment</li> <li>♦ In addition to overnight camping, visitor opportunities include fishing, snorkeling, swimming, nature study, and picnicking at the site</li> </ul>	<p><b>Patrol, monitoring, and distress assistance</b></p> <ul style="list-style-type: none"> <li>♦ Management focuses on patrol, monitoring, interpretation, distress assistance, and site maintenance</li> </ul>

ZONE	Resource Condition	User/Visitor Experience	Management Actions
<b>Backcountry Day Use</b>	<p><b>A limited area (&lt;0.5 acres) cleared, or a platform constructed, and managed for intensive use</b></p> <ul style="list-style-type: none"> <li>♦ The landscape within the zone would be designed for group activities including picnicking, nature study, educational programs, and staging for further exploration of the backcountry</li> <li>♦ Human sights and sounds predominate</li> <li>♦ Managed to enhance visitor experience, health, and safety</li> <li>♦ Tolerance for intensive resource impacts related to concentrated visitor use; where provided, sanitary facilities would be designed and located to avoid impacts to surrounding Conservation Zone</li> </ul>	<p><b>Visitors camp in a wilderness setting</b></p> <ul style="list-style-type: none"> <li>♦ The site would have a social, interactive environment</li> <li>♦ Visitor opportunities include fishing, snorkeling, swimming, nature study, and picnicking at the site</li> <li>♦ Guides may stage kayak/canoe tours from the zone</li> </ul>	<p><b>Patrol, monitoring, and distress assistance</b></p> <ul style="list-style-type: none"> <li>♦ Management focuses on patrol, monitoring, interpretation, distress assistance, and site maintenance</li> </ul>

ZONE	Resource Condition	User/Visitor Experience	Management Actions
<b>Visitor Services/Park Administration</b>	<p><b>Developed site outside park boundary</b></p> <ul style="list-style-type: none"> <li>◆ Sites in this zone would be located in developed areas of local communities on Andros</li> <li>◆ The zone would include: a structure to house offices, storage, space for public meetings &amp; interpretation; landscaping and vehicle storage; and marina space for boats</li> <li>◆ The zone would be modified for visitor access and park operations in a way that aesthetically blends with the local community</li> <li>◆ Sights and sounds of human activity would supplant the sights and sounds of nature</li> <li>◆ There would be tolerance for intensive resource impacts to accommodate visitor services and park operations</li> <li>◆ New development of park administrative facilities would occur on previously disturbed sites or in existing facilities</li> </ul>	<p><b>Visitors and local residents interact with park staff to receive information, interpretative and educational materials, and permits</b></p> <ul style="list-style-type: none"> <li>◆ The site would have a social, interactive environment</li> <li>◆ Space could include a conference room for audiovisual presentations, community functions, and partner meetings; information/reception area; outdoor exhibits; educational spaces; parking areas; and public restrooms</li> <li>◆ Facilities and services would enhance opportunities to experience and understand park resources and provide an orientation to the park</li> </ul>	<p><b>BNT Andros headquarters, district offices, a field office and support facilities</b></p> <ul style="list-style-type: none"> <li>◆ Staff would conduct the business of managing the park including: administering daily parkwide operations, providing interpretive and permitting services, contracting maintenance activities</li> <li>◆ Facilities would be appropriate in size and scale, blending with local landscape; extent, size, and layout would be the minimum needed to accommodate intended purposes</li> <li>◆ Some sites may include shared space for partner agencies/organizations</li> </ul>

*Excerpts from South Berry Island Marine Reserve Zoning Plan, 2013*  
*(A Highly Protected Area)*

### 3.0 SBIMR Zoning Maps

There are two management zones proposed which are based on the revisions made after consultations with relevant stakeholders, including the Department of Marine Resources:

1. Conservation – to include important areas for conservation, sensitive areas such as wetlands, seagrasses and blue holes.
2. General Use – to include recreational activities, boating, anchoring and transportation, boat access and safe havens.

Guidelines for each specific zone within the reserve are outlined below:

1. **Conservation Zone** – This zone would include areas of high coral cover (30% or higher), wetlands, seagrasses, blue holes and high species richness in order to promote the protection of healthy reefs and other habitats and to facilitate spill over from these areas into other sites within the Reserve and outside the Reserve. The areas recommended as conservation zones are identified in Table 2. While the decision may be taken to allow recreational activities, such as tours and snorkeling, within conservation zones, these activities should be regulated either by controls on access and capacity levels or both. For example, persons would only be allowed to visit the sites accompanied by a certified guide or Reserve staff member and limits are set on how many visitors are admitted to these zones each day.

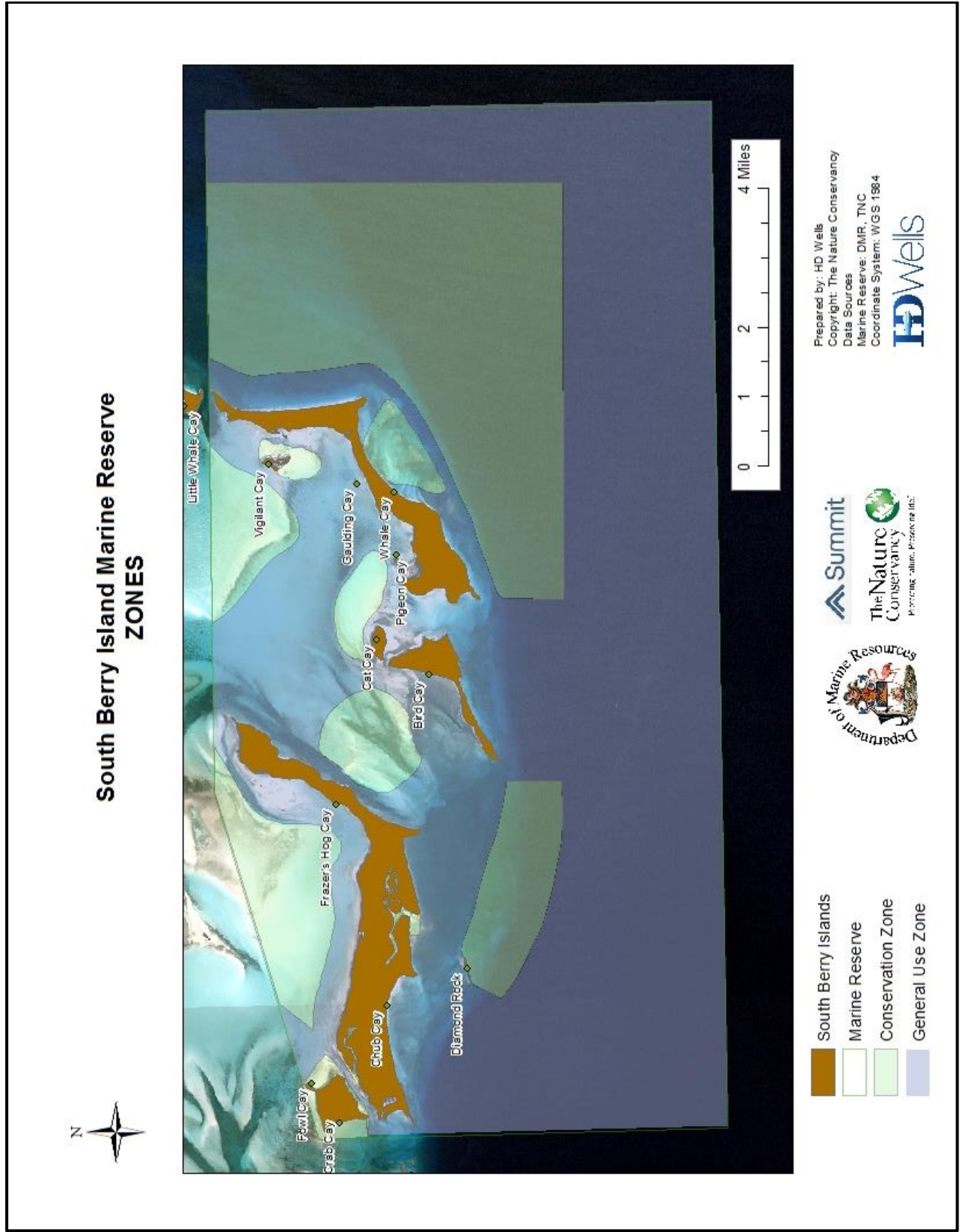
The conservation zone is comprised of eight areas:

- Area 1 – Crab Cay, Fowl Cay & Tidal Creek/ Mangrove
- Area 2 – Frazer’s Hog Cay (North side)
- Area 3 – Bird Cay (Northwest) & Cat Cay (Northeast)
- Area 4 – Vigilant Cay
- Area 5 – Whale Cay (East & Southeast)
- Area 6 – Diamond Rock to Bird Cay
- Area 7 – Tidal Creek (connecting Chub to Frazer’s Hog Cay)
- Area 8 – Whale Cay Elkhorn Site (South side)

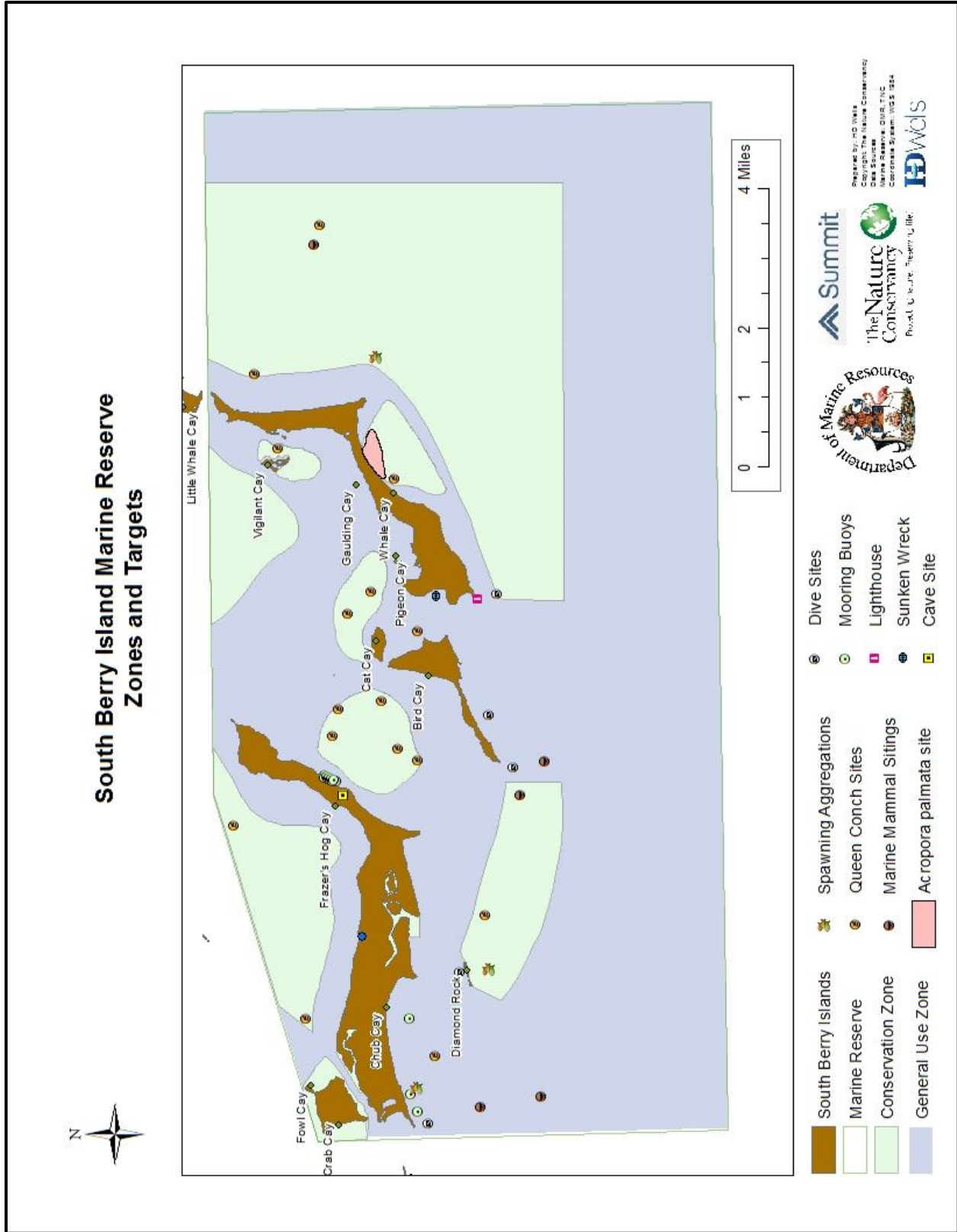
2. **General Use Zone** – This zone provides for uses such as vessel travel through the Reserve. Extractive uses, such as fishing and dredging, will not be permitted within this zone. Permissible activities in this zone could include photography, filming, research, education and tourism-related activities. The areas recommended as general use zones are identified in Table 2. This zone could also allow recreational activities inclusive of swimming, snorkeling, bird-watching, kayaking, parasailing and waterskiing.

Maps 19 through 23 show the boundaries of the areas within the conservation and general use zones.










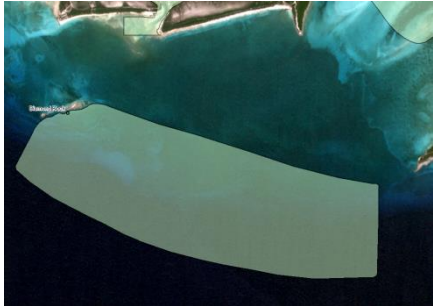


Map 19: All Zones (with imagery)



Map 23: All Zones with Targets and Features

**Table 2: Conservation and General Use Zones by Areas**

Area		Conservation	General Use	
1	Crab Cay, Fowl Cay & Tidal Creek/ Mangrove	This area borders important conch habitat (NW side). The zone surrounds both cays. Wetland/Mangrove areas are important terrestrial habitats.	Transportation pathway through the tidal creek and outside the boundary of the reserve. Also used as a safe haven and for anchorage.	
2	Frazer's Hog Cay (North side)	Shelf terrace (sand flats). Starts at , approximately 0.4 miles from shore once outside the tidal creek and is bordered by Reserve boundary.	Transportation pathway along the coast, approximately 0.4 miles from shore and west of the channel at Frazer's Hog Cay. Transportation pathway, anchorage, dock access as well as catch and release bonefishing.	
3	Bird Cay (NW) & Cat Cay (NE)	Shelf terrace (sand flats). High densities of Queen conch are found in this area. Located between Frazer's Hog Cay and Bird/Cat Cays.	Area separated by transportation pathway. Beach access to Bird Cay. Anchorage and safe haven.	
4	Vigilant Cay	Area surrounding Vigilant Cay. Shelf terrace (sand flats). Highest densities of Queen conch found here within the boundaries of the SBIMR.	Transportation pathway along the west and east sides of Cay and along the shoreline of Whale Cay.	

5	Whale Cay (East & southeast)	Shelf slope, forereef and deep waters beyond 200m.	Transportation pathway along shoreline. Starts approximately 0.4 miles from shore and continues south along the length of Whale Cay. At lighthouse point for about 1 mile. Then east for approximately 6 miles and 5 miles north to the Reserve boundary.	
6	Diamond Rock to Bird Cay	Shelf hard ground, shelf slope and deep water habitats. Zone starts at Diamond Rock (south side) and ends 0.3 mile from the point at Bird Cay. The distance between Diamond Rock & Bird Cay point is approximately 2.5 miles. The width of the conservation zone is about 0.8 mile.	General use zone surrounds this conservation area.	
7	Tidal Creek (connecting Chub to Frazer's Hog Cay)	Wetland/Mangrove and tidal creek areas. Tidal creeks were noted as habitats for juvenile marine turtles and various species of birds.	No motorized transport allowed.	
8	Whale Cay Elkhorn Site (South side)	Area encompasses elkhorn ( <i>Acropora palmata</i> ) site and forereef.	Transportation pathway south of this conservation area.	

Consideration should be given for setting aside special management areas either within the two zones identified or as separate areas for the following reasons:

- Nursery areas
- Elkhorn site
- Go slow areas for turtles
- No-anchoring areas
- Mooring areas
- Beach access
- Traditional fishing from the shoreline

### 3.1 Other Zoning Considerations

#### Recreation

Stakeholders wanted to see scuba diving, catch and release bonefishing, kayaking and bird watching as activities to be included in the zoning of areas. The DMR agreed that these activities can occur in the general use zone. Scuba diving will occur only with Bahamian guides. Catch and release bonefishing will be regulated through a permitting process.

#### Conservation

Using stakeholder input, data from the Bahamas Ecological Gap Assessment and the 2009 Queen Conch Assessment of the Berry Islands, the expanded areas were delineated. General sketches provided by stakeholders which correlated with areas listed in the 2009 Assessment as having densities of 10.1 or greater subadult and adult queen conch per hectare were used to create approximate points where the conch are located. Areas where density distribution of adult queen conch is between 10.1 and 25 adults per hectare are included in the conservation zone.

Important habitats identified by stakeholders include a possible old growth coppice community, both tidal creeks and elkhorn coral site. Recommended management measures for these habitats as well as the other points of interest identified by stakeholders are outlined in the SBIMR Management Plan.

The final draft of the zoning map includes Crab and Fowl Cays surrounded by the conservation zone as several important areas are located in close proximity to both cays. These important areas include the area to the west which has a high density distribution of subadult Queen conch.

Mama Rhoda Rock is a Wild Bird Reserve, but is outside the marine reserve.

The blue hole on Chub Cay is now included in the conservation zone and should be considered an ecologically sensitive area. It should also be noted that this blue hole is considered a hazard to motorists, pedestrians and waders, particularly at high tide due to its proximity to the roadway and the lack of any barriers around it. There is presently a hazard sign located at the blue hole which warns of the danger of the blue hole (see Photo 1).

### General Use

Stakeholders identified several locations being used as safe havens for boaters. These include:

- The Chub Cay marina,
- The tidal creek on the northwest side of Chub Cay
- The area between Frazer's Hog and Bird Cays
- The area between Bird and Whale Cays.

These areas are included in the General Use Zone, based on edits made to the printed maps by stakeholders. Transportation pathways to locations within the Reserve were amended after the second series of community meetings. Private landowners had opportunities to provide input into the zones during the community meetings which some of them participated in as well as when the draft plan was posted on the Great Harbour Cay homeowners' association website.

## ANNEX 3 – Elements of Management for the National Parks System of the Bahamas National Trust

### 1. **Community Outreach (in conjunction with Education and Outreach Department)**

#### a. Awareness and Education

- i. *Designed to improve local and visitor attitudes and use of marine and terrestrial resources leading to reduced negative impacts*

#### b. Public Outreach and Information

- i. *Building support among the local communities and users for the park*

#### c. *Increase awareness of the National Park System*

- i. *Visit schools and facilitate park visits and educate them about the National Park System and the Bahamian ecosystem*

#### d. *Oversee Discovery Club and Navigators Club Chapter(s)*

### 2. **Resource Management and Protection (in conjunction with Science & Policy and Parks Department)**

#### a. Surveillance and Enforcement

- i. *Primarily through patrols to ensure compliance with park bylaws, national laws and zoning restrictions.*

#### b. Scientific Monitoring and Research

- i. *Priorities for initial attention will include coral reef health, fishery assessments, uses and user impacts*

#### c. Species and Habitat Management

- i. *Plans for management of targeted species and habitats developed, based on monitoring, research, or identified adverse impacts.*

#### d. Zoning and Boundaries

*The limits of the park and specific use zones will be clearly demarcated*

- i. *Conduct periodic monitoring through scientific data and research*
- ii. *Monitor health of species and habitats within and outside park boundaries—especially any key species identified.*
- iii. *Manage invasive species within national parks and adjacent areas.*

#### e. Cultural Resource Management

- i. *Ensure historical features are preserved*
- ii. *Maintain oral history of relevant features within and around park*

### 3. **Tourism and Recreation (in conjunction with Parks Department)**

#### a. *User Fee Collection*

- i. *Feasibility to be explored through use of installed mooring buoys, park entry fees or other user fees*

#### b. *Visitor Awareness and Interpretation*

- i. *Design and installation of interpretive signage, infrastructure, preparation of documents and schedule activities for visitors when appropriate*

- 4. Management and Administration (in conjunction with Finance, Operations and Development Department)**
  - a. *General Management and Administration*
    - i. *Administrative activities related to operation of field office including procurement of goods and services, recruitment of staff and staff accommodation.*
  - b. *Training*
    - i. *Mainly in-house training to build the capacity of staff to effectively carry out management activities at the park.*
  - c. *Financial Management*
    - i. *Developing systems for managing disbursements, income and donations for upkeep of the park.*
  - d. *Partnership Relations*
    - i. *Developing and maintaining relationships with individuals, local organizations, and institutions that can assist in achieving the objectives of the park.*
  - e. *Government Relations*
    - i. *Developing and maintaining relationships with Government agencies and departments that are directly or indirectly involved in the establishment and management of protected areas or natural resource management.*
  - f. *Information Technology*
    - i. *Acquisition, technical support and maintenance of communication systems and equipment.*
  
- 5. Facilities Operations and Management (in conjunction with Operations and Parks Department)**
  - a. *Docking Facilities*
    - i. *Deployment and maintenance of mooring buoys.*
  - b. *Buildings, Ground and Utilities*
    - i. *Acquisition or construction of a field office for the park, and provision of utilities and services.*
  - c. *Boat and vehicle Operations and Maintenance*
    - i. *Acquisition and maintenance of fully equipped patrol vessels.*
  - d. *Trail Operations and Maintenance*
    - i. *Development and maintenance of trail systems, any interpretive signage and associated infrastructure.*



