

# Bahamas Protected



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## Marine Protection Plan

for expanding  
**The Bahamas Marine Protected Areas Network**  
to meet The Bahamas 2020 declaration

## SEATHEFUTURE

September 2018

20 by 20 White Paper Prepared by The Bahamas National Trust



**A Proposal Prepared for the Office of the Prime Minister,  
Ministry of Environment and Housing and the  
Ministry of Agriculture and Marine Resources**

Prepared by the *Bahamas Protected* 20 by 20 White Paper Working Team:  
Lakeshia Anderson<sup>1</sup>, Craig Dahlgren<sup>2</sup>, Lindy Knowles<sup>1</sup>, Lashanti Jupp<sup>1</sup>, Shelley Cant-Woodside<sup>1</sup>,  
Shenique Albury-Smith<sup>3</sup>, Casuarina McKinney-Lambert<sup>4</sup>, Agnessa Lundy<sup>1</sup>

Bahamas National Trust<sup>1</sup>  
Perry Institute for Marine Science<sup>2</sup>  
The Nature Conservancy<sup>3</sup>  
Bahamas Reef Environment Educational Foundation<sup>4</sup>

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## List of Acronyms and Abbreviations

AGRRA	Atlantic and Gulf Rapid Reef Assessment
AMMC	Antiquities, Monuments and Museums Corporation
ANP	Abaco National Park
AOI	areas of interest
BBC	Bimini Blue Coalition
BEST	Bahamas Environment, Science, and Technology
BMMRO	Bahamas Marine Mammal Research Organization
BNPAS	Bahamas National Protected Area System
BNT	Bahamas National Trust
BPAF	Bahamas Protected Areas Fund
BREEF	Bahamas Reef Environment Educational Foundation
CBD	Convention on Biological Diversity
CBF	Caribbean Biodiversity Funds
CCI	Caribbean Challenge Initiative
CINP	Conception Island National Park
COP	Conference of the Parties
DLS	Department of Lands and Surveys
DMR	Department of Marine Resources
EGA	Ecological Gap Analysis
GAP	Ecological Gap Analysis
GEF	Global Environment Facility
FRIENDS	Friends of the Environment
IAS	Invasive Alien Species
IBA	Important Bird Area
INP	Inagua National Park
IUCN	International Union for Conservation of Nature
IUU	illegal, unregulated, and unreported fishing
MPA	Marine Protected Area
NGO	Non-Governmental Organization
NISP	National Implementation Support Programme
OCA	Ocean Crest Alliance
PA	Protected Area
PIMS	Perry Institute for Marine Science
PoWPA	Programme of Work for Protected Areas
REA	Rapid Ecological Assessment
SPAG	spawning aggregation (fish)
TNC	The Nature Conservancy
UN	United Nations



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# Executive Summary

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*The International Union for the Conservation of Nature (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.”*

## BACKGROUND

Recognizing the importance of a thriving marine environment to the culture and economy of our islands, The Bahamas has long invested in marine area protection. Important milestones included the creation of the Sea Gardens in 1892 northeast of Nassau, the establishment of the Exuma Cays Land and Sea Park in 1958, and the passage of the Fisheries Resources (Jurisdiction & Conservation) Act in 1977. At the turn of the millennium, the Government of The Bahamas, supported by local conservation partners and other key stakeholders, renewed its commitment to sustaining a healthy marine environment by creating a network of marine protected areas (MPAs).

At the Seventh Conference of The Parties (COP-7) of the United Nations Convention of Biological Diversity (CBD) in 2004, The Government of The Bahamas endorsed and agreed to the Programme of Work on Protected Areas (PoWPA). In May 2008, The Bahamas formally committed to the [Caribbean Challenge Initiative](#) (CCI) to effectively conserve at least 20% of the near-shore marine resources across The Bahamas by 2020.

This CCI Declaration served as a catalyst to The Bahamas’ pledge to:

- (i) Exceed the United Nations Convention on Biological Diversity (CBD) goals by effectively conserving at least 20% of the near-shore marine resources across The Bahamas by 2020;
- (ii) Achieve the “20 by 20” Goal, to have in place fully functioning sustainable finance mechanisms that will provide long-term and reliable funding to conserve and sustainably manage the marine and coastal resources of The Bahamas;
- (iii) Preserve the country’s marine and terrestrial environments to meet the targets established by the CBD PoWPA for 2010 and 2012; and
- (iv) Mobilize efforts to conserve and sustainably use the oceans, seas and marine resources for sustainable development, to meet the UN Sustainable Development Goal 14 (SDG 14) – Life Below Water, which came into force in January 2016.

With the addition of 11 million acres in 2015, The Bahamas National Protected Area System (BNPAS) now protects 10% of the country’s coastal and marine environment.

In 2004, the National Implementation Support Programme (NISP) was formed under the Ministry of the Environment to implement the PoWPA. NISP members include the Bahamas Environment, Science and Technology (BEST) Commission, the Bahamas National Trust, the Department of Marine Resources and The Nature Conservancy (TNC). In 2016, TNC and the Bahamas National Trust collaborated with the Bahamas Reef Environment Educational Foundation to implement

the *Bahamas Protected* project. *Bahamas Protected* is a three-year initiative to support the Government of The Bahamas in meeting its commitment to the CCI, the United Nations CBD and SDG 14.

**This document, *20 by 20 White Paper: Marine Protection Plan*, was created after consultation with the NISP and other key stakeholders. It proposes a set of areas that would protect important marine resources across The Bahamas and achieve the country's 20 by 20 goal.**

## **PROCESS TO IDENTIFY PROPOSED MARINE PROTECTED AREAS**

To identify areas that merit protection, the *Bahamas Protected* science team conducted a national marine gap analysis using the best available science to identify marine resources that fell short of national targets set by the NISP for protection of important ecosystems and marine organisms. The gap analysis also identified priority areas of interest (AOIs) for further vetting with key stakeholders.

A critical step in designing and selecting new protected areas is engaging stakeholders in the decision-making process. *Bahamas Protected* conducted public consultation in communities throughout the Bahamas to gather more information about areas for protection that were identified through the scientific process and to identify areas that local stakeholders wished to propose as MPAs. *Bahamas Protected* also implemented a public relations campaign to raise awareness about MPAs and the process to identify new MPAs. Stakeholder engagement via the marine gap analysis, public consultation and the public relations campaign is summarized as follows:

**Engagement through Marine Gap Analysis:** Approximately 40 leading local and international scientists and field practitioners from more than 26 organizations were consulted through three national workshops that built on two previous gap analyses. Strategic advice was also sought from the NISP.

**Engagement through Public Consultation:** Three rounds of public stakeholder consultations were conducted from 2016 to 2018, engaging approximately 400 persons in 21 meetings on over 10 islands throughout the Bahamas. Additionally, maps of proposed areas were posted to the *Bahamas Protected* Facebook page and shared for public comments over a six-week consultation period.

**Engagement through Public Relations:** Key stakeholders were engaged to share information about the benefits of MPAs to communities and to engage members of the public in the consultation process. This was done through face-to-face meetings, TV, radio, social and print media, and through the wide distribution of public service announcements (see Table 3). MPA posters were displayed in airports around the country. To date, over 7,000 people signed a petition supporting Bahamian MPAs.

## ECONOMIC VALUATION OF ECOSYSTEM SERVICES PROVIDED BY MPAS

The *Bahamas Protected* project also considered the benefits that nature provides to people, known as ecosystem services. Diverse, functioning ecosystems provide myriad benefits that can be sustained through effective protected area management. Nearshore habitats bolster the stocks of fisheries, beaches and reefs draw tourists, and reefs, coastal mangroves and seagrasses buffer storm waves, mitigate climate change impacts, and promote water quality. *Bahamas Protected* quantified the economic value of four key ecosystem services within the existing MPA network (Fig. 1).

### Nursery habitats to support lobster fisheries



- \$23.5 million in export value annually
- 6 million lbs. catch annually

### Vibrant tourism



- \$67.6 million in expenditures annually
- 383,000 visitor-days annually

### Communities protected from coastal hazards



- Reduced exposure to risk for nearly 40,000 people and \$806 million in annual income saved

### Carbon storage for climate mitigation



- \$5 billion in avoided carbon emissions
- 400 million tons CO<sub>2</sub> sequestered in mangroves and seagrass annually

**Figure 1.** Economic value of four ecosystem services provided by the MPA network of The Bahamas

## PROPOSED MPAS

Using the recommendations from the marine gap analysis and taking into consideration stakeholder consultation and already established MPAs, *Bahamas Protected* proposes that the sites in Table 1 be legally declared MPAs. **These 43 areas cover 8,111,661 acres (3,282,674 hectares). If all areas are declared and legally established, the Government of The Bahamas will be able to fully meet its commitment of conserving 20% of its nearshore marine environment by 2020.**

## CONCLUSION

This document, *20 by 20 White Paper: Marine Protection Plan*, proposes a set of areas to protect, to achieve The Bahamas 20 by 20 goal of conserving important marine resources, which lie at the core of the country's social and economic well-being, now and for future generations.

We invite the Government of The Bahamas to note the following:

- i) The Bahamas has committed to fulfilling the CCI 20 by 20 goal: to protect at least 20% of the marine and coastal environment by 2020.
- ii) The *Bahamas Protected* project is a three-year initiative that was undertaken to support the Government of The Bahamas in meeting the 20 by 20 commitment.
- iii) The project used a marine gap analysis and public consultation process to identify areas listed in Table 1 that should become MPAs.
- iv) Stakeholders were engaged via the marine gap analysis, public consultations and a public relations campaign.

Therefore, we urge the Government of The Bahamas to:

- v) Endorse the declaration of the areas in Table 1 as protected areas within The Bahamas; and
- vi) Instruct the relevant agencies to complete the legal process for establishing the areas in Table 1 as protected areas within The Bahamas.

Table 1. Listing of Sites Proposed for Meeting the 20 by 20 Goal

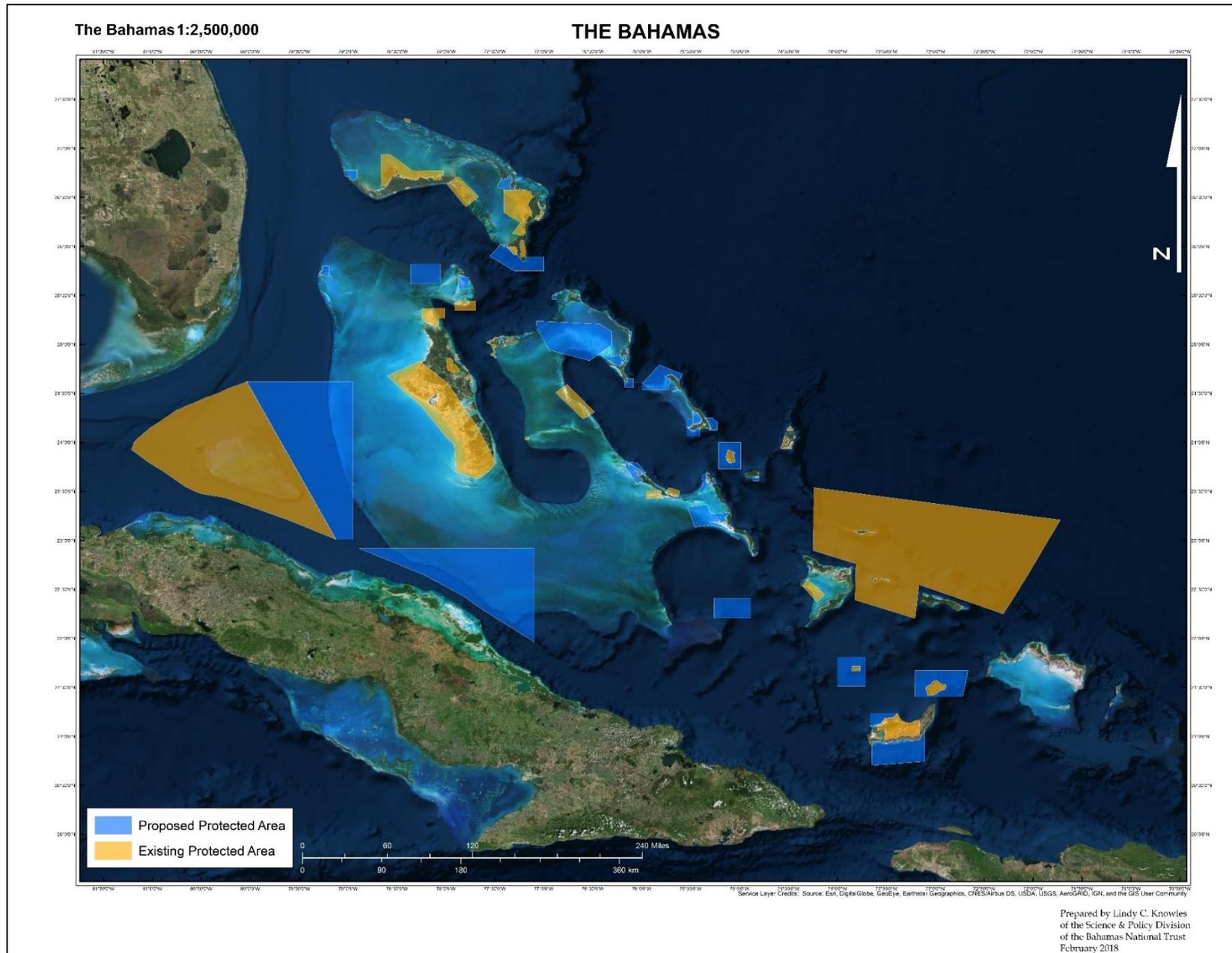
	ISLAND	SITE NAME	SIZE (ACRES)	PROPOSED MANAGEMENT TYPE	PROPOSED PA MANAGEMENT AGENCY
1	Abaco	Sandy Point Marine Managed Area	1,492	*Zoned for multiple uses	***DMR/BNT
2	Berry Islands	West Berry Islands Marine Managed Area	169,250	Zoned for multiple uses	DMR
3		Kemps Cay and Pigeon Cay	33,347	**Highly protected area	BNT
4	Bimini	North Bimini Marine Reserve	21,733	Highly protected area	DMR/Forestry
5	Cat Island	North Cat Island (Orange Creek/Port Royal)	159,724	Zoned for multiple uses	BNT
6		Alligator Creek	3,635	Zoned for multiple uses	BNT
7		Fernandez Bay/Joe Sound/Armbrister Creeks	24,132	Highly protected area	DMR
8		Hawk's Nest and Cutlass Creeks	42,420	Zoned for multiple uses	DMR
9		Columbus Point	28,015	Zoned for multiple uses	DMR
10	Eleuthera	West Schooner Cays Marine Managed Area	614,953	Zoned for multiple uses	DMR
11		Egg Island	5,570	Zoned for multiple uses	BNT
12		Seahorse National Park	3,210	Highly protected area	BNT
13		Savannah Sound and Plantation Reef	3,468	Highly protected area	BNT
14		Half Sound, North and South	3,573	Zoned for multiple uses	BNT
15		South Eleuthera Marine Managed Area	38,274	Zoned for multiple uses	DMR/Forestry
16		Deep Creek	2,059	Zoned for multiple uses	DMR/Forestry
17		Lighthouse Point Marine Area	18,876	Zoned for multiple uses	BNT
18		Corrie Sound	2,510	Highly protected area	DMR/Forestry
19	Exuma	Southern Exuma Cays	66,476	Zoned for multiple uses	BNT
20	Grand Bahama	West End	26,945	Zoned for multiple uses	BNT/DMR
21	Inagua	South Inagua	359,422	Zoned for multiple uses	DMR
22	Long Island	North Long Island	26,166	Zoned for multiple uses	DMR
23		Northeast Long Island	3,642	Zoned for multiple uses	DMR
24		Long Island Marine Managed Area	183,226	Zoned for multiple uses	BNT/DMR
25		Steven's Rock	3,797	Zoned for multiple uses	DMR
26		Great Lakes	1,605	Highly protected area	BNT
27	South Long Island	3,454	Zoned for multiple uses	DMR	
28	Mayaguana	Curtis Creek	6,528	Zoned for multiple uses	BNT/DMR
29	New Providence	Lost Blue Holes	174	Zoned for multiple uses	DMR
30		Athol Island PA	971	Zoned for multiple uses	BNT
31		Eastern New Providence Cays (Green Cay)	4,159	Highly protected area	DMR/Forestry
32		Lake Killarney	5,013	Zoned for multiple uses	BNT
33	Ragged Island	Cay Verde	212,711	Zoned for multiple uses	DMR/BNT
34	Rum Cay	Southeast Rum Cay	7,694	Zoned for multiple uses	DMR/Forestry

35	Southwest Great Bahama Bank (Columbus Bank) Marine Managed Area		2,162,120	Zoned for multiple uses	DMR
<b>EXPANSION OF EXISTING MARINE PROTECTED AREAS</b>					
36	Abaco	Expansion of Cross Harbour National Park	215,815	Zoned for multiple uses	BNT
37		Expansion of the Marls of Abaco National Park	44,980	Zoned for multiple uses	BNT
38	Cay Sal Bank and Great Bahama Bank	Expansion of Cay Sal Marine Managed Area	2,816,790	Zoned for multiple uses	DMR
39	Conception Island	Expansion of Conception Island National Park	145,302	Highly protected area	BNT
40	Exuma	Expansion of Moriah Harbour Cay National Park	5,349	Zoned for multiple uses	BNT
41	Inagua	Expansion of Inagua National Park	62,373	Zoned for multiple uses	BNT
42		Expansion of Little Inagua National Park	336,642	Zoned for multiple uses	BNT
43		Expansion of Hogsty Reef Protected Area	234,059	Highly protected area	DMR
<b>Total Area of New Proposed and Expanded MPAs:</b>			<b>8,111,661</b>		

\* Multiple-use MPAs may be zoned for various uses, such as fishery replenishment areas, recreational zones, fishing areas, etc. Certain types of fishing gear are restricted and seasonal closures may be implemented based on resource conditions. Examples include San Salvador National Park (BNT) and Andros West Side National Park (BNT).

\*\* Highly protected areas (or Marine Reserves) are fishery replenishment areas where extractive uses are restricted. A Marine Reserve is 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.” Examples include Exuma Cays Land and Sea Park (BNT), Pelican Cays Land & Sea Park (BNT), and South Berry Islands Marine Reserve (DMR).

\*\*\* DMR = Department of Marine Resources; BNT = Bahamas National Trust



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

## ACKNOWLEDGMENTS

This *20 by 20 White Paper: Marine Protection Plan*, written by the White Paper Working Team (Lakeshia Anderson, Dr. Craig Dahlgren, Lindy Knowles, Lashanti Jupp, Shelley Cant-Woodside, Shenique Albury-Smith, Casuarina McKinney-Lambert, and Agnessa Lundy), was sponsored by the *Bahamas Protected* project through a grant from Oceans 5. This proposal document is the result of hard work and commitment from the NISP agencies and their staff: The BEST Commission, The Bahamas National Trust, TNC, and The Department of Marine Resources. Representatives from the Perry Institute of Marine Science and the Bahamas Reef Environment Educational Foundation also significantly contributed to this document.

Sincerest thanks go to local conservation partners, Government departments and agencies, international organizations, and key stakeholders throughout The Bahamas, who provided invaluable input and support to the stakeholder engagement process and proposed site information. These partners include: Bahamas Marine Mammal Research Organization (BMMRO), the Bahamas Protected Area Fund, the Bahamas Sea Turtle Network, Birdlife International, Bonefish & Tarpon Trust, the Cape Eleuthera Institute, Cat Island United, the Exuma Foundation, Friends of the Environment, Ministry of the Environment and Housing - Forestry Unit, the National Audubon Society, Ocean Crest Alliance, and One Eleuthera Foundation. Special thanks to island administrators and local government councils across The Bahamas, who were instrumental in the planning and convening of meetings and site visits on the respective islands visited by *Bahamas Protected* team members.



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# Introduction

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*A Marine Protected Area (MPA) is defined by the International Union for the Conservation of Nature (IUCN) 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.”*

Our oceans are in peril, and the associated marine resources that support a lucrative fishing industry in The Bahamas, along with the livelihoods that depend on them, are in jeopardy. The Bahamas, like other Small Island Developing States, are facing challenges such as unsustainable coastal **development** (e.g., large resorts, marinas, golf courses) that is filling in mangroves and wetlands, **pollution** from land-based sources, **overfishing** from illegal, unregulated and unsustainable (IUU) fishing practices, and **other local threats**, including invasive alien species. We now also face the **impacts from changes in climate and ocean chemistry**, which represent a serious and increasing threat to our marine ecosystems and the services they provide. The loss of significant natural habitats, overfishing, and impacts from climate change are resulting in fewer and smaller fish, fewer marine resources of commercial and ecological importance, declining water quality, and heavy degradation of essential habitats such as coral reefs and mangroves.

Protecting the marine environment in The Bahamas is critical to the sustainability of our islands, considering that

- A healthy ocean supports livelihoods across The Bahamas, by providing jobs associated with tourism, and supplies fish, conch, crawfish and other important Bahamian resources to sell;
- A healthy marine environment will support food security, culture and recreation; and
- Healthy marine habitats like coral reefs and wetlands are our first line of defence against flooding and storm surges during inclement weather.

MPAs are powerful tools for improving natural resource management (e.g., fisheries, tourism) and biodiversity protection in the face of climate change; however, they must be well designed and properly managed. The designation of an area as an MPA can focus greater financial resources on that area, as well as enforcement, resource monitoring, staffing, major equipment and infrastructure (where applicable). At present, approximately 10% of the country’s entire marine environment (over 100,000 square miles of ocean), and 34% of the terrestrial environment, is designated within protected areas. However, for our MPA network to be effective, we need to increase protection to at least 20%, as The Bahamas Government has committed to do under the 2020 CCI, and by extension, The Bahamas 2020 Declaration.

## **THE BAHAMAS: A LEADER IN MARINE CONSERVATION**

The Commonwealth of The Bahamas recognized early the need to establish, protect and preserve important biodiversity resources. The first protected area in The Bahamas was created in 1892 under the Sea Gardens Protection Act, which prohibited dredging or removal of coral, sea fans or other organisms from the seabed. The Sea Gardens may be found off the coast of Athol Island (Moultrie, 2012). The Exuma Cays Land and Sea Park (ECLSP), established in 1958, was the first

MPA of its kind in the world, and it stimulated the creation of the Bahamas National Trust in 1959 to develop and maintain a comprehensive system of national parks throughout the archipelago. In 2002, the Government of The Bahamas made its first national approach to consolidated MPA declarations by adding 10 new national parks to the Bahamas National Trust (BNT) portfolio.

In 2013, The Nature Conservancy (TNC) and the BNT developed the first White Paper as a Global Environment Facility (GEF) Full Size Project, in commemoration of The Bahamas' 40<sup>th</sup> anniversary of independence. This White Paper outlined a case for including nearly two dozen new and expanded MPAs in the Bahamas National Protected Area System (BNPAS). Several Government agencies and departments, non-government organizations (NGOs), and community leaders endorsed the 2014 White Paper, which paved the way for the accelerated inclusion of 11 million acres (4.45M hectares) in the summer of 2015. On August 31, 2015, the BNPAS grew to more than 13 million acres. This increase allowed The Bahamas to reach half of its 20 by 20 goal after acquiring 15 new protected areas and expanding three existing national parks. Prior to the August 2015 designations, and after more than 10 years of advocacy and collaboration with local partner San Salvador Living Jewels Foundation, The Government approved the creation of five new national parks on San Salvador in April 2015, to be managed by the Bahamas National Trust.

### ***BAHAMAS PROTECTED PROJECT***

TNC, the BNT and the Bahamas Reef Environment Educational Foundation (BREEF) obtained grant funding from Oceans 5 in 2016 to implement a three-year project, *Bahamas Protected*, to support the expansion and improved management of The Bahamas National Protected Area System (BNPAS). *Bahamas Protected* not only builds on a history of successes, including that of the GEF Full Size Project, which brought more than 11 million acres of marine habitat under protection in 2015, but also provides an opportunity to bring effective and lasting management practices to these spaces. *Bahamas Protected* was established to achieve the following outcomes:

- **Outcome 1:** Design a New Set of MPAs That Will Protect a Total of 20 Percent of Marine Habitat in The Bahamas
- **Outcome 2:** Increase the Effective Management of Protected Areas within The Bahamas MPA Network
- **Outcome 3:** Increase Sustainable Funding Dedicated to Protected Area Management
- **Outcome 4:** Strengthen Public Awareness and Support for MPAs



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# Background Information

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## PROGRESS TOWARD MEETING CARIBBEAN CHALLENGE INITIATIVE (CCI) GOALS

In 2008, the CCI was launched to provide greater leadership and to chart a new course for protecting and sustainably managing the marine and coastal environments across the wider Caribbean. The Bahamas and Grenada were the first two countries that agreed to participate in the CCI. Since that time, nine other governments have followed our lead and committed to the CCI (British Virgin Islands, Dominican Republic, Haiti, Jamaica, Puerto Rico, Saint Lucia, St. Kitts & Nevis, St. Vincent & the Grenadines, and the U.S. Virgin Islands). This initiative aims to catalyse high-level political will to assist in better managing marine and coastal resources throughout the Caribbean. The goal of the CCI is to effectively conserve at least 20% of near-shore marine/coastal environment of each participating country by 2020. It also aims to establish a new sustainable finance architecture that will generate long-term funding for marine and coastal environments through the creation of the Caribbean Biodiversity Fund and the Bahamas Protected Areas Fund, which are regional and national endowments for protected area management, respectively.



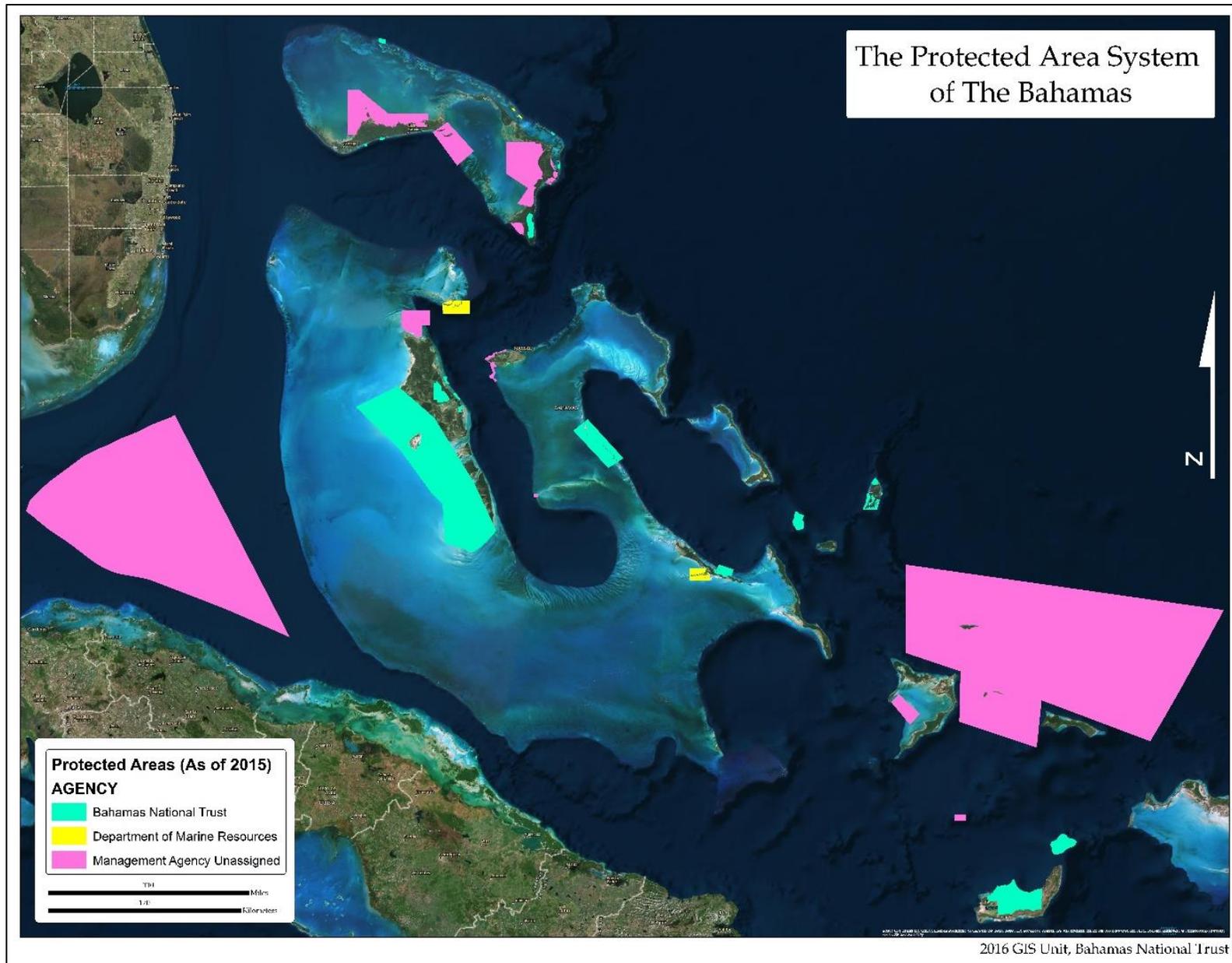
**Caribbean Biodiversity Fund (CBF).** The CBF is a regional trust fund that was established in September 2012. It includes \$US 43 million invested in a permanent endowment fund and approximately another \$US 4.5 million of committed funding to be transferred to the CBF over the next two years. A Bahamas sub-account in the CBF will initially be capitalized at \$US 5 million via funding from TNC. The Bahamas Protected Areas Fund will receive funding generated in this sub-account from CBF investment returns annually (according to an agreed formula).

**Bahamas Protected Areas Fund (BPAF).** The BPAF was created through legislation in 2014. A board has been appointed and the Executive Director was hired in March 2017. The fund received an initial capitalization of \$US 2.5 million (via donations by The Bahamas Government and the Global Environment Facility), as part of the GEF Full Size Project entitled *Building a Sustainable Network of Marine Protected Areas in The Bahamas*, with BEST Commission as the Implementing Agency. The BPAF also received a grant for \$US 500,000 from the Waitt Foundation to support its operations. The BPAF has been created to ensure sustainable financing into perpetuity for the management of Protected Areas in The Bahamas (BPAF Act 2014, section 6).

To assist in achieving the sustainable finance outcomes of *Bahamas Protected*, BPAF worked with TNC on a sustainable finance consultancy, which resulted in the development of a high-level implementation plan for sustainable revenue options for BPAF. BPAF is designing a strategy to successfully implement at least three of the recommended options over the next several years, which is pivotal to the launch and continuance of its grants-making program.

**Current Bahamas National Protected Area System.** The BNPAS consists of 54 sites scattered across the Bahamian archipelago, covering more than 13 million acres of terrestrial and marine

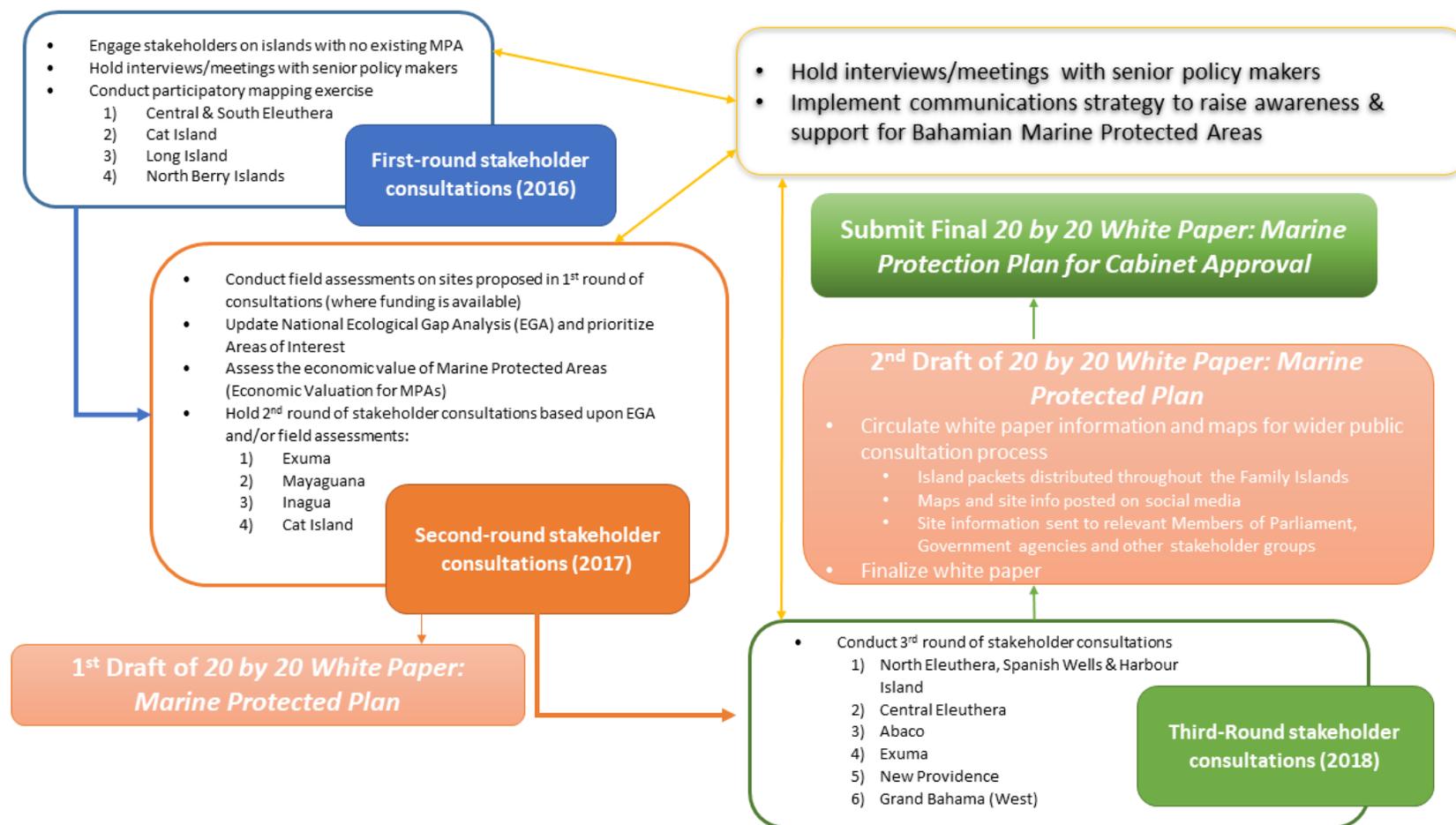
areas (see Map 2). These PAs are managed by the Bahamas National Trust, the Department of Marine Resources, and the Clifton Heritage Authority, with the exception of the August 2015 designations awaiting formal assignment to PA agencies and legal titles (see Appendix D for complete listing of the BNPAS).



**Map 2.** National Protected Area System for The Bahamas, covering approximately 13 million acres of land and seascape across the archipelago. Courtesy of L. Knowles, BNT.

## Process for Developing *20 by 20 White Paper: Marine Protection Plan*

A working team consisting of MPA practitioners, subject matter experts and scientists was formed to prepare the *20 by 20 White Paper: Marine Protection Plan*, which builds on 2.5 years of strategic planning and collaboration under the *Bahamas Protected* project. The major inputs of the plan include contributions from the extensive stakeholder consultative process, feedback from interviews with



**Figure 2.** Process followed to develop the 20 by 20 White Paper: Marine Protection Plan.

senior policy makers, data from the updated Ecological Gap Analysis (TNC, 2017), field surveys from Rapid Ecological Assessments, and statistics from the Economic Value of Ecosystem Services in Bahamian Marine Protected Areas (BREEF, 2017). A series of three stakeholder consultative meetings were completed over the course of the project, coupled with communications tools to strengthen public awareness and support for the creation and effective management of marine protected areas across The Bahamas.



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# A Gap Analysis

Expanding The Bahamas Marine Protected Area Network  
to Protect 20% of Marine and Coastal Environment by 2020

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## REPORT BY THE NATURE CONSERVANCY, 2017

**Summary.** The *Bahamas Protected* science team conducted a national marine gap analysis to assist the government in reaching its 2020 Declaration goals by identifying priority areas for establishing new MPAs.

The 2017 GAP analysis built on two previous national gap analyses (Thurlow and Palmer, 2007; Moss and Moultrie, 2014), but differs from the previous analyses in the following ways:

- It expands the objectives beyond biodiversity protection to include climate change and socioeconomics (e.g., to support Bahamian livelihoods).
- It specifies a planning area that aligns with multiple national planning processes.
- It uses the latest science to apply biophysical, socioeconomic and governance principles for the design of the MPA network.
- It incorporates new and refined spatial data layers.
- It uses innovative scientific approaches to maximize the benefits of the MPA network, so that protected areas can adapt to climate change, enhance coral reef fisheries and benefit local communities.

Approximately 40 leading local and international scientists and field practitioners from more than 26 organizations were consulted through three national workshops. Strategic advice was also sought from NISP partners.

Based on the information received, the 2017 GAP sought to do the following:

- Expand the objectives of the Master Plan for The Bahamas National Protected Area System to:
  - 1) By 2020, bearing in mind the impacts of climate change, identify and protect diverse marine ecosystems and critically important species; and
  - 2) By 2020, ensure that protected areas (marine and terrestrial) contribute to maintaining and improving Bahamian livelihoods by maximizing the benefits and minimizing the costs for local communities and stakeholders.
- Design MPAs zoned to include different levels of protection, with highly protected areas incorporated when and where possible after considering both the socio-economic and biophysical dynamics within The Bahamas.
- Use the territorial waters of The Bahamas as the planning area (the archipelagic baseline plus a buffer of 12 nautical miles), which provides the best option both ecologically and politically.
- Develop 44 socio-economic and governance principles that a) maximize the benefits of the MPA network and minimize the costs for local communities and other stakeholders; and b) align the network with local legal, political and institutional requirements.
- Apply 18 biophysical principles that incorporate key biological and physical processes into the MPA network design.
- Use two cutting-edge scientific studies that account for coral-reef fisheries and climate change (risk of coral bleaching from thermal stress).

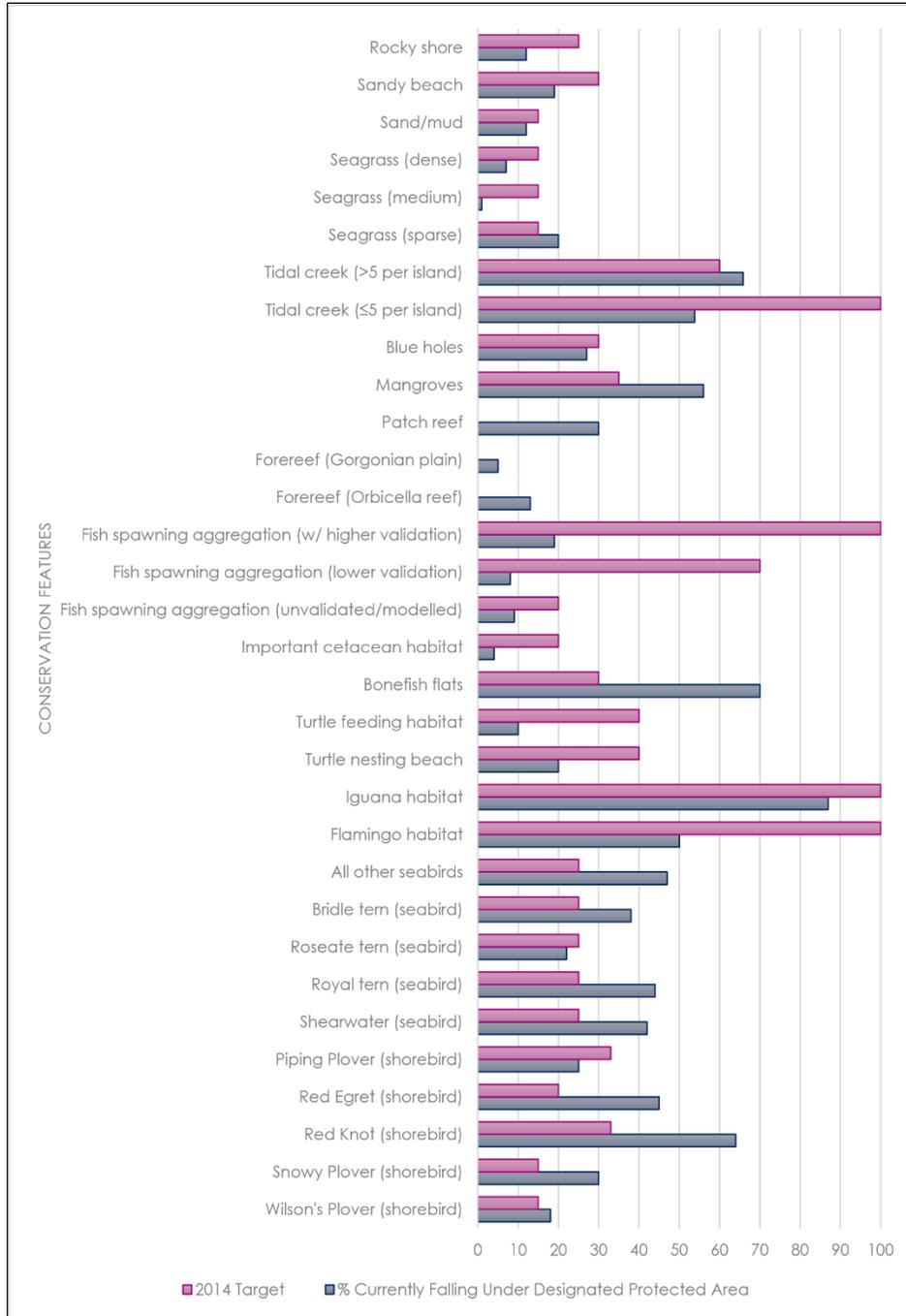
- Use a total of 37 conservation features that represent shallow- and deepwater habitats in critical, special and unique areas; and incorporates aspects of ecological connectivity, climate change, fisheries, human population, existing protected areas and other impacts (see Figs. 3–5).

The marine gap analysis provided a range of priority areas that represent more than 10% (or more than 28,035 km<sup>2</sup>) of the territorial waters of The Bahamas. Of the highest priority sites, 51 areas of interest (AOIs) were delineated. The *Bahamas Protected* partners, the NISP and other stakeholders considered these sites focal areas for establishing new MPAs. These AOIs represent 8% of the planning area (approximately 23,133 km<sup>2</sup>). They include locations in each geographic stratum and encompass a diversity of high-priority conservation features.

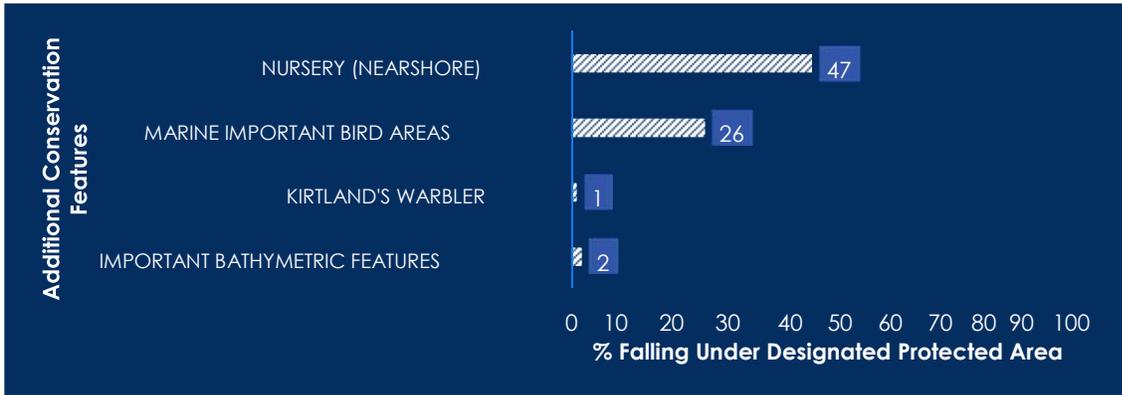
The *Bahamas Protected* team used these AOIs, along with the design principles, local knowledge and information and stakeholder input, to identify, develop and propose legal boundaries for new MPAs to achieve our MPA network goals and objectives.



*Bahamas Protected representatives with Dr. Hubert A. Minnis, Leader of the Opposition and Member of Parliament for Killarney, after an informative meeting, March 2017. Pictured L to R: Lynn Gape (Deputy Executive Director, BNT); Dr. Hubert A. Minnis, Leader of the Opposition and Member of Parliament for Killarney, Shenique Albury-Smith (Bahamas Program Director, TNC), and Casuarina McKinney-Lambert (Executive Director, BREEF). Photo courtesy of Bahamas Protected.*



**Figure 3.** Comparison of previously set national targets with percentage of conservation features that currently fall under the BNPAS.



**Figure 4.** Percent of conservation features that fall under the BNPAS that do not have nationally set goals but were included in the analysis.



**Figure 5.** Percentage of grouped conservation features currently falling under the BNPAS. “Seagrass extent” refers to dense, medium and sparse seagrass conservation features. “Tidal creeks” represents all tidal creeks in The Bahamas. The mangrove conservation feature represents all mangroves in The Bahamas. “Coral reef extent” is composed of the patch reef, Orbicella reef and hardbottom conservation features. “Seabird nesting colonies” refers to all species of seabirds. “Shorebird areas” is based on sightings of all shorebird species.

Full reports are available here: <https://tnc.box.com/s/gtzc3lt297nfh1ihm05400ty2lnpf3e0>



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# Economic Value

of Ecosystem Services Provided by  
Bahamian Marine Protected Areas

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## REPORT BY THE BREEF, 2017

This report quantified the economic value of four key ecosystem services within the existing MPA network to advocate for greater support of new MPAs to decision-makers, by emphasizing the economic value of protecting marine habitats within MPAs. This work built on previous work completed by the Natural Capital Project and others in The Bahamas and included consultation with project partners and other government and non-government organizations around the country.

### Valuing Nature's Bounty to Promote Marine Protection

Traditional approaches to MPA management focus on ecological considerations, such as maintaining sufficient species diversity and proximity of habitats. While such factors are essential for sustaining species, they may fail to capture the economic and societal importance of MPAs. The *Bahamas Protected* project considered the benefits that nature provides to people, known as ecosystem services. Diverse, functioning ecosystems provide myriad benefits that can be sustained through protected area management. Nearshore habitats bolster the stocks of fisheries, beaches and reefs draw tourists, and coastal mangroves and seagrasses buffer storm waves, mitigate climate, and promote water quality.

The gross value of ecosystem services or benefits provided at each site in the current MPA network was estimated and compared to no provision of ecosystem services or benefits. For New Providence and Andros, the risk of human activities to ecosystems and services was also included.

According to our analysis, ecosystems within the existing MPA network are worth more than \$23.5 million annually as nursery habitat for spiny lobster. The nursery habitat within the MPA network contributes to 50% of the overall value of the lobster fishery, which provides more than 1,300 active lobster jobs (Sealey, 2011). Visitors to MPAs provide \$67.6 million annually in tourism expenditures, equivalent to 2.6% of overall expenditures in 2015. In addition, ecosystems in the network reduce the risk of coastal hazards, such as flooding associated with Hurricanes Matthew and Joaquin, to nearly 40,000 people living along coastlines throughout the country, saving \$806 million in annual income by reducing damage from storm events. Mangroves and seagrass within the MPA network store 400 million tons of carbon, worth \$5 billion in avoided emissions globally. These values are likely to be underestimates of the actual value of the ecosystem services (Fig. 1).

The value of ecosystem services within individual MPAs varies greatly across the network as a function of ecological, social, and economic factors. These differences can be used to inform management. Higher levels of protection lead to more benefits, and replenishment zones are an essential tool for sustaining healthy fisheries.



The Andros West Side National Park, Marls of Abaco National Park, and Cay Sal Marine Managed Area contain a higher proportion of their region's mangroves and seagrass than other protected areas in those regions and thus exemplify priority areas for management to ensure the economic benefits of fisheries into the future.



Southwest New Providence Marine Managed Area (SWMMA) and Exuma Cays Land and Sea Park receive higher tourism expenditures than other marine parks, due to their infrastructure and access for tourists. Investing in the protection and management of coral reef and fish communities can create a world-renowned location for tourism.

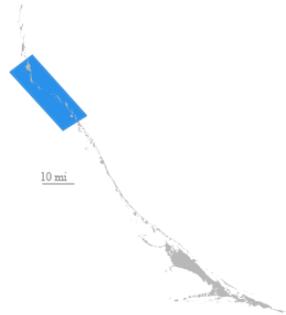


Half the population of San Salvador and a third of the population of the Berry Islands are at lower risk from coastal hazards due to ecosystems within MPAs. More than 30,000 people on New Providence live in areas partially protected by corals in SWMMA and coastal mangroves in Bonefish Pond National Park.



Habitats in Andros West Side National Park and Marls of Abaco store the most carbon in the network, valued at more than \$3.5 billion and \$500 million in avoided carbon emissions, respectively.

Case study: The Exuma Cays Land and Sea Park (ECLSP) is the oldest marine protected area in The Bahamas and the first national park to be managed as a highly protected area. The values it generates through fisheries, tourism, and carbon storage and sequestration indicate the importance of continuing to invest in the ECLSP through enforcement, boats, infrastructure and more to maintain these benefits into the future. Our analysis estimates that within the park:



- Visitors spend \$6.6 million annually during 23,000 visitor-days.
- Nursery habitat supports \$1 million in export value of spiny lobster annually and 240,000 lbs. in catch.
- Corals, seagrass and mangroves protect much of the Exuma Cays coastline and reduce the risk of coastal hazards for people along the southern extent of the Cays (the low population precludes assigning a coastal protection value to ecosystems within ECLSP).
- Seagrass and mangroves prevent over \$130 million in damages due to emissions by storing more than 10.7 million tons of carbon.

In addition, previous studies indicate that there is increased biomass and reproductive capacity for lobster, Nassau grouper, and queen conch within the park and improved fisheries outside the park, along with increased high-end tourism and property values within the park, generating over \$9 million in direct and measurable economic impact in a single year.

Full report is available here (Arkema, 2017): <https://brief.org/marine-protected-areas-valuation/>



# Management Structure

for Bahamian Marine Protected Areas

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## MPA GUIDANCE DOCUMENT REPORT, BY THE BAHAMAS NATIONAL TRUST, 2018

The MPA Guidance document was prepared to accompany the *20 by 20 White Paper: Marine Protection Plan* to provide a high-level overview of the recommended management regime of a proposed MPA. The MPA Guidance Document serves as a tool for decision makers, MPA managers, and co-managers in the following ways:

- It provides guidance on the assignment of MPA management categories (i.e., highly protected, managed area);
- It is a helpful companion to this Marine Protection Plan; and
- It outlines zoning of protected areas and the use of co-management in protected areas.

Management 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 once it has been established. Without categorization, protected areas that were established particularly for preservation or conservation purposes tend to drift toward a multiplicity of purposes and potentially away from their original, intended purpose.

### Co-Management of Bahamian Protected Areas

In addition to establishing protected area categories through legislation and policy, innovative approaches must be explored to address the complexities and challenges that affect a growing National Protected Area System. Co-management is one example that offers some potential to help fill certain management gaps and achieve additional benefits for a network of MPAs by sharing roles and responsibilities between partnering entities (Brumbaugh, 2017).

In 2017, TNC commissioned a study to develop a national framework for the co-management of protected areas. This work was intended to support the effective management of the BNPAS. Concurrently, the BNT investigated the practicality of co-managing sites within its purview with other non-governmental and government organizations. This investigation produced a co-management policy for the BNT and a Co-management Agreement Template (for adoption and modification where necessary). The BNT is partnering with the San Salvador Living Jewels Foundation to implement a shared partnership agreement and launch a co-management pilot on San Salvador Island to manage five national parks.

### Protected Area Zoning

*“Achieve the goal of 20% by employing MPAs which are zoned to include different levels of protection. Highly protected areas would be included where possible [in the future] considering both the socio-economic and biophysical dynamics within The Bahamas.”* – National Implementation Support Programme (NISP) Partners

Zoning refers to what activities can and cannot take place in various parts of the protected area with respect to human use, facilities and PA development and resource management. It is a common management tool used to ensure that the intent of the establishment of a protected

area is met. As with protected area categorization, protected area management regimes usually establish a zoning policy to reflect their particular needs.

In general, zones are established to safeguard protected area values and are differentiated by objective, intended level of use, means of access, size, recreation opportunity and facility development. Zoning involves a range of stakeholders, including resource users, nearby communities, private landowners and others who have a stake in a particular area. Zoning of protected areas is carried out during the management planning process and is critical to ensuring consistency with a protected area's category. Stakeholder involvement is critical in PA zoning, as well as in site management.

#### Management Recommendations for Proposed Protected Areas

During the stakeholder engagement process for the *20 by 20 White Paper: Marine Protection Plan*, project partners inquired about the types of MPAs that stakeholders would support to identify proposed areas that would be most relevant to them. Partners reiterated this request for input during the public commenting process for the proposed PAs. Sites proposed in this paper range from marine reserves or highly protected areas (i.e., replenishment areas) to zoned MPAs where appropriate activities will be allowed based on the purpose of the protected area, condition of PA resources and input from resource users. *Bahamas Protected* collaborated with the NISP to recommend the assignment of proposed MPAs to PA Management Agencies and management categories/regimes (see Table 2).

**Table 2. Recommendations for Proposed Management Types and PA Management Agencies**

	ISLAND	SITE NAME	PROPOSED MANAGEMENT TYPE	PROPOSED PA MANAGEMENT AGENCY	SIGNIFICANT FEATURES
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 and 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/Forestry	<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 deepwater features, land crabs, endemic plants</i>
6		Alligator Creek	Zones 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>
8		Hawk's Nest and Cutlass Creeks	Zoned for multiple uses	DMR	<i>bonefish flats, deepwater habitat, marine IBA, turtle habitat, sandy beach, seagrass, tidal creeks, sand/mud, nursery habitat for fish, conch and turtles, coral reef, 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 deepwater 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 deepwater 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, anchaline pond, cave system, seahorses</i>
13		Savannah Sound and Plantation Reef	Highly protected area	BNT	<i>turtle habitats, mangroves, nursery area (for crawfish, conch and reef fish), bonefish habitat, seagrass, fish spawning aggregations</i>
14		Half Sound, North and South	Zoned for multiple uses	BNT	<i>turtle habitats, mangroves, nursery area (for reef fish)</i>
15		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>important historical and geological features (submerged bridge connecting north Cat Island), high shark populations and good diversity of shark species, sand/mud, sandy beaches, seagrass, patch reefs, coral reefs, deepwater features,</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, deepwater features, turtle habitat</i>
21	Inagua	South Inagua	Zoned for multiple uses	DMR	<i>fish spawning aggregations, deepwater features (underwater cliffs and coral walls), coral reefs, marine mammal habitat, tidal creeks, turtle habitats, mangroves</i>
22	Long Island	North Long Island	Zoned for multiple uses	DMR	<i>Mangroves, tidal creeks, coral reefs</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, deepwater 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, fish aggregation</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/Forestry	<i>rocky shore, mangroves, seagrass, hardbottom, patch reefs, seabirds, turtle habitat, historical fish spawning aggregation</i>
32		Lake Killarney	Zoned for multiple uses	BNT	<i>coppice forest pinelands, inland lake, freshwater wetlands</i>
33	Ragged Island	Cay Verde	Zoned for multiple uses	DMR/BNT	<i>fish spawning aggregation, deepwater features, coral reef system, sand/mud</i>
34	Rum Cay	Southeast Rum Cay	Zoned for multiple uses	DMR/Forestry	<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 IBA, fish spawning aggregation, deepwater features, sandy beach</i>
36	Abaco	Expansion of Cross Harbour National Park	Zoned for multiple uses	BNT	<i>marine mammal habitats, deepwater 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	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, deepwater features</i>
39	Conception Island	Expansion of Conception Island National Park	Highly protected area	BNT	<i>marine mammal habitat, coral reefs, sand/mud, deepwater 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 deepwater features, turtle habitats, marine mammal habitat</i>
43		Expansion of Hogsty Reef Protected Area	Highly protected area	DMR	<i>deepwater features, marine mammal habitat</i>

\* Multiple-use MPAs may be zoned for various uses, such as fishery replenishment areas, recreational zones, fishing areas, etc. Certain types of fishing gear are restricted and seasonal closures may be implemented based on resource conditions. Examples include San Salvador National Park (BNT) and Andros West Side National Park (BNT).

\*\* Highly protected areas (or Marine Reserves) are fishery replenishment areas where extractive uses are restricted. A Marine Reserve is 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.” Examples (PA Managers): Exuma Cays Land and Sea Park (BNT), Pelican Cays Land & Sea Park (BNT), and South Berry Islands Marine Reserve (DMR).

\*\*\* DMR = Department of Marine Resources; BNT = Bahamas National Trust



Starfish observed during Rapid Ecological Assessment in West End, Grand Bahama, June 2018. Photo courtesy of Dr. Craig Dahlgren.



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# Public Consultation and Stakeholder Engagement

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## Community-Based Stakeholder Engagement

A critical step in designing and selecting new protected areas is to engage stakeholders in the decision-making process. *Bahamas Protected* planned and convened three rounds of stakeholder consultations between 2016 and 2018, consulting approximately 400 persons during 21 meetings throughout The Bahamas. The BNT led the execution of the stakeholder consultative process for new proposed MPAs, directly engaging national and island-specific stakeholders through various workshops and meetings, and more generally through the communications campaign.

Meeting participants were extremely vocal and expressed their general interest in protecting our nation's diverse marine ecosystems. They shared their knowledge about the marine environment as well as the challenges and pressures affecting our ocean's resources. Stakeholders understood the importance of protecting marine life for future generations but were concerned that they could lose their rights to fish. By the end of each community meeting, most participants were more informed about marine protected areas, how they work and what social and ecological benefits they provide.

### Overall Stakeholder Consultative Meeting Objectives:

- Introduce the three-year *Bahamas Protected* project and its partners;
- Raise awareness about MPAs as a tool to improve fisheries management in The Bahamas;
- Work with community members to identify and recommend sites for protection around their island (Year 1 and 2) through participatory mapping exercises (where applicable); and
- Gather feedback on proposed sites to expand the BNPAS.

### Summary of Feedback Received at Stakeholder Consultative Meeting:

- Participants gained a better understanding of how MPAs benefit the entire community and the country overall.
- Attendees expressed their concerns about illegal foreign fishing and poaching by neighbouring countries. They noted that equitable enforcement of fisheries law is of the utmost importance to ensure the integrity of MPAs.
- Participants were willing to support well-managed protected areas for various reasons, such as:
  - Gains in fisheries management through sustainable fishing practices and the establishment of highly protected areas or replenishment zones within areas zoned for multiple uses;
  - Increase in ecotourism and alternative income-generating opportunities for fishers and tour operators;
  - Potential opportunities to enhance and improve direct and indirect sources of income within the tourism industry (e.g., hotels, car rentals, restaurants, etc.)
  - Coastline protection of valuable infrastructure from erosion and storm surge.
- Stakeholders communicated their dissatisfaction with the growing number of paper parks and strongly advocated for the effective management of MPAs.

The *Bahamas Protected* project recognizes the value of including resource users and key stakeholders in the ongoing planning and decision-making processes for the BNPAS. Special emphasis should be placed on its effective management moving forward. Continued outreach and education should help to garner sustained public support and additional buy-in for MPAs throughout The Bahamas.

Appendix A provides a summary table with dates and locations of stakeholder meetings, while meeting participants and attendees are listed in Appendix B.

## Public Relations Strategy

The *Bahamas Protected* project produced a strategic communications plan led by BREEF to raise awareness and support for expanding the Bahamas MPA Network. Targeted communications initiatives were developed and executed under the project, as summarized in Table 3.

Table 3. Summary of communications tools applied as part of outreach activities for the *Bahamas Protected* project (provided by BREEF).

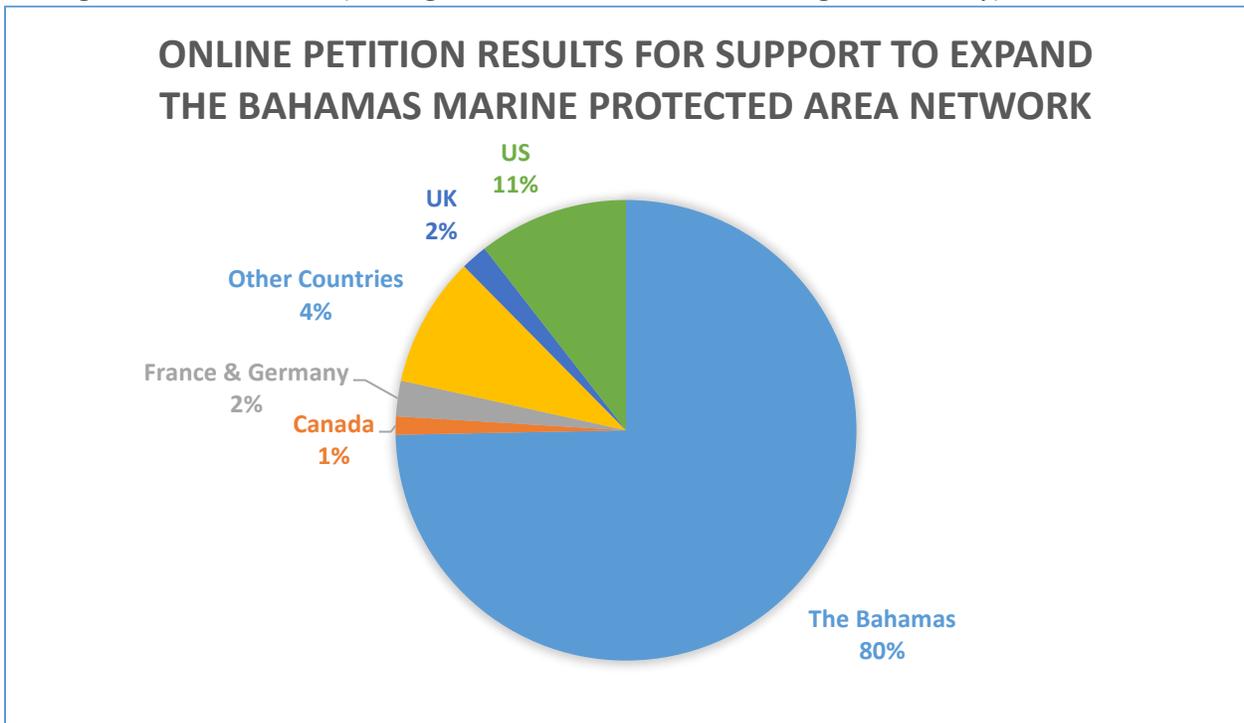
Activity	Date	Description	Outreach Total
Quarterly newsletters	November 28, 2016 December 22, 2016 March 3, 2017 June 15, 2017 November 6, 2017 February 23, 2018 May 15, 2018 June 11, 2018 September 14, 2018	Newsletters are used to update stakeholders and interested persons about project-related dates and events. Newsletters are distributed at least quarterly. They contain a featured story, featured MPA and link to the online petition.	The maximum number of recipients of the newsletter was 6,355.
<i>Bahamas Protected</i> Facebook page created	February 3, 2017	This is the primary method for communications, used to share information about MPAs, promote upcoming events and gather petition signatures.	As of September 2018, there are 3,203 followers, 76% of whom are from The Bahamas.
Online petition created	February 10, 2017	This petition was started to gather signatures supporting MPAs. A hard copy version was circulated to gather additional local signatures.	As of September 2018, 7,035 signatures were gathered, 80% of which are Bahamian signatures. The hard copy petition generated an additional 265 Bahamian signatures.
TV appearances aired	June 8, 2017 February 20, 2018 March 28, 2018	TV stations were engaged to help relay important project-based information, including community meetings, the online petition, results of project reports and research data.	Appearances were on The Reid Factor, The Rising Sun Morning Show, ZNS Nightly News Royal Fidelity Business Beat and Our News.
Radio appearances aired	June 8, 2017 June 14, 2017 August 16, 2017	Local media houses Guardian Radio, Island FM, Radio House, 98.3 The Breeze and	Thanks to live streams of radio appearances:

	December 4, 2017 December 5, 2017 April 11, 2018 May 1, 2018 May 18, 2018 June 6, 2018 June 13, 2018 June 28, 2018 July 12, 2018 July 31, 2018 August 1, 2018 August 29, 2018	Broadcasting Corporation of The Bahamas were engaged to promote project activities and events. Starting in March 2018, radio appearances were live streamed directly to the Facebook page to increase followers to the page.	<ul style="list-style-type: none"> <li>• There were 32 live stream viewers.</li> <li>• 17 comments were posted on live stream videos.</li> <li>• 7,075 persons were reached through the Facebook page.</li> <li>• 2,798 persons viewed the videos.</li> <li>• 27 persons shared the videos.</li> </ul>
Video produced: <i>Why Are Marine Protected Areas Important?</i>	November 9, 2017	Local educators served as key messengers in the communications plan. Educators from the BREEF Teacher Training Workshop were selected to share their reasons for supporting MPAs.	As of September 2018, the video has reached 4,724 persons, was viewed 3,380 times, and has been shared 60 times.
Video produced: <i>Disappearing Foods</i> PSA	June 26, 2017	The <i>Disappearing Foods</i> PSA was released on Facebook.	As of September 2018, the video has reached 19,964 persons, was viewed 6,650 times, and has been shared 165 times.
Video produced: <i>Long Time No Sea</i> PSA	February 6, 2018	The celebrity PSA <i>Long Time No Sea</i> , was released on Facebook.	As of June 2018, the video has reached 7,967 persons, was viewed 15,275 times, and has been shared 118 times.
Press releases and newspaper ads printed	February 21, 2018 April 26, 2018 June 13, 2018 September 14, 2018	Press releases were distributed to local daily newspapers and online news sites. These releases highlighted important project activities, upcoming events and important dates. When the budget allowed, ads were also run in the local dailies.	Press releases ran in: The Bahama Journal (online and hard copy), The Tribune (online and hard copy), the Nassau Guardian (online and hard copy), thebahamasweekly.com and bahamaslocal.com
<i>Bahamas Protected</i> poster distributed	November 13, 2018	The poster was created to highlight the importance of MPAs for sustaining local livelihoods. Posters were distributed to target locations in New Providence and the Family Islands.	<p><b>Offices in New Providence:</b> Prime Minister's Office, Department of Marine Resources – BEST Commission, Ministry of Agriculture, Ministry of Environment, TNC Office, BREEF Office, BNT Office.</p> <p><b>Family Island Airports:</b> Eleuthera, Cat Island, Long Island, Stella Maris, Long Island, Exuma, Mayaguana, Andros, Bimini and Abaco.</p>

			<p><b>Posted in Island Administrator Offices:</b>                  North Eleuthera, Governor’s Harbour Eleuthera, Spanish Wells Eleuthera, Arthur’s Town Cat Island, Mayaguana, South Andros, Marsh Harbour, Abaco.</p>
<p><b>Video produced: / Support Marine Protected Areas</b></p>	<p>Started November 2017</p>	<p>This is a short video collection of Bahamians voicing their support for MPAs. Each video ends with the project tag line “I support marine protected areas on my island and you should too.”</p>	<p>So far, 22 videos have been produced and shared via social media with 27,080 total views.</p>

### Petition Results

In February 2017, the *Bahamas Protected* project launched an online petition to gather signatures in support of Bahamian MPAs and the need to create new MPAs across the country. A total of 7,035 signatures were collected from across the globe, with 80% (5,632) from islands throughout The Bahamas (see Fig. 6 for breakdown of online signatures only).



**Figure 6.** Results from online petition from February 2017 to September 2018, including 5,632 signatures from Bahamians supporting the creation of new MPAs across The Bahamas.



© Shane Gross

# Proposed Protected Areas

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A total of 43 areas are proposed for inclusion in the BNPAS, collectively encompassing approximately 8.1 million acres (3.2M hectares) of marine areas across the Bahamian archipelago (see Map 2). These include 35 new areas and the expansion of eight existing protected areas. Once declared, they will assist the Government to achieve its CCI goals and provide dedicated financial resources, staffing and enforcement to areas that have high diversity and key conservation features.

## Site Selection

In 2016, the stakeholder consultative process focused on (but was not limited to) islands with no existing MPAs, working with stakeholders and partners to map out areas of interest and concern to be considered for protection. This work built on previous stakeholder engagement and conservation planning on islands such as Long Island, Eleuthera, North Berry Islands, Bimini and Cat Island.

The 2017 Ecological Gap Analysis provided a range of priority areas representing more than 10% (or more than 28,035 km<sup>2</sup>) of the territorial waters of The Bahamas. Of the highest priority sites, 51 AOIs were delineated. The *Bahamas Protected* partners (TNC, BNT, and BREEF), the NISP and other stakeholders considered these sites to be focal areas for establishing new MPAs. Stakeholder consultations continued in 2017 and 2018, presenting stakeholders with the results of the gap analysis. The *Bahamas Protected* team used these AOIs, along with MPA design principles, local knowledge and information and stakeholder comments, to identify, develop and propose legal boundaries for new MPAs to achieve network goals and objectives.



*Diver Lakeshia Anderson (Director of Parks, BNT) conducting field surveys on coral reef during a Rapid Ecological Assessment to support the proposed MPA for West End, Grand Bahama, June 2018,. Photo courtesy of Dr. Craig Dahlgren.*

**A. ABACO**

**1. Sandy Point Marine Managed Area**

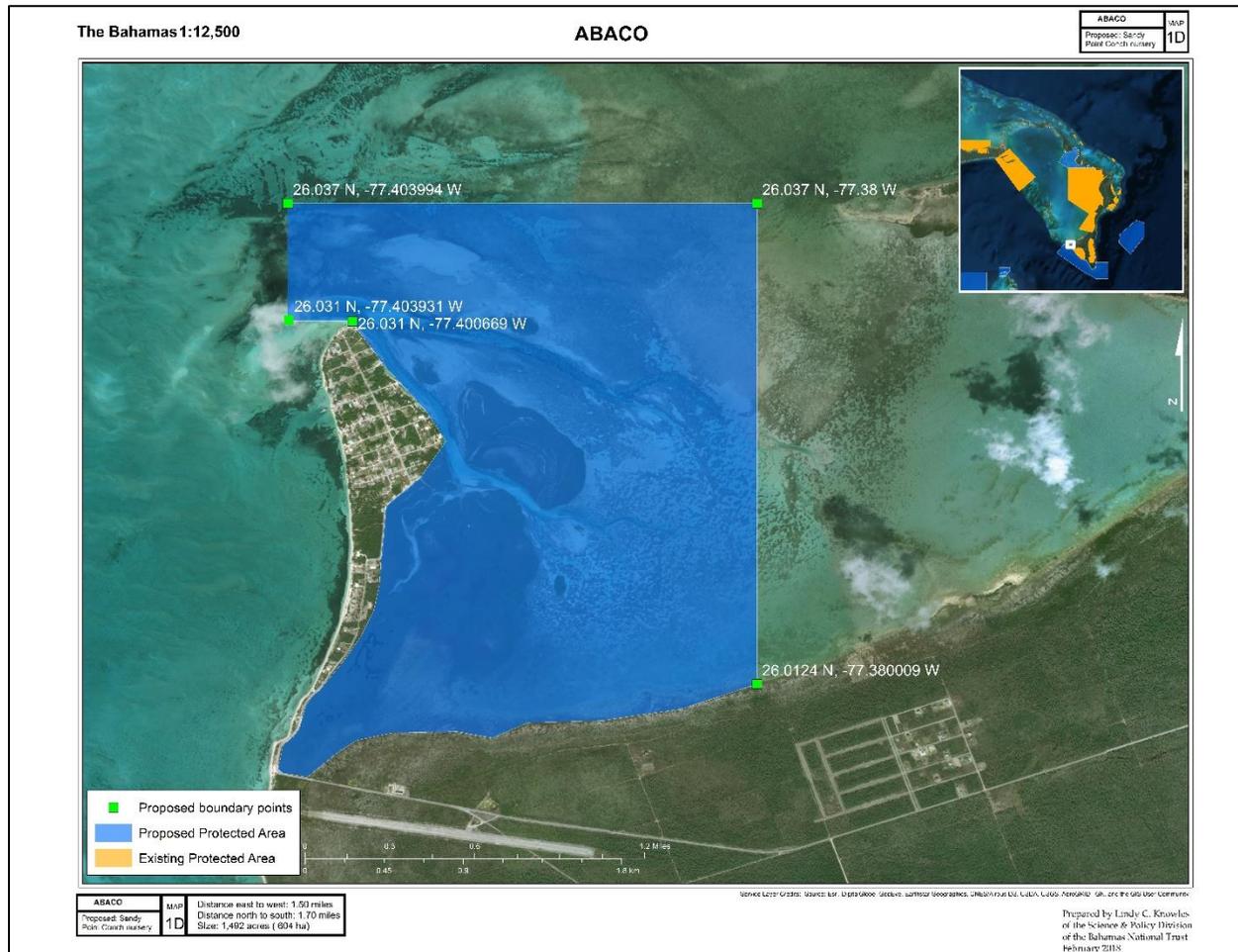
**Size:** 1,492 acres (604 ha)

**Conservation targets and other resources:** nursery area (for conch), rocky shore, tidal creek, mangroves, seagrass, sand/mud, blue holes, bonefish habitat

**Location:** northeast and east of Sandy Point settlement

**Threats:** illegal, unregulated and unreported (IUU) fishing, uncontrolled use

**Proposed management:** Marine Managed Area. The area is proposed for management to prevent IUU fishing, with greater enforcement of existing fisheries laws, along with habitat and species monitoring.



**Site description:** Sandy Point is the southernmost settlement of Abaco. The proposed MPA is located north of Sandy Point settlement and stretches along the eastern coastline, extending 1.7 miles from north to south.

**Justification for inclusion:** This proposed site is a primary conch nursery area, where illegal harvesting of undersized conch is a major issue. The small winding creek system and mangrove area provides nursery habitat for bonefish and other reef fish that move out to the shallow reefs before occupying deeper waters. Several blue holes are also found in the area, along with extensive areas of seagrass, sand/mud and a tidal creek system that supports a conch nursery ground, which is heavily impacted by harvesting of undersized conch.

**Opportunities:** Protecting this area will allow juvenile conchs to mature and reproduce, supporting healthier fishing grounds. The winding creek system provides a great opportunity for kayaking and other nature tour activities that can benefit Sandy Point residents.

## 2. Expansion of Cross Harbour National Park

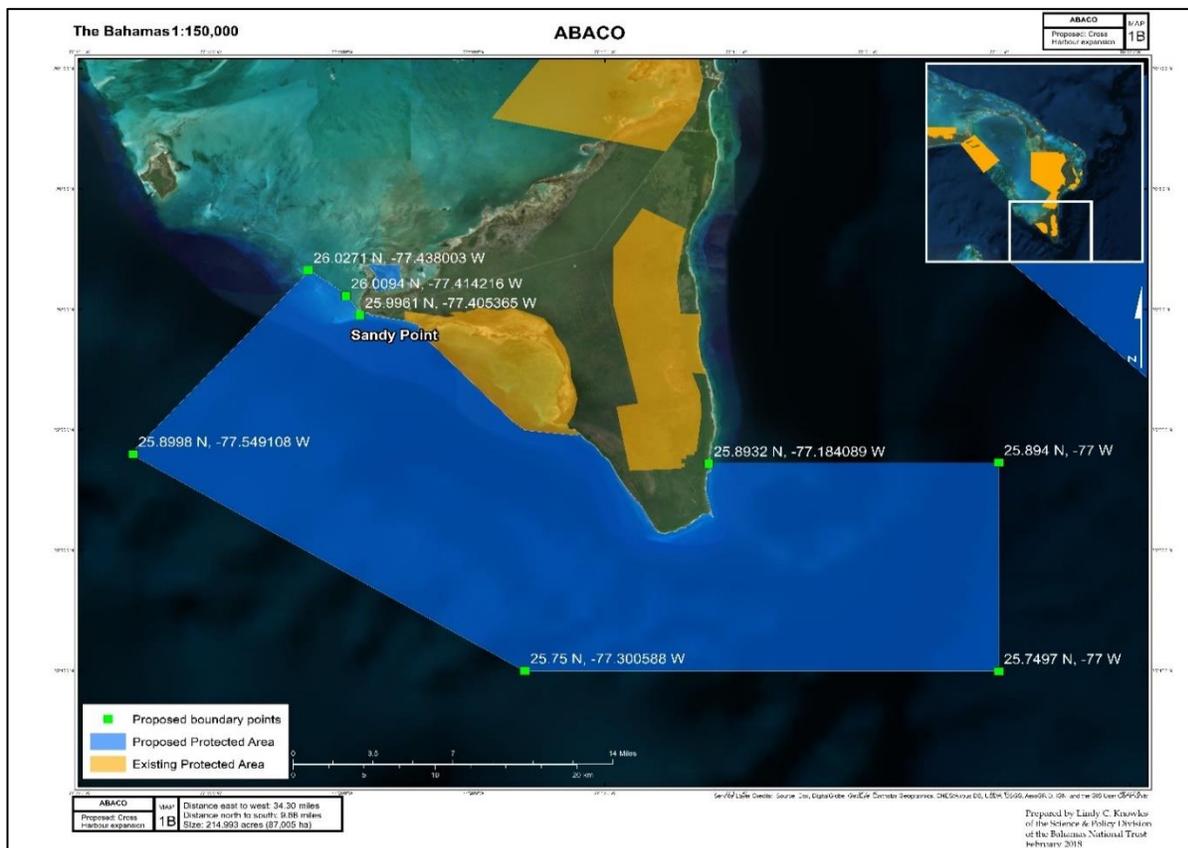
**Size:** 214,993 acres (87,005 ha)

**Conservation targets and other resources:** marine mammal habitats (whales, dolphins), deepwater resources, sand/mud, coral reefs, patch reefs, fish spawning aggregation for multiple species, bonefish habitat

**Location:** offshore from southern coast of Abaco, west of the Abaco National Park and east of the Sandy Point settlement

**Threats:** IUU fishing, boat groundings, uncontrolled use by sports fishing vessels (incl. the use of echo sounders), noise from commercial shipping

**Proposed management:** zoned for multiple uses, including a fishing area and a replenishment zone, based upon local stakeholder input.



**Site description:** Cross Harbour is a coastal system located on the southern end of Abaco, west of the Abaco National Park and east of the Sandy Point settlement. The Cross Harbour National Park was part of the 2015 protected area designations, covering 15,182 acres extending from the shallow bay area to a steep drop into deeper waters. The area was designated as a multiple-use protected area, encompassing a mangrove creek system, nursery habitat for fish, conch and sharks, patch reef and offshore reef system, and a pre-spawning aggregation for bonefish that travel in schools between The Marls and Cross Harbour during spawning periods. The expanded area includes subsistence and commercial fishing and sportfishing. Commercial fishing and

sportfishing should be managed to ensure that vessels adhere to existing laws. The use of echo sounders for sportfishing should be restricted because they are detrimental to the health of marine mammals and conflict with one of the purposes of expanding park boundaries. The expanded area includes important feeding grounds for bottlenose dolphins and deep-diving whales (beaked whale, sperm whale and dwarf sperm whale). These animals use sound to navigate, communicate and find food in the ocean depths without light, so they are sensitive to human-made sounds such as Navy sonar, echo sounders used in commercial and recreational fishing, and ship propeller noise. These sounds can disrupt their feeding and cause mass stranding events (BMMRO communication). The management of the site must include the control of the use of destructive fishing apparatus and equipment, to be discussed further with local stakeholders in the management planning process.

**Justification for expansion:** The proposed protected area expansion was a recommendation made by local stakeholders during consultative meetings in South Abaco in May 2018. Extending the boundaries an additional 214,993 acres will encompass multiple species spawning aggregations for Nassau grouper, mutton snapper and cubera snappers, important feeding grounds for marine mammals, unique deepwater geological features, and shallow- and deepwater coral reef systems that include healthy stands of endangered elkhorn and staghorn corals. The expansion area also encompasses spawning migratory routes and a deep offshore spawning site for bonefish, which draws fish from the Marls of Abaco and the northern shores of Grand Bahama. Crown land areas of Hole in the Wall Lighthouse would add a significant cultural and historic site to the protected area, in addition to nesting areas for tropicbirds.

**Opportunities:** There is a significant catch and release recreational fishery in Abaco for bonefish, tarpon, and permit that heavily depends on this area. In addition, fishing for bonefish still occurs at a bonefish pre-spawning aggregation site, when bonefish are staging to spawn; fishing at this time threatens their reproductive cycles. Expanding this protected area will help to control this activity. The area is also prime fishing grounds for local fishers, who depend on it to sustain their incomes, so allowing sustainable fishing to continue in various areas will be critical to the livelihoods of Abaconians.

### 3. Expansion of the Marls of Abaco

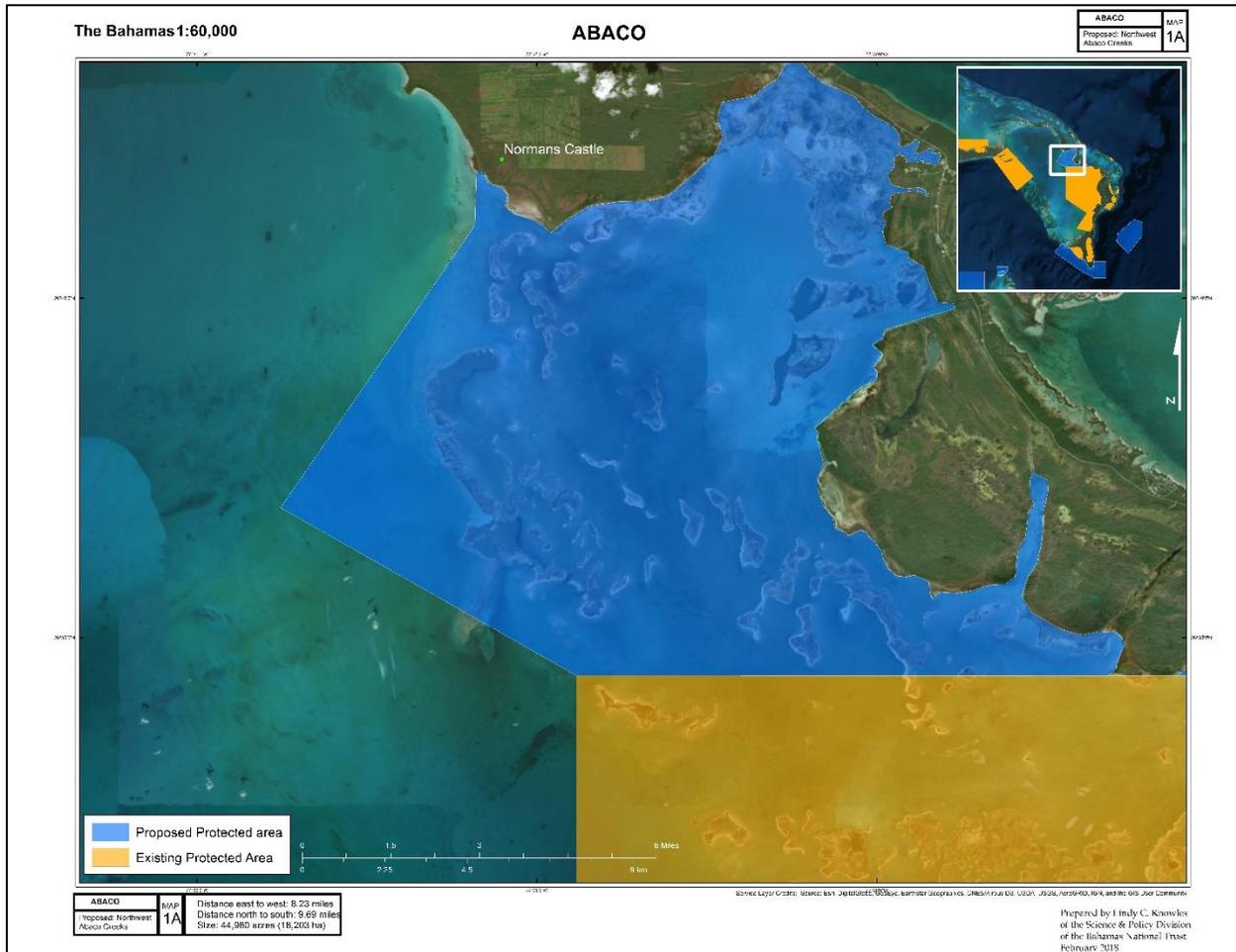
**Size:** 44,980 acres (18,203 ha)

**Conservation targets and other resources:** bonefish flats, sand/mud, seagrass, mangrove, tidal creeks, nursery area for fish and lobster

**Location:** northwest of the Marls of Abaco National Park

**Threats:** IUU fishing, uncontrolled use, unsustainable development (filling in wetlands), dredging

**Proposed management:** zoned for multiple uses as part of the existing Marls of Abaco MPA.



**Site description:** The Marls is an extensive shallow mangrove system located on the northwestern side of Abaco. Local fly-fishing guides heavily use the sand flats of the Marls, which serve as important nursery habitat for commercially and ecologically important species. The Marls of Abaco National Park (214,097 acres) was part of the 2015 protected area designations, selected to preserve a vital wetland and creek system from unsuitable development projects that require dredging, while still allowing cultural and recreational activities to continue.

**Justification for expansion:** Extending boundaries to include an additional 44,980 acres will incorporate a deep tidal creek system along with bonefish flats and mangrove forest that are

nursery habitats for fish and lobster, which move to offshore reef and deeper waters during their life cycle. This area is prone to coastal development projects, which is the greatest threat to the area's fishery resources, should the area be subject to dredging and filling-in of mangrove wetlands. Such activities would have negative impacts on bonefish migration pathways, juvenile bonefish habitat and their home ranges.

**Opportunities:** This area is prime grounds for bonefish and a nursery ground for spiny lobster and reef fish that occupy the mangroves. Protected status would prevent unsustainable coastal development that would result in habitat loss and irreversible damage to critical marine habitats.



*Bahamas Protected Stakeholder Consultation Team members speaking with residents during community walk-a-bouts in Cherokee Sound, Abaco, May 2018. Pictured L to R: Lashanti Jupp (Conservation Planner, BNT), Lyndee Bowe (Environmental Officer, Ministry of the Environment), Joy Albury (retired/housewife, Cherokee Sound resident), David Knowles (Chief Park Warden for Abaco, BNT). Photo courtesy of Bahamas Protected project.*

## B. BERRY ISLANDS

### 4. West Berry Islands Marine Managed Area

**Size:** 169,250 acres (68,493 ha)

**Conservation targets and other resources:** bonefish flats, hardbottom, patch reefs, turtle habitat, sand/mud, seagrass, nursery habitat for conch

**Location:** North Berry Islands (south of Great Harbour Cay)

**Threats:** overfishing, IUU fishing, anchor damage to seagrass beds (scars)

**Proposed management:** Fishers have requested that the area resources be monitored, and increased enforcement activities should be the focus for management of this area.



**Site description:** This proposed West Berry Islands site is located west of the northern Berry Island chain, stretching 12 miles south offshore of Goat Cay to include shallow bank and deepwater habitats. The area is a popular fishing ground that is used by commercial fishers from New Providence, Spanish Wells and other Bahamian islands.

**Justification for inclusion:** The area will protect a portion of the Great Bahama Bank west of the northern Berry Islands and encompasses important habitat for conch, turtles, rays, bonefish and other fishery resources.

**Opportunities:** Protected status would facilitate effective management to an area that is abused by illegal fishing activities, including fishing with compressors during the summer months, harvesting of juvenile conch, poaching by foreign vessels, uncontrolled use of jet skis and anchoring in sensitive areas.

### 5. Kemp’s Cay to Pigeon Cay

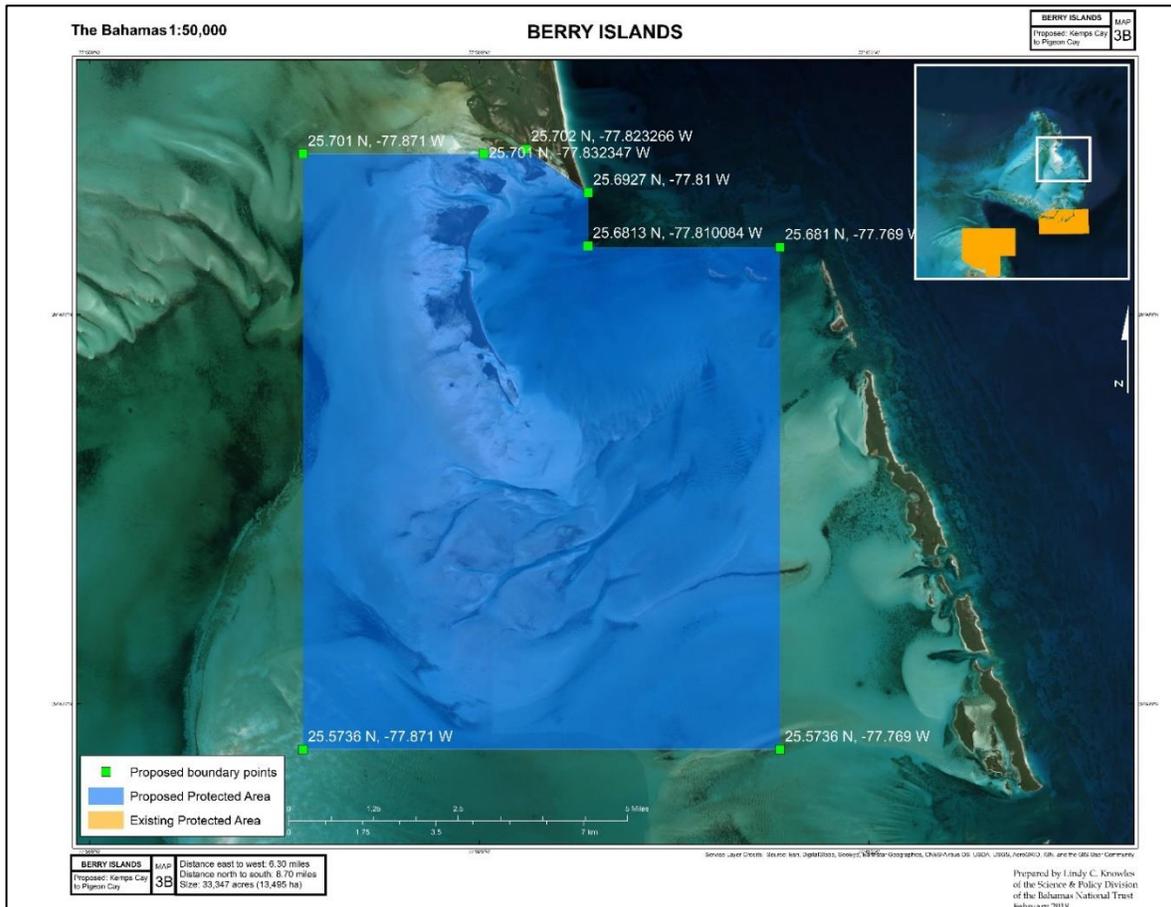
**Size:** 33,347 acres (13,495)

**Conservation targets and other resources:** bonefish flats, Important Bird Area (IBA), sand/mud, seagrass, tidal flats, turtle habitat

**Location:** south of Great Harbour Cay, extending from Kemp’s Cay to Pigeon Cay

**Threats:** vessel groundings, climate change, IUU fishing, jet skis use by tourists on the flats, invasive species

**Proposed management:** highly protected area (or replenishment area), that will allow catch-and-release fly-fishing.



**Site description:** The proposed protected area is about 4 miles south of Great Harbour Cay, extending from Kemp Cay in the north to Pigeon Cay in the south. The cays are uninhabited and show no evidence of previous human settlement. The tidal flats are of economic importance to the local community and are frequently used by local fishers and recreational anglers. The aquatic habitats support economically important fishery species, including bonefish, queen conch, lemon sharks, barracuda, permit, jacks, snappers and more. The recreational fishery in the Bahamas is worth over \$141 million annually, and the bonefish is a particularly important sportfish species. Endangered green and loggerhead sea turtles also frequent the Berry Islands.

**Rapid Ecological Assessment results:** Rapid ecological assessments conducted in 2016 and 2017 demonstrate a high diversity in plant and fish species on the islands. A total of 116 vascular plant species were observed, including 6 species endemic to The Bahamas. Of the various cays, Ambergris and Kemps Cay had the highest level of vascular plant diversity (60 and 56 species, respectively), and Kemps Cay had several species that were not observed on the other islands.

Benthic surveys demonstrated that sand and seagrass habitats were dominant, primarily turtle grass or *Thalassia*, with some shoal grass and manatee grass also observed. While there was limited hardbottom habitat, seagrass beds may serve as nurseries for reef-associated species. Across survey sites, fish species richness ranged from 7 to 21 species. Bonefish abundance was in the thousands at several of the studied sites. Queen conch nursery sites were observed in the proposed protected area, as were sanctuary sites for juvenile green sea turtles. During the assessments, notably high numbers of wintering Piper Plovers and other shorebird species were documented.

The Berry Islands provide significant wintering habitat for the globally highly imperilled Atlantic Coast Piping Plover population. Over 100 birds were counted during the 2016 International Piping Plover winter census conducted by the BNT and National Audubon Society. Previous surveys reported higher numbers of piping plovers, 255 birds or 7% of the Atlantic Coast population, in 2012. Highly imperilled North American red knot populations, along with North American populations of Wilson's plover and American oystercatchers, designated of high concern, have also been recorded on the North Berry Islands.

The aquatic habitats support economically important fishery species, including bonefish, queen conch, lemon shark, barracuda, permit, jacks, snapper and more.

**Opportunities:** The newly proposed protected area will improve local livelihoods and increase community resilience in the adjacent areas. Protecting this area will ensure the future of the million-dollar sportfish industry and can help to bring back dwindling queen conch populations. It will provide an opportunity to manage invasive species, like the casuarina, which can also help to improve the islands' resilience to hurricanes and other severe weather events. Ecotourism opportunities, such as wildlife viewing, will allow locals to engage in new economic activities and

diversify their livelihoods. In particular, there may be an opportunity to replicate bird-based tourism programs occurring on nearby Andros Island, training local guides to maintain tourism revenue in local communities.

### C. BIMINI

#### 6. North Bimini Marine Reserve

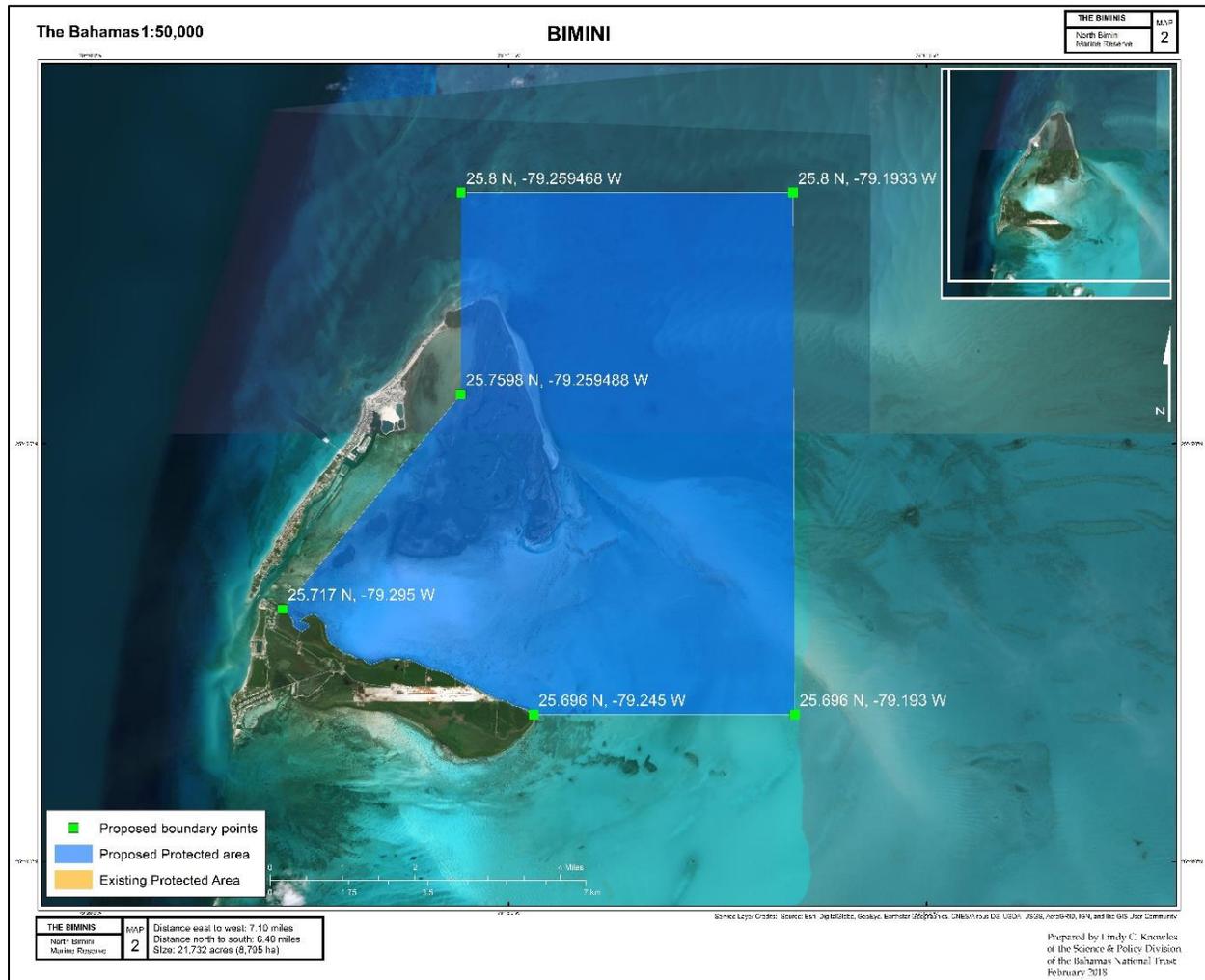
**Size:** 21,733 acres (8,795 ha)

**Conservation targets and other resources:** bonefish flats, mangroves, sand/mud, sandy beach, seagrass, patch reefs, tidal creek

**Location:** eastern half of Bimini Sound, extending to northern shore of South Bimini

**Threats:** unsustainable development, sedimentation, climate change impacts

**Proposed management:** highly protected area (or replenishment area) that will allow catch-and-release bonefishing to continue



**Site description:** This site encompasses terrestrial habitats on North Bimini and surrounding waters north of South Bimini, and north of North Bimini. The mangrove system is an important nursery habitat for lemon sharks (the subject of research by the Bimini Biological Field Station), as well as commercially important marine species. The site is one of the few mangrove systems on the western edge of the Great Bahama Bank, which makes it an important nursery area for many species on a regional scale. According to the *Bimini's Marine Protected Area Campaign* Facebook page, notable areas within the proposed boundaries include North Sound, The historic Healing Hole, North Rocks, East Wells Creek, Shark Mound, Bonefish Creek, Pirate's Well Mangrove Lagoon, the northern shoreline of South Bimini, Bimini's Central Lagoon, Bonefish Hole Lagoon and significant conch beds at East Bimini seagrass beds (<https://www.facebook.com/Bimini.Marine.Protected.Area>).

**Background:** The Department of Marine Reserves considered the area proposed as the North Bimini Marine Reserve to be a high-priority area for protected status under the Network of Marine Reserves (Stoner et al., 1999), during initial announcements in 2009. As a result, local residents launched a *Bimini's Marine Protected Area Campaign* on social media, promoting the protection of the North Bimini Marine Reserve (NBMR), which was unofficially declared in December of 2008. Boundary amendments were proposed in 2012 to incorporate nearby reef habitats and other significant features of Bimini. In 2013, numerous local, national and international stakeholders and supporters forged a movement to advocate for the protection of the expanded North Bimini marine area, which included local conservation agencies, the Bimini Biological Field Station (or Shark Lab), and the Bimini Blue Coalition. An online petition collected 703 signatures (see petition results link below) to call for the then-Prime Minister to establish the North Bimini Marine Reserve.

**Justification for inclusion:** The Bimini Biological Field Station has been conducting research in and around the island of Bimini for more than 25 years; scientists have identified 370 different species within the boundaries of the proposed North Bimini site. A total of 11 species listed as threatened or endangered (on the IUCN Red List) are found in this proposed site, including the smalltooth sawfish, Bimini boa, and three species of sea turtle (hawksbill, loggerhead and green turtle).

**Opportunities:** Catch-and-release bonefishing is an important tradition for Biminities, in addition to harvesting of land crabs ('crabbing'). Both activities take place within the proposed area. The protection of this site has received a great deal of national and international support, with advocates particularly anxious to protect it from unsustainable development, which has threatened the last remaining stands of mangroves on the west Grand Bahama Bank. Protecting this site will comply with incredible political will, ensure preservation of a key nursery area in the northern Bahamas and protect local traditions by allowing catch-and-release bonefishing and crabbing.

Online Petition Results link: [https://www.change.org/p/prime-minister-christie-minister-of-environment-dorsett-minister-of-marine-resources-gray-formalize-fully-protect-the-north-bimini-marine-reserve-no-golf-course-in-the-nbmr?recruiter=325898608&utm\\_source=share\\_petition&utm\\_medium=copylink&utm\\_campaign=share\\_petition](https://www.change.org/p/prime-minister-christie-minister-of-environment-dorsett-minister-of-marine-resources-gray-formalize-fully-protect-the-north-bimini-marine-reserve-no-golf-course-in-the-nbmr?recruiter=325898608&utm_source=share_petition&utm_medium=copylink&utm_campaign=share_petition)

**Economic value:** This site was approved as the North Bimini Marine Reserve (NBMR) in 2010 but was never officially gazetted. Management actions that reduce the risk of degradation have the potential to benefit not only seagrass, mangroves, corals, and wildlife, but also the people of Bimini that rely on these ecosystems for their sustenance, livelihoods and safety. Within the reserve:



- An estimated 19,500 tourists visit each year, spending \$3.3 million.
- Nursery habitat supports nearly \$300,000 in lobster export value and 76,505 lbs. of catch annually.
- Mangroves, seagrass, and even the small amount of coral within the reserve reduce the risk of coastal hazards for nearly half of the population of north Bimini (3,000 people), protecting \$31.2 million in income annually.
- Mangroves and seagrasses store over 3.5 million tons of carbon, worth \$46.2 million in avoided damages.

## D. CAT ISLAND

### 7. North Cat Island

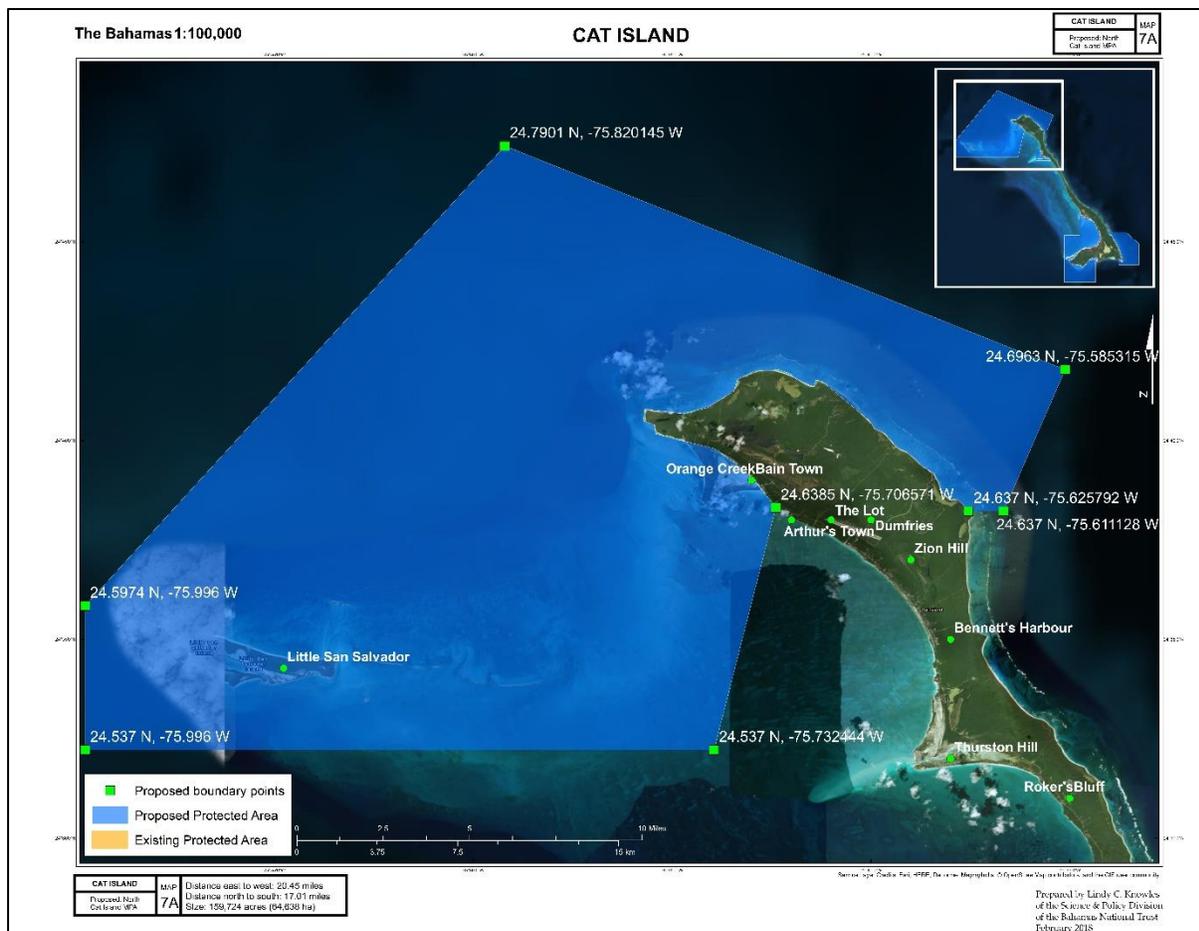
**Size:** 159,724 acres (64,638 ha)

**Conservation targets and other resources:** 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 deepwater features, land crabs, endemic plants

**Location:** North Cat Island, including Port Royal/Orange Creek and waters surrounding Little San Salvador (or Half Moon Cay)

**Threats:** invasive species (Australian pine, *Casuarina*), unsustainable development (hotel and marina), dredging, sedimentation, IUU fishing, land clearing, poaching from foreign fishing vessels and climate change (bleaching and coral diseases)

**Proposed management:** zoned for multiple uses, to allow harvesting of land crabs, catch-and-release fly-fishing, harvesting of tops (for straw handicrafts) and small-scale fishing.



**Site description:** This proposed area incorporates sites proposed by the communities of Cat Island (Port Royal and Orange Creek), in addition to the area identified as an AOI in the 2017

Ecological Gap Analysis, and takes into consideration the environment as well as stakeholder opinion. This proposed site protects large areas of mangrove forests that are crucial nursery grounds for many commercial and ecologically importance fish species. The deeper water is an important corridor for larger pelagic fish species that move in and out of the Exuma Sound.

**Rapid Ecological Assessment results:** The REA (terrestrial and marine) for Port Royal/Orange Creek was conducted in May 2017 with support from Cat Island United partners and local Fisheries Officers. The structure and composition of marine habitats were recorded at 50 sites. The wetland area is dominated by red mangroves, which create islands and an interconnected network of 1–2 m high trees growing directly out of the saltwater. Schools of the economically important bonefish were observed during field assessments. The proposed site includes the marine IBA of Tee Cay, Goat Cay and Long Rocks, important for breeding populations of roseate terns with 33 to 237 individuals documented (Irizarry & Wege, 2016).

The coastal areas are classified as coastal shrubland, which dominates most of the landscape on the Orange Creek Peninsula. Terrestrial surveys recorded 71 species belonging to 65 genera and 38 plant families, including three endemic plants: the endemic orchid (*Encyclia correllii*), *Varronia bahamensis*, and *Heliotropium nanum*. There were also two invasive plant species, *Casuarina* and *Scaevola* (Hawaiian inkberry).

**Opportunities:** Establishment of a well-managed protected area in North Cat Island can facilitate many opportunities for Cat Island residents and address a number of threats to the area, such as the invasive *Casuarina* and *Scaevola*. These plants can be removed from coastal communities to prevent further damage to the dune ecosystem and allow native coastal vegetation to re-establish itself. *Casuarina* wood can be used to build sturdy furniture pieces or can be harvested to support a coal industry. This site can facilitate the protection of habitat for the endemic orchid *E. correllii*.

The area is used for crabbing, diving, bonefishing, small-scale fishing and farming (nearby). The creation of a trail system can provide nature experiences with birding, bike riding, camping, nature walks, beach access and kayaking within the creek. This site can also offer sustainable harvesting of land crabs and thatch palm by local residents. Protection of this site may also promote the growth of conch populations, considering the presence of suitable habitat.



The structure and composition of marine habitats were recorded at 41 sites. Red mangrove communities dominate this creek system, lining its borders and forming islands. The shallow banks of the creek extend into a flat, xeric habitat, which is inundated with seawater during storm surges. Other mangrove species are found in the transitional area between the red mangrove community in the creek and the dry flats. The mangrove forests at this site are home to large populations of snappers and other fish species. A total of 30 fish species from 15 families were recorded at this site. This site contains high numbers of green turtles, as previously surveyed and documented by representatives from the Bahamas Sea Turtle Network.

The coastal habitat of the Alligator Creek site alternates between coastal rock and sandy shore communities. Terrestrial surveys recorded 37 plant species belonging to 37 genera and 27 families, including one endemic orchid, *E. correllii*, and two invasive species, *Casuarina* and *Scaevola*, in the Alligator Creek area. Antillean nighthawk eggs were observed on the rocky shoreline at the Alligator Creek site.

**Opportunities:** Protection of this site can facilitate removal of invasive *Casuarina* and *Scaevola* from coastal communities to prevent further damage to the dune ecosystem and allow native coastal vegetation to re-establish itself. This site can protect habitat for the endemic orchid *E. correllii*.

The area is used for crabbing, diving, birding, bonefishing, small-scale fishing, kayaking, guided tours, and harvesting of silver top palms, all of which can continue in a protected area, as long as sustainable practices are followed. The creation of a trail system can enhance ecotourism activities, and improved access can allow access for sustainable harvesting of thatch palms by local residents. This site provides an excellent opportunity for learning in an outdoor classroom setting. It also could support mark-and-recapture research on the resident bonefish population.

## 9. Fernandez Bay Creek and Joe Sound/Armbrister Creek

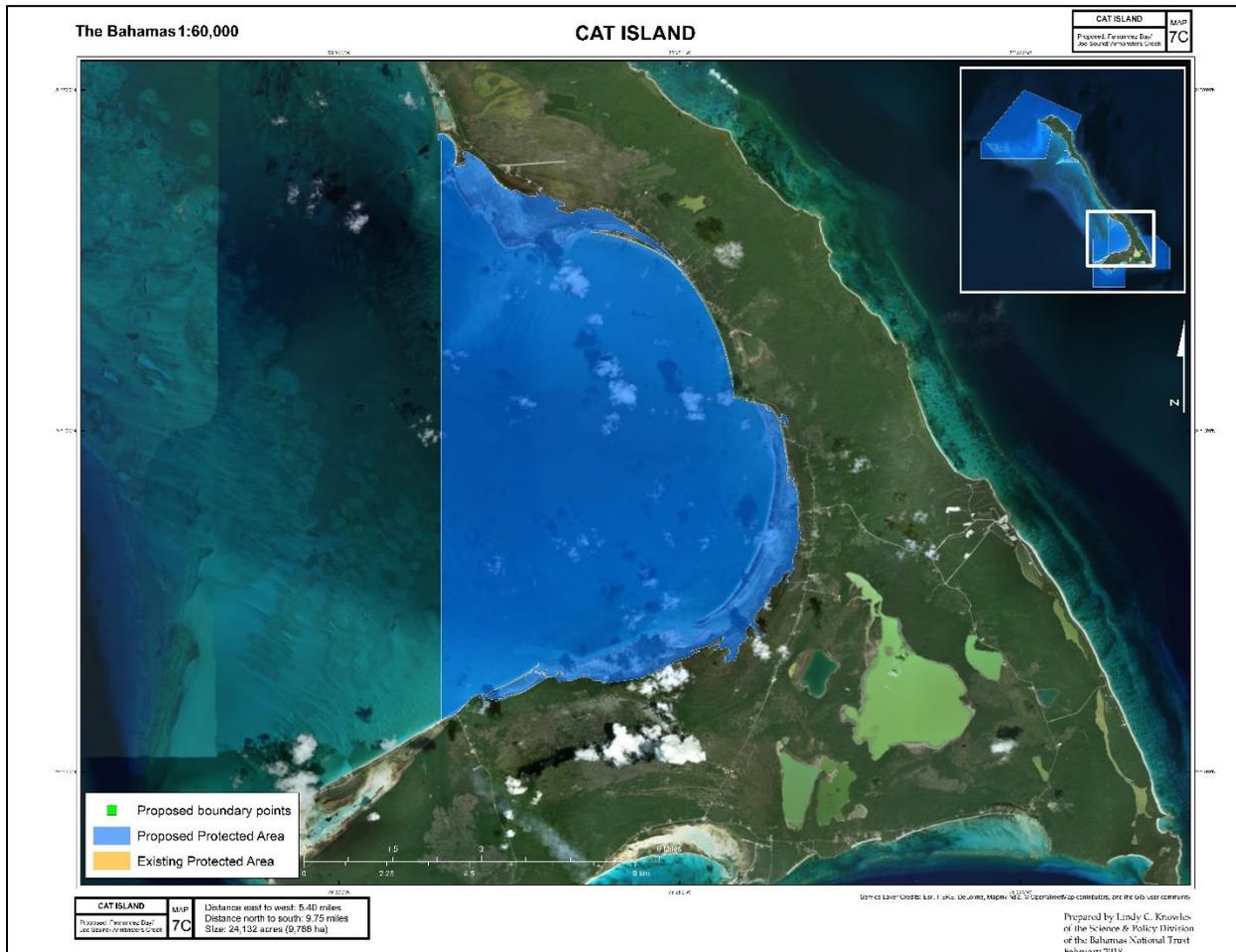
**Size:** 24,132 acres (9,766 ha)

**Conservation targets and other resources:** sandy beach, tidal creeks, bonefish flats, seagrass, turtle habitats, blue hole, rocky shore, land crabs, shark breeding site

**Location:** Southeast Cat Island, offshore from Old Bight and Moss Town settlements

**Threats:** proposed large-scale development, improper farming practices nearby

**Proposed management:** highly protected area (or replenish area)



**Site description:** This community-proposed site is located on the lower northwest side of Cat Island and includes three tidal creeks; Joe Sound Creek, Fernandez Bay Creek and Armbrister Creek. Joe Sound and Armbrister Creeks are connected and are situated near the Old Bight settlement.

**Justification for inclusion:** The Fernandez Bay Creek includes thriving populations of various species of juvenile fish and sea turtles. There are also significant populations of birds, including herons, white crown pigeons, ospreys and the critically endangered piping plovers. Joe Sound and Armbrister Creeks contain significant bonefish and sea turtle populations. Armbrister Creek flows into the infamous Boiling Hole, a blue hole and cavern system that is one of several natural

attractions for the island. Joe Sound Creek is a breeding site for nurse sharks, where spotted eagle rays are also encountered frequently. The community identified this site due to its numerous conservation targets and other resources, and opposes proposals for large development projects that can undermine the integrity of the creek systems.

**Opportunities:** Nature tours are being conducted in this area through Fernandez Bay Village, in addition to bonefishing and land crab harvesting by local residents. Protection of this area will enhance the visitor Eco tour experience and preserve the integrity of the creek and blue hole system from unsustainable development projects by promoting small-scale development.



*Cat Island meeting participants identify proposed MPAs on maps, facilitated by Lakeshia Anderson (Director of Parks, BNT) during a community meeting in July 2016. Photo courtesy of Bahamas Protected project.*

### 10. Hawk’s Nest and Cutlass Creeks

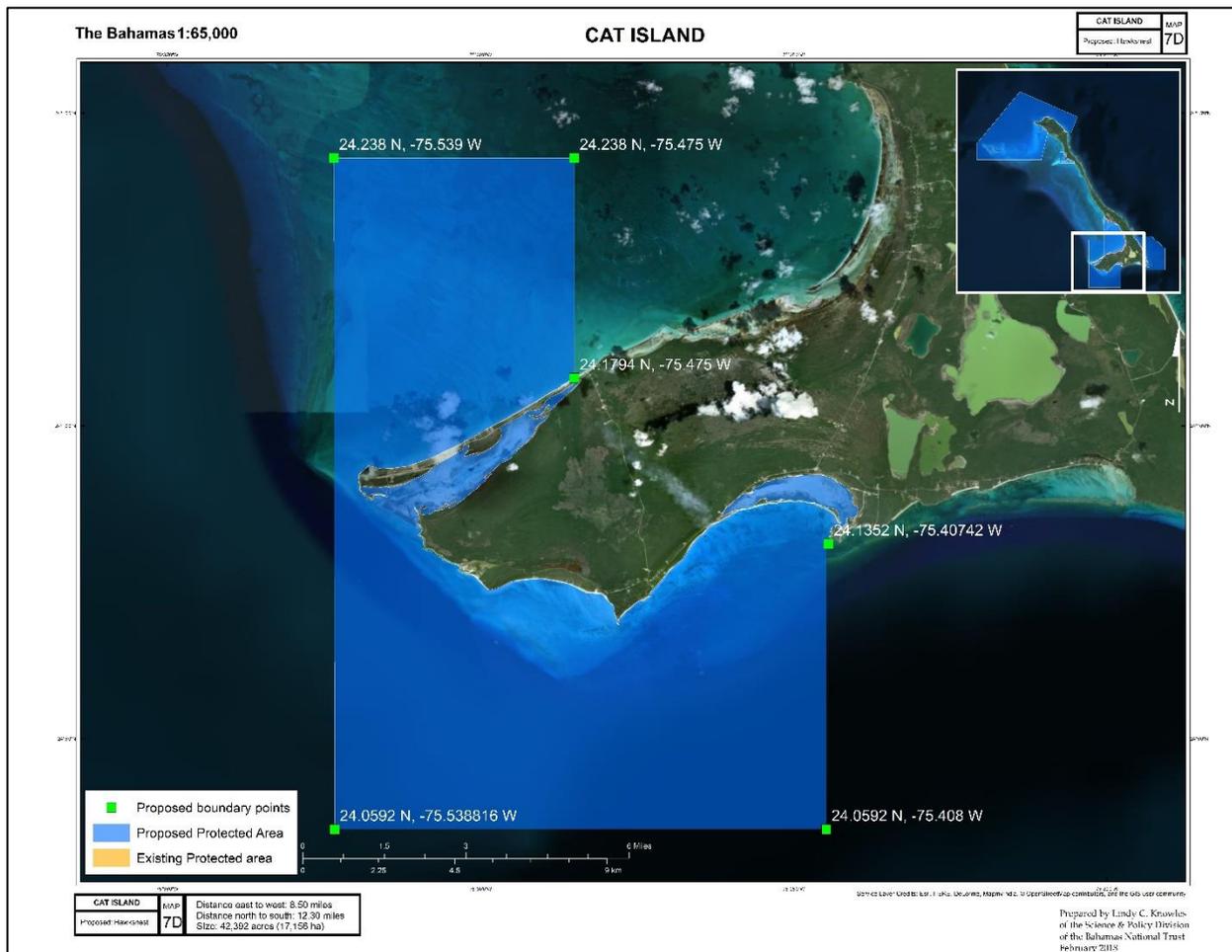
**Size:** 42,420 acres (17,167 ha)

**Conservation targets and other resources:** bonefish flats, deepwater habitat, marine IBA, turtle habitat, sandy beach, seagrass, tidal creeks, sand/mud, nursery habitat for fish, conch and turtles, coral reef system

**Location:** Southwest Cat Island, Hawk’s Nest point to Frankfort Point (Bain Town)

**Threats:** nearby improper farming practices, expansion of existing marina, IUU fishing, unsustainable development (including dredging), sedimentation

**Proposed management:** zoned for multiple use, to allow traditional activities like bonefishing and subsistence fishing



**Site description:** Hawk’s Nest Creek is located at the southwestern tip of Cat Island at Hawk’s Nest Point, extending east of Devil’s Point to include French Bay, and Cutlass Bay is located east of Hawk’s Nest Creek, extending some two miles from Devil’s Point to Frankfort Point. This community-proposed site seeks to protect the extensive mangrove and creek system, which provides nursery grounds for commercially important fish and conch, and the offshore reef system. Another reason for recommending the protection of Cutlass Bay Creek is to prevent existing development from causing irreversible damage to the adjacent mangrove system. This

site was proposed by local communities of Cat Island and identified as an AOI in the marine gap analysis.

**Justification for inclusion:** Hawk's Nest has direct access to the ocean and is deeper than the other creeks in the southern parts of Cat Island. Larger sea turtles and sharks are therefore found in this creek system, in addition to a significant number of juvenile fish, especially bonefish, and notable bird populations. Cutlass Bay is a thriving mangrove system that protects juvenile queen conch, spiny lobster, and other reef fish that spill over to the reef just beyond the bay. Hawksbill turtles and the occasional spotted eagle ray have been observed in the area. A variety of small groupers also frequent the site. The area closer to shore is used by residents for subsistence fishing for mojarra, locally called shad, and snapper. Both young and mature bonefish feed in the flats, and the offshore area is potentially a bonefish pre-spawning aggregation site. The offshore area includes a coral reef system and steep drop-off, providing connectivity from the mangrove and creek system to the reef system to support the life cycle of many commercially important fish species.

**Opportunities:** Community members requested the protection of both creek systems from large-scale development to ensure that the fishing grounds continue to be lucrative for subsistence fishing and that the bonefish habitat remains intact. Protection will promote sustainable fishing practices and limit large-scale development projects from filling in mangrove areas of the creek.

## 11. Columbus Point

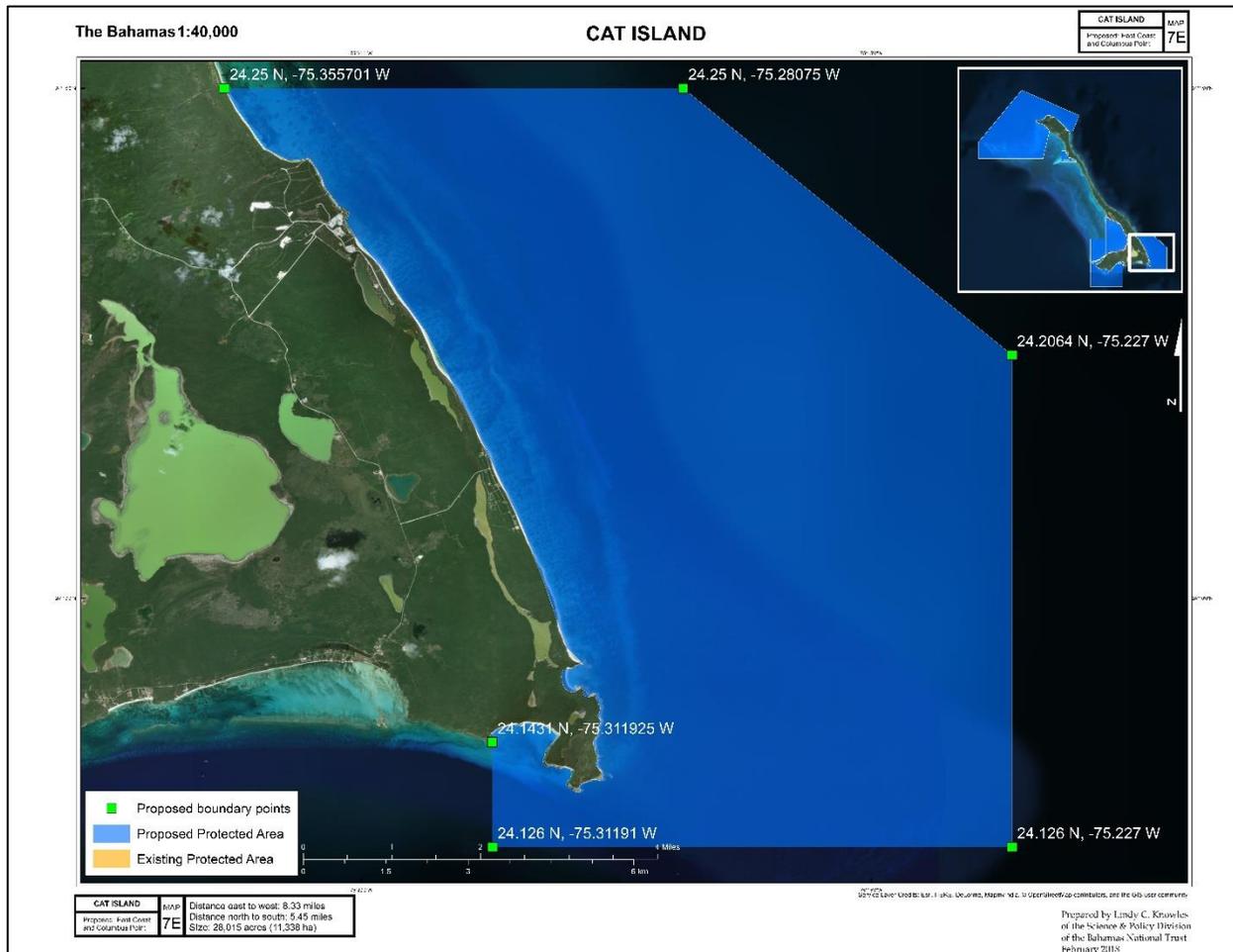
**Size:** 28,015 acres (11,336 ha)

**Conservation targets and other resources:** 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 deepwater features, coral reefs

**Location:** southeast tip of Cat Island, Columbus Point, east of Port Howe

**Threats:** uncontrolled use, poaching from foreign fishing vessels, IUU fishing

**Proposed management:** zoned for multiple purposes to control existing uses of the area.



**Site description:** Columbus Point is located on the southeastern tip of South Cat Island, east of Port Howe, extending some 5.45 miles from north to south. This site was proposed by Cat Island communities and was identified as an AOI in the ecological gap analysis due to the presence of extensive features of conservation importance. Columbus Point encompasses breath taking views of sandy beaches, provides excellent fishing grounds for pelagic fish species (especially tuna) due to its location on the edge of the shallow bank, and is a popular dive site for close encounters with oceanic whitetip sharks.

**Justification for inclusion:** Columbus Point is one of the most productive areas for deep-sea fishery resources, attracting anglers from the United States for the annual sportfishing tournament. Its deepwater features, including underwater caves and coral canyons, attract avid divers, while the abundance of oceanic whitetip sharks attract liveboard boats from the United States and New Providence. A nursery area for fish and conch and bonefish flats are found in the shallow bay area south of Port Howe, and offshore reefs extending into deeper waters provide habitat for a fish spawning aggregation.

**Opportunities:** The area is used for SCUBA diving by liveboard boats that offer shark diving trips, deep-sea fishing, sportfishing tournaments, and small-scale and commercial fishing. After the area receives protection, user conflicts will be managed by implementing zoning to allow for various uses, and more focused attention and resources will be applied to combat poaching by foreign fishing vessels.

## E. CAY SAL

### 12. Expansion of Cay Sal Marine Managed Area

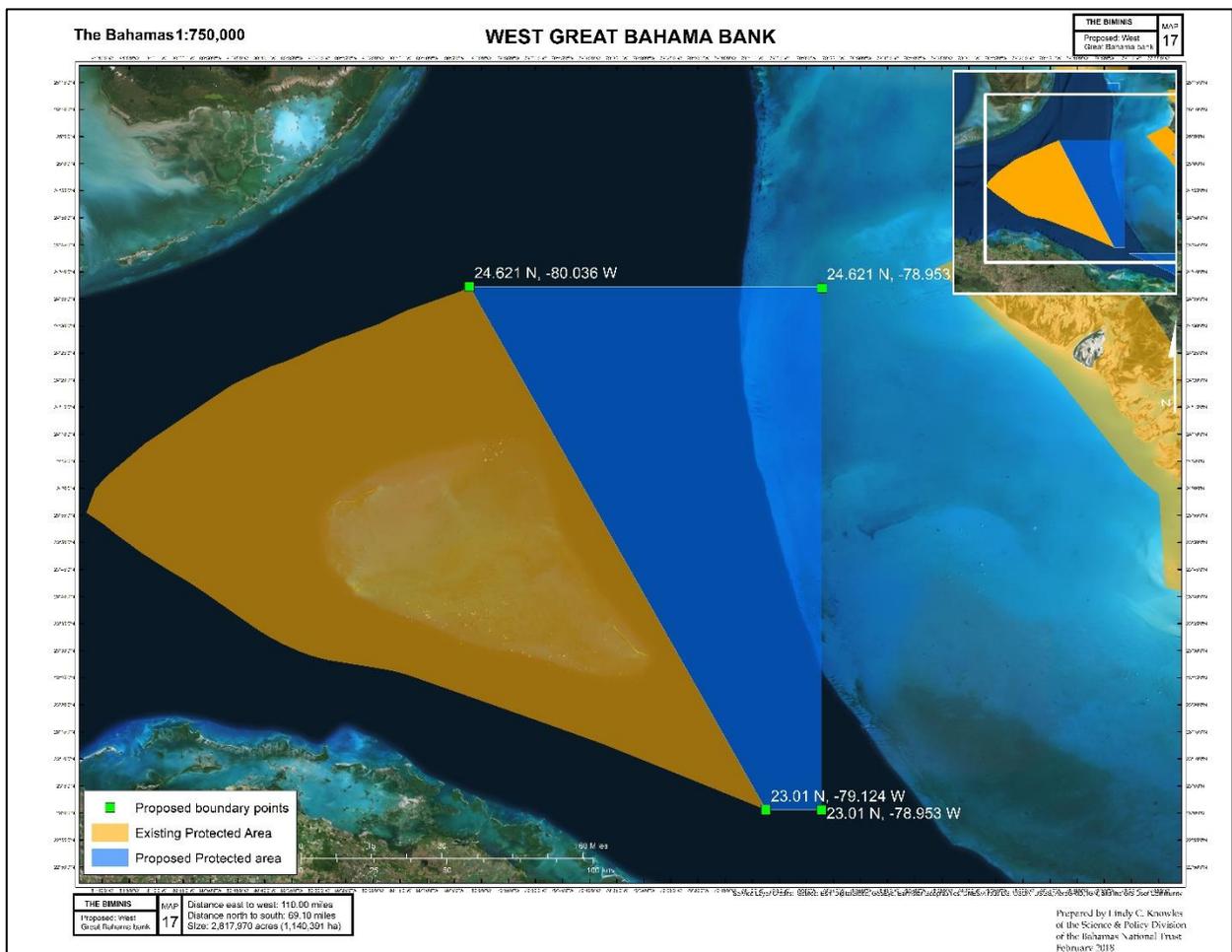
**Size:** 2,816,790 acres (1,139,916 ha)

**Conservation targets and other resources:** marine mammal habitats, hardbottom, forereefs, patch reefs, seagrass, sand/mud, turtle habitat, deepwater features

**Location:** Cay Sal bank extended to the edge of the West Great Bahama Bank

**Threats:** poaching from foreign fishing vessels, IUU fishing, major shipping lane

**Proposed management:** Fishers have requested that the area resources be monitored, and enforcement activities should increase.



**Site description:** The Cay Sal Marine Managed Area is located midway between Cuba, the Bahamas and the United States and was declared a MPA during the 2015 PA designations. The PA currently encompasses the entire Cay Sal Bank, including the islands, coral reef system and a bit of deeper water surrounding the bank (seabed). Extension of the existing PA will add an additional 2,816,790 acres to the Cay Sal Marine Managed Area.

**Justification for expansion:** This proposed expansion seeks to incorporate important bathymetric features in deeper waters, important coral reef systems on the edge of the bank, turtle feeding habitat, and important shorebird areas, including a marine IBA, all of which are underrepresented throughout the marine protected area network. These shallow and deepwater habitats are important for marine mammals, including deep-diving species (e.g., sperm whales) in Santaren Channel and bottlenose dolphins inhabiting the bank.

**Opportunities:** Expansion will enable habitat replication throughout the archipelago to ensure connectivity within the network. Protection of the expanded area will also allow enforcement and surveillance activities to tackle the major issue of poaching by foreign vessels and illegal fishing practices that are destructive to natural resources. Atlantic spotted dolphins will be afforded additional protection; this species feeds at night in the deep waters of the Santaren Channel and rests during the day in the shallow waters on the edge of the Great Bahama Bank.

## F. CONCEPTION ISLAND

### 13. Expansion of Conception Island National Park

**Size:** 145,302 acres (58,802 ha)

**Conservation targets and other resources:** marine mammal habitat, coral reefs, sand/mud, deepwater features

**Location:** east of Long Island, north of Rum Cay

**Threats:** poaching from foreign fishing vessels, IUU fishing, climate change, uncontrolled use

**Proposed management:** highly protected area (or replenishment area), where fishing and other extractive uses will not be allowed.



**Site description:** Conception Island is located on a platform that rises out of the deep ocean 15 miles east of Santa Maria, Long Island, and north of Rum Cay. The island has miles of pink sand beaches, gorgeous sandstone cliffs and an extraordinary abundance of wildlife both on land and in the sea, as well as numerous locations for spectacular scuba diving and snorkelling. The island

was one of the first places where Columbus landed and is an important sanctuary for migratory birds and green turtles, as well as a breeding site for a variety of seabirds.

Conception Island National Park (CINP) was established in 1971 to protect significant birdlife habitat and species of national and international importance. In 2010, CINP was expanded to 30,000 acres to incorporate the surrounding marine environment, which is critical for protecting the country's fisheries. The main islands, Booby Cays and South Rocks, are home to an extraordinary number of wildlife species, many of which are threatened or endangered. Tropicbirds, sooty terns, oystercatchers and ospreys make the island and cays significant areas worthy of protection. The centre of the island is a large mangrove and creek habitat, an important nursery for fish, sharks, conch and crawfish. Green turtles forage in the creek, off the southwestern shore and in the northern bay. The coral reefs and seagrass habitats in the surrounding sea are unusually healthy and are home to an abundance of sea life.

**Justification for expansion:** The marine gap analysis suggested expanding the boundaries of Conception Island National Park to encompass significant deepwater features that are important for pelagic fish species and feeding areas for marine mammals, all of which are underrepresented in the current Bahamas National Protected Area System.

**Opportunities:** Boundary expansion will allow Conception Island National Park to encompass all marine ecosystems found in The Bahamas and will ensure the replication and connectivity of key habitats that are essential for maintaining sustainable fisheries stocks.

## G. ELEUTHERA

Eleuthera does not currently have any MPAs, but adjacent habitats provide important benefits, demonstrating the potential value of MPA designation. These metrics could be used to engage diverse stakeholders (e.g., residents, fishers, tour guides) around MPA designation.



Benefits of designating an MPA here include:

- \$30 million in visitor expenditures are generated in Northern Eleuthera, \$17 million in Central Eleuthera, and \$11.5 million in Southern Eleuthera, indicating the area's high ecotourism potential.
- \$5.7 million annually in lobster export value (from 1.5 million lbs. in catch) is attributable to nursery habitat around Eleuthera. (Arkema, 2017)



*School presentation by Dr. Heather Masonjones (Professor at the University of Tampa) at Emma E. Cooper Primary School in North Palmetto Point, Eleuthera, where students learned about the unique seahorses found in Sweetings Pond, March 2018. Courtesy of Dr. Heather Masonjones.*

### 14. West Schooner Cays Marine Managed Area

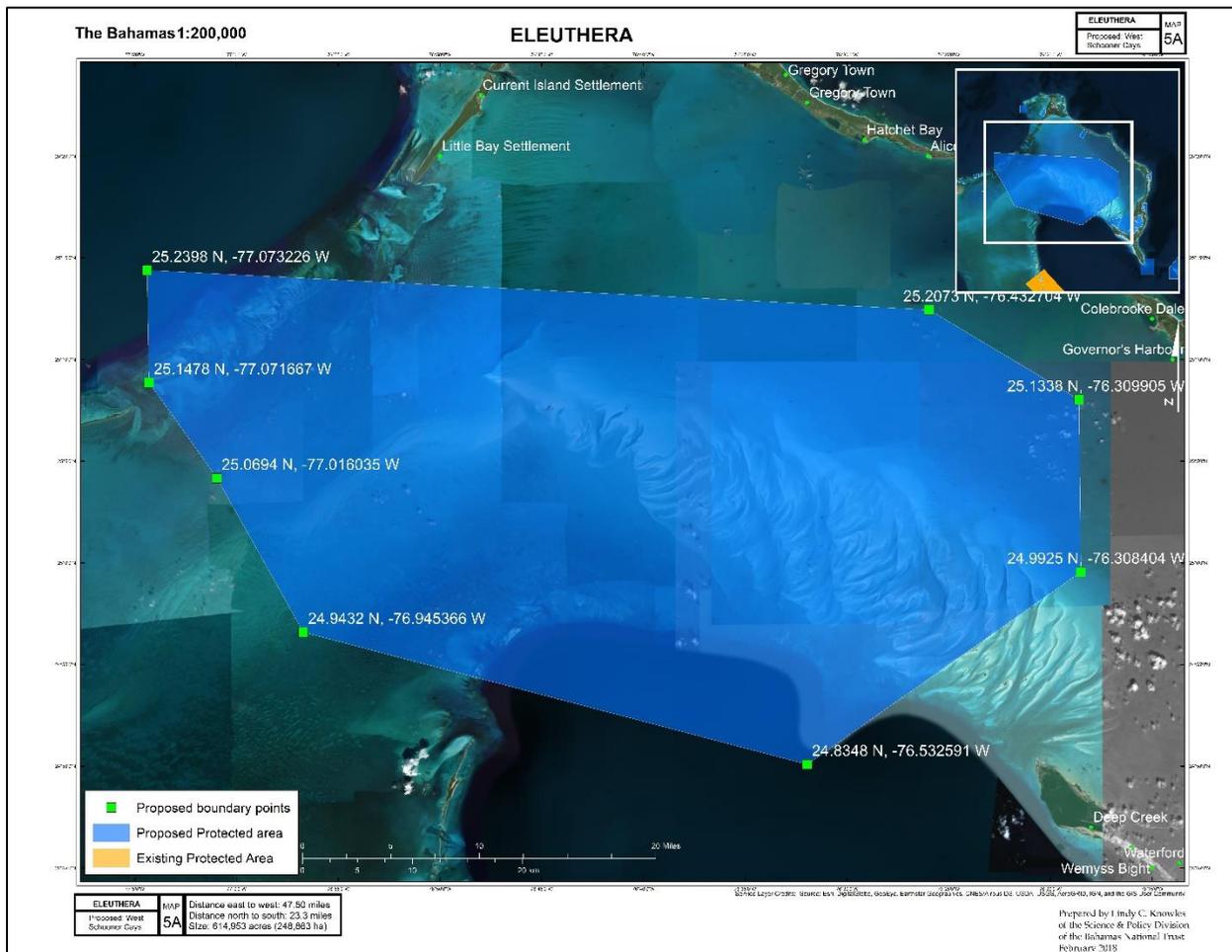
**Size:** 614,953 acres (248, 863 ha)

**Conservation targets and other resources:** marine mammal habitats, hardbottom, coral reefs, fish spawning aggregation, marine IBA, important deep water features, mangroves, nursery area (for fish and conch), patch reefs, turtle habitat, sand/mud, seagrass, seabirds (royal tern)

**Location:** western side of Eleuthera, between Rose Island and Eleuthera

**Threats:** overfishing, uncontrolled use, IUU fishing

**Proposed management:** The area will be zoned for multiple uses, to allow fishing and recreational activities that are not detrimental to its key features. Zoning of specific areas will be finalized with the participation of local stakeholders and resource users from other islands.



**Site description:** The area to the west and northwest of the Schooner Cays encompasses a variety of marine habitats ranging from deepwater areas of Exuma Sound in the South and Northeast Providence Channel in the north, to coral reefs, shallow sand banks and seagrass beds in between. This area captures a wide range of marine habitats and species inhabiting these habitats, making its protection a priority based on scientific criteria and available data in the update of the Ecological Gap Analysis.

**Justification for inclusion:** Available data for this area indicate that this part of the Great Bahama Bank contains a wide range of conservation targets. This is largely due to the diversity of habitats encompassed in the proposed protected area, including shallow coral reefs, seagrass beds and sand flats as well as deepwater features off the shelf edge. Multi-species spawning aggregations are reported to occur in this area, with Nassau grouper reported to spawn in the Tommy Sound area, and black grouper observed to aggregate in the area as well. Reefs to the north and south of the area provide habitat to many important fish species, as well as crawfish, and the small rocks and cays in the area support marine bird populations. The area is also important for marine mammals, as it includes feeding habitat for groups of bachelor (immature male) sperm whales, short-finned pilot whales and three species of beaked whales (BMMRO communication). Protecting this area has the potential to support populations of key species throughout much of the central Bahamas.

**Opportunities:** The proposed area is within day-trip range of New Providence, Eleuthera and the northern Exuma Cays, providing the potential for tourism opportunities. It is also an area frequented by liveaboard dive boats operating out of Nassau. The location of this proposed MPA is ideal for marine research projects due to its proximity to scientific institutions. In addition, protected status would strengthen relationships with nearby fishing communities on Eleuthera, through ecotourism opportunities and education and outreach initiatives.

### 15. Egg Island

**Size:** 5,570 acres (2,254 ha)

**Conservation targets and other resources:** sandy beach, mangroves, coral reefs, rocky shore, fish spawning aggregation, hardbottom, patch reefs, turtle habitat, seabirds (nesting), marine mammal habitat

**Location:** North Eleuthera cays, south of Spanish Wells

**Threats:** unsustainable development

**Proposed management:** zoned for multiple uses as determined by local stakeholders, who wish to co-manage with BNT.



**Site description:** This proposed area will cover the land, and marine environments surrounding Egg Island, off North Eleuthera. This area will protect a fish spawning aggregation site, some patch reef and hardbottom, seagrass and important habitats for turtles and commercially important reef species. For over 20 generations, the people of Spanish Wells and surrounding communities have revered and protected Egg Island for its natural beauty and bountiful fisheries.

**Justification for inclusion:** Egg Island is one of the last undeveloped small islands in the Eleuthera chain and is located near Spanish Wells. The island holds cultural, historical and environmental significance not only for local residents, but also for the Bahamian people as a whole. Egg Island hosts a variety of healthy ecosystems, including mangroves, coral reefs, salt ponds, rocky shoreline and beach. The island's clear, surrounding waters serve as a spawning aggregation site for grouper, few of which remain in the country. Two sun-drenched and undisturbed beaches are used by nesting turtles, while endangered seabirds nest in peace along the shoreline. Juvenile conch and myriad species of reef fish, vital to the health of the near-shore reef system, mature safely within Egg Island's two clear salt ponds. The proposed area is also important for marine mammals, as it provides feeding habitat for sperm whales and Cuvier's beaked whales (BMMRO communication). Although Egg Island is public land, it is under constant threat of sale or lease by the government until and unless the island is granted protected park status (Proposing organization/individual communication).

**Opportunities:** In 2016, Egg Island received international recognition as a "Hope Spot" designation, along with 13 other sites globally. Hope spots are marine areas of ecological significance, recognized and promoted for long-term protection under a global conservation campaign overseen by Mission Blue, a nonprofit organization founded by Dr. Sylvia Earle (<https://mission-blue.org/2016/09/hope-spot-nominations-open-to-the-public/>).



*Community meeting in Spanish Wells, Eleuthera, May 2018. Photo courtesy of Bahamas Protected project.*

### 16. Seahorse National Park

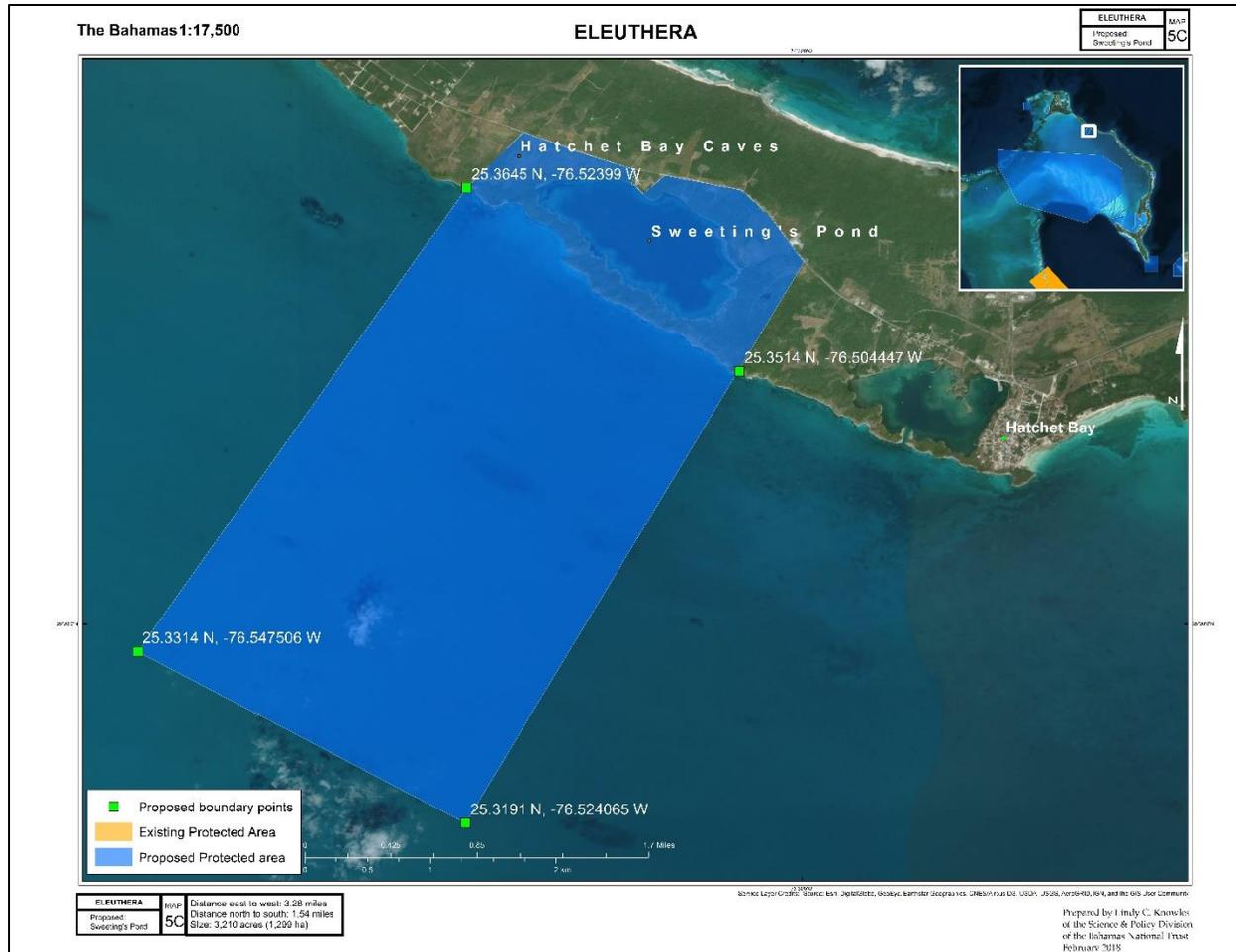
**Size:** 3,210 acres (1,299 ha)

**Features:** unique ecosystem, anchaline pond, cave system, seahorses

**Location:** Sweetings Pond and Hatchet Bay Caves, north of Hatchet Bay, North Eleuthera

**Threats:** farming, IUU fishing, climate change, unregulated ecotourism, unsustainable development, pollution, invasive alien species, natural disasters

**Proposed management:** highly protected area, with zones determined around the edge of the pond to support ecotourism opportunities (no extraction from Sweetings Pond).



**Site description:** The area proposed includes Sweetings Pond, Hatchet Bay Caves and the surrounding upland area. The unique geology and history of the cave system, pristine plant communities along the ridge between the pond and the ocean, and endemic seahorses, abundant octopi, and unusual biology of the pond make this site an excellent candidate for protection. Sweetings Pond is an anchaline pond, a truly unique ecosystem. This inland marine environment maintains its salinity through small connections to the sea through porous limestone rock. While many anchaline ponds have unique ecosystems where ordinarily rare species may be able to thrive due to lack of predators, what makes Sweetings Pond special is the fact that here the threatened lined seahorse, *Hippocampus erectus*, thrives in numbers not seen

elsewhere. In addition to seahorses, mithrax crabs and octopi also occur abundantly and bioluminescent plankton live in the water, providing a unique night snorkelling experience.

**Rapid Ecological Assessment results:** REAs were completed in and around Sweetings Pond by The University of Tampa (Dr. Heather Masonjones) in collaboration with the Bahamas National Trust (Dr. Ethan Freid). Biologically, the cave contains two endemic species that found only in this cave system and nowhere else. Sweetings Pond has a varied benthos, with extensive and diverse bivalve molluscs lining the bottom, coral, an array of sponges and an assortment of algal species, surrounded by both primary forest and mangroves, as well as secondary growth regions and areas that are being actively farmed. The seahorse population was originally described as *Hippocampus reidi*, the slender seahorse. More recent genetic work indicates that they are lined seahorses (*H. erectus*) whose morphological features suggest that they are a unique subpopulation of animals (Rose et al., 2016). This population represents one of the most dense populations of seahorses in the world, confirmed by biologists from the conservation organization Project Seahorse. Fish diversity in the pond system overall is low, with a very small population of groupers and snappers, reportedly stocked in the 1970s, with no other large predatory fish observed. There are, however, large populations of both majid crabs and octopi that have both been harvested in the past. Based on a recent survey by Cape Eleuthera Institute biologists, this pond system is unique among others surveyed on Eleuthera, and the seahorse population alone warrants protection, given their CITES Appendix II listing and the confirmation that Sweetings Pond contains a distinct *H. erectus* subpopulation.

**Opportunities:** With protection of the delicate ecosystem and investment in infrastructure, Sweetings Pond may provide educational opportunities for students and researchers as well as the potential to develop small-scale ecotourism to benefit the local economy.



Aerial photo of Sweetings Pond, Eleuthera. Photo courtesy of Dr. Ethan Freid, BNT.

17. Savannah Sound and Plantation Reef

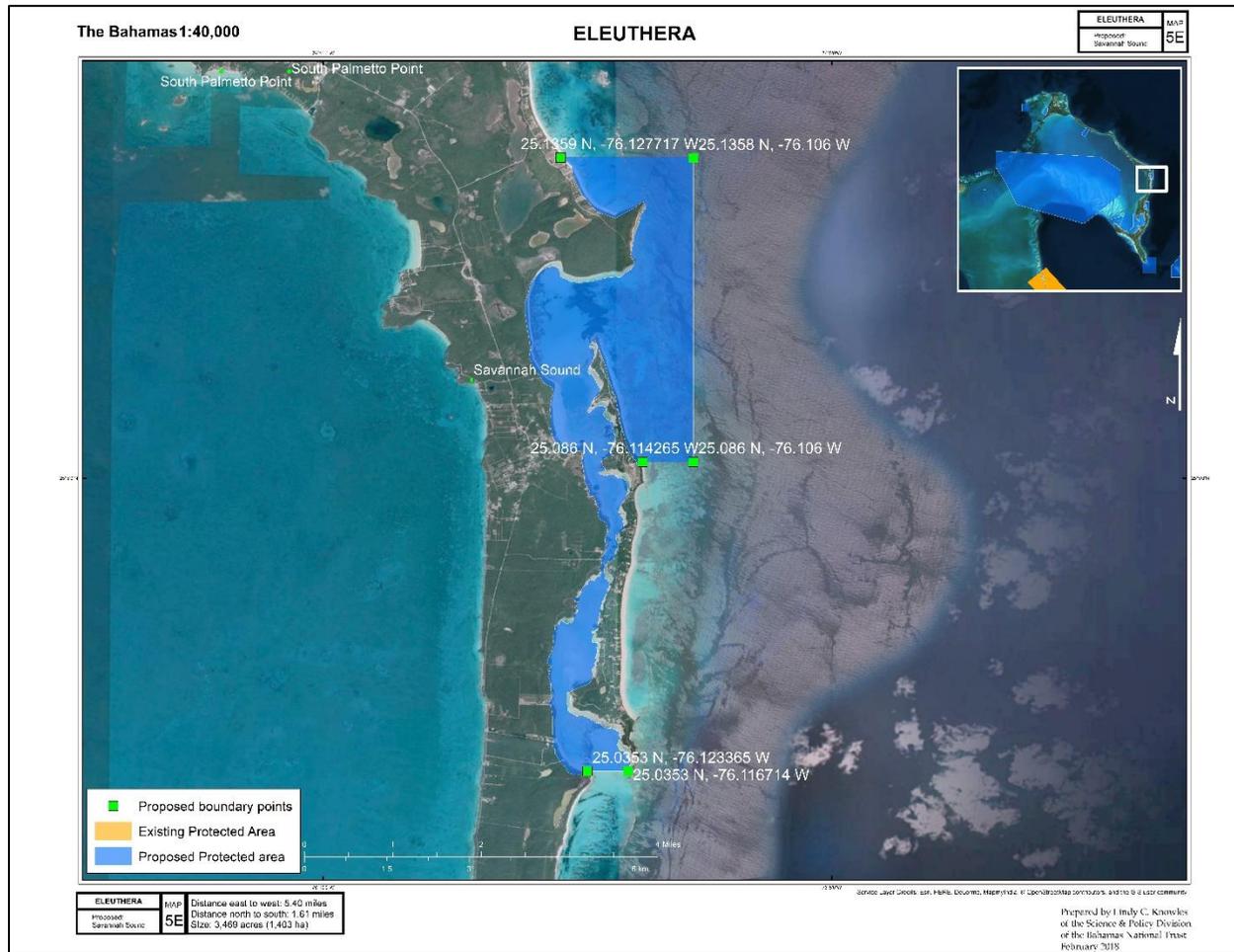
**Size:** 3,468 acres (1,403 ha)

**Conservation targets and other resources:** Turtle habitats, mangroves, nursery area (for crawfish, conch and reef fish), bonefish habitat, seagrass

**Location:** eastern side of central Eleuthera

**Threats:** overfishing, IUU fishing, vessel grounding, anchor damage, climate change, dredging, sedimentation, unsustainable coastal development

**Proposed management:** highly protected area (or replenishment area), to enable recovery of fish stocks.



**Site description:** Lying in central Eleuthera along the eastern side of the island between Windemere Island and mainland Eleuthera, Savannah Sound is one of the few sheltered sounds along the eastern side of the island. Its shallow waters and lush seagrass beds provide food and shelter to juvenile green turtles. Algal covered hardbottom habitats throughout the sound are nursery habitat for spiny lobster and several fish species, and the mangroves fringing both sides of the sound are teeming with life, including snappers, grunts, parrotfish and groupers. Plantation Reef off the northern end of Windemere Island includes nearshore ledges, a high-relief reef crest dominated by living and dead elkhorn coral structures, and deeper reef areas with low-relief spur

and groove hardbottom. Savannah Sound and Plantation Reef were proposed as MPA sites by nearby communities and are presented as one site due to their close proximity and connectivity.

**Rapid Ecological Assessment results:** An REA conducted in August 2017 found that the mangroves at Savannah Sound were among the most productive surveyed to date in The Bahamas, with a high diversity of species on average, and a high density of fish, particularly grunts (Dahlgren et al., 2017). Mangroves also stood out for the number of juveniles of large-bodied parrotfish species, which are important grazers on coral reefs. Other species of interest, including juvenile Nassau grouper, queen conch and even green turtles, were also found in the mangroves at several sites. The high abundance of juvenile fish in mangroves, including snappers, grunts, parrotfish, barracuda and Nassau grouper, suggests that this system is an important nursery for surrounding reefs. Unfortunately, the fish populations on offshore reef areas do not reflect the productivity of the nursery creek area and require immediate protection. Moreover, the corals that created these massive reef structures are dead and starting to suffer from bioerosion and wave action that is reducing reef structures to rubble. While reefs on the Atlantic side of Eleuthera have been degraded due to temperature stress, disease and other factors, the Plantation Reef is in better condition than surrounding areas. Some intact stands of endangered elkhorn coral were observed in this area, and fish populations included a relatively high abundance of grazing species, such as parrotfish and surgeonfish, that are vital for maintaining reef health.

**Opportunities:** Development on Windemere Island and on mainland Eleuthera threatens the sensitive habitats within Savannah Sound, including mangrove and seagrass nurseries and bonefish flats. If the site is protected from these threats and access to sensitive habitats is restricted, the continued productivity of the ecosystem can be maintained. Sustainable tourism (kayak tours, bonefishing) is compatible with ecosystem protection. Protection of the Plantation Reef area will help safeguard the reef and fishery resources, providing a replenishment refuge to support populations within and outside the protected area. There is also potential to conduct coral restoration and other activities to help jump-start recovery of the reef, improve habitat quality and promote other ecosystem services like shoreline protection.

### 18. Half Sound, North and South

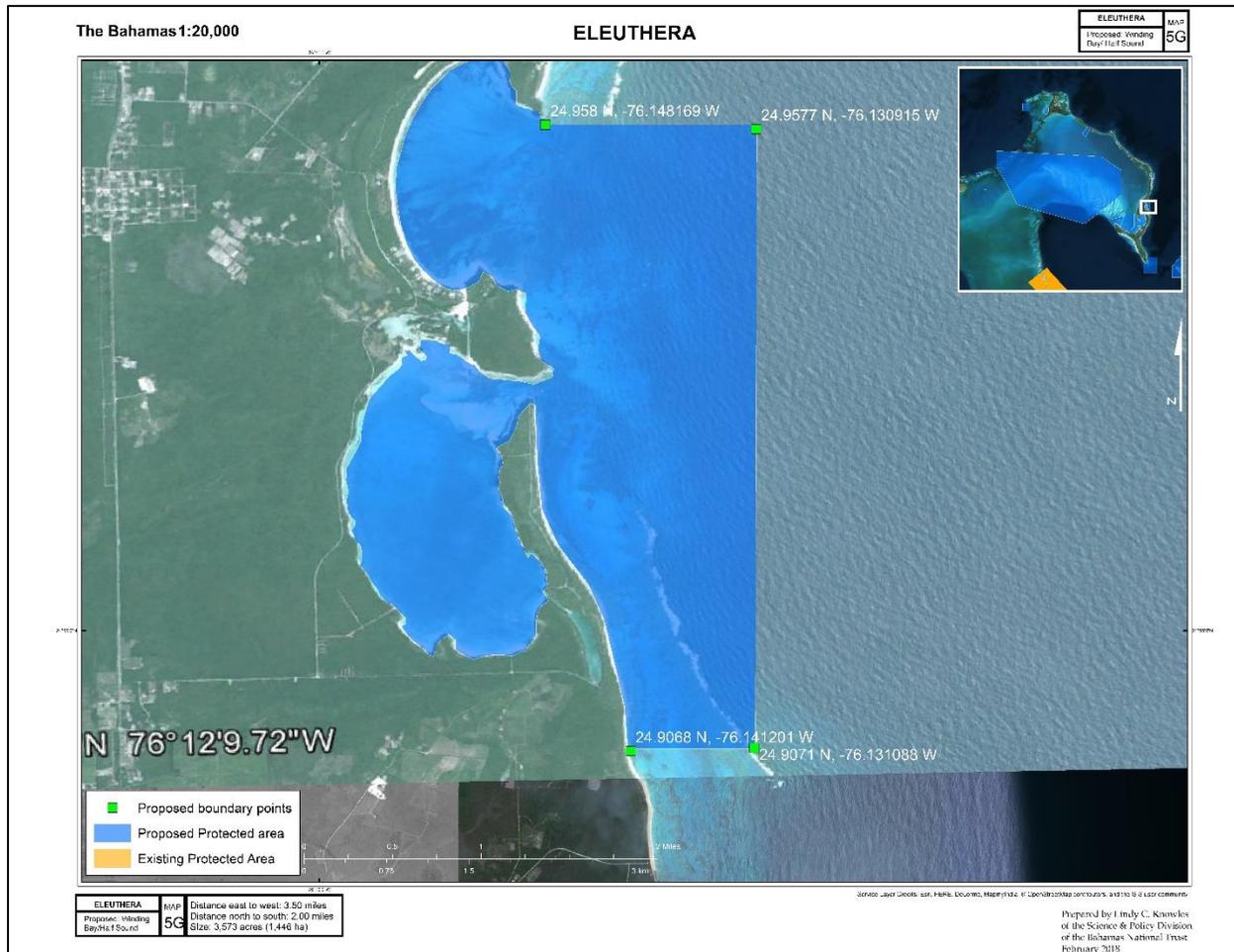
**Size:** 3,573 acres (1,446 ha)

**Conservation targets and other resources:** Turtle habitats, mangroves, nursery area (for reef fish)

**Location:** eastern side of central Eleuthera

**Threats:** unsustainable development, poor water quality, sedimentation, climate change

**Proposed management:** zoned for multiple uses, as determined by local stakeholders



**Site description:** Besides Savannah Sound, Half Sound North and Half Sound South are the only other semi-enclosed sound systems on the eastern side of Eleuthera. The extensive fringing mangrove system of Half Sound provides a nursery habitat for many reef fish, and the interior seagrass beds are a haven for sea turtles. The near-shore nursery habitats within Half Sound are likely to support the health of the coral reefs immediately outside and adjacent to the sound. These coral reefs are among the healthiest on the Atlantic side of Eleuthera and support documented spawning colonies of endangered elkhorn coral. Both sounds were proposed by the nearby communities as MPA sites to ensure the long-term protection of a nursery area for their communities.

**Opportunities:** Protection of this area should enable the mangrove and seagrass systems within the sounds to continue to provide critical nursery habitat to a wide range of species living both within and outside the sound as adults. Protection and investment in infrastructure, such as kayak launching platforms, will provide ecotourism opportunities to support the local economy.

### 19. South Eleuthera Marine Managed Area

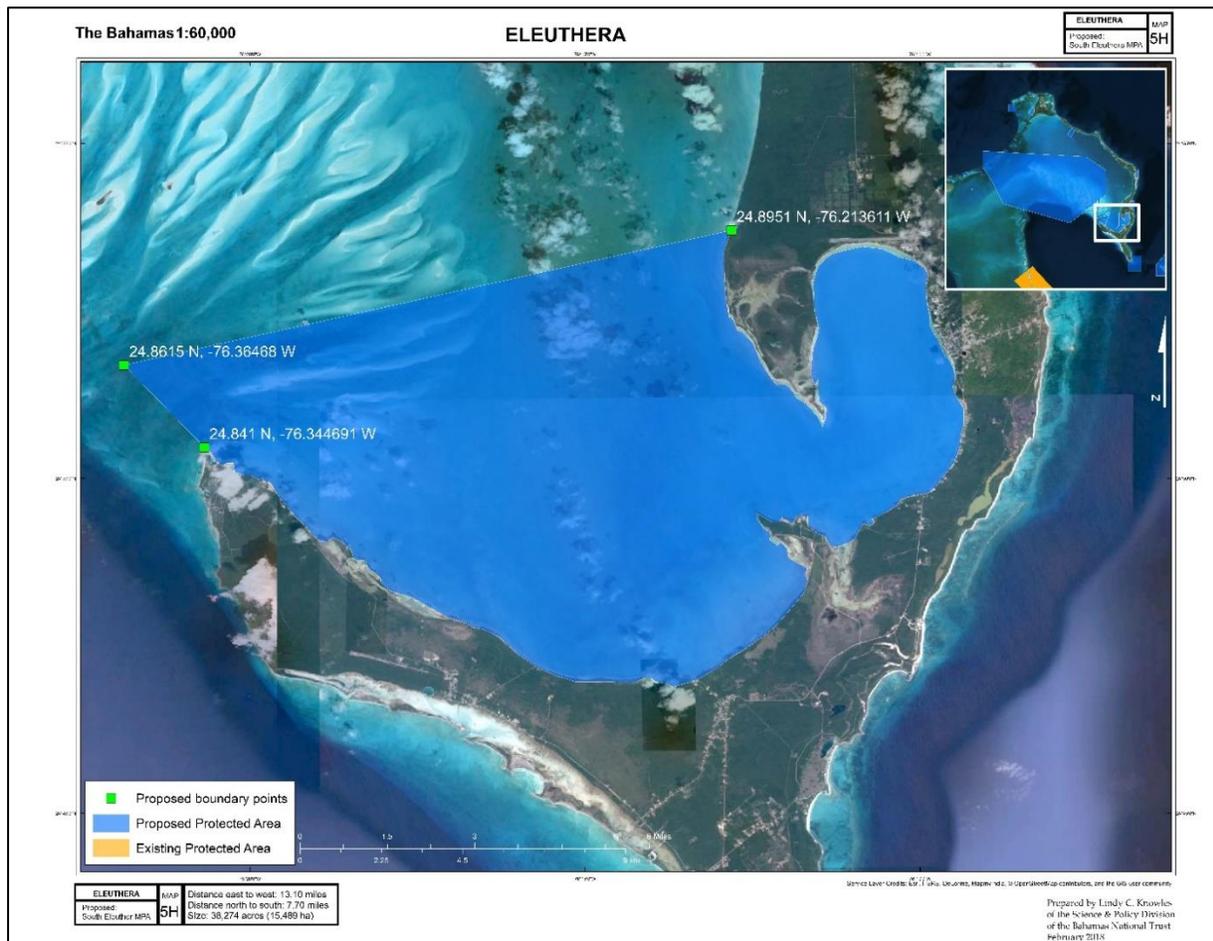
**Size:** 38,274 acres (15,489 ha)

**Conservation targets and other resources:** blue holes, fish spawning aggregations, patch reefs, nursery area for fish, lobster and conch, mangroves, sand/mud, bonefish flats

**Location:** west of Rock Sound settlement in South Eleuthera, cove area from Powell Point to Poison Point

**Threats:** overfishing, IUU fishing, coastal development

**Proposed management:** South Eleuthera residents recommended the area be zoned to allow traditional uses by local communities. Local fishers will be involved in the management planning process for zoning.



**Site description:** The site is located between Rock Sound and Cape Eleuthera and includes a shallow bank area with abundant patch reefs. It serves as important habitat for juvenile and adult reef fish, as well as conch, bonefish and other species. Areas off the Green Castle settlement also

have an interconnected system of marine blue holes linked to the blue holes found within the proposed area.

**Justification for inclusion:** The South Eleuthera Marine Managed Area was proposed as the South Eleuthera Marine Reserve in 1999 and again in 2014, under the Network of Marine Reserves, to be managed as a no-take area by the Department of Marine Resources. The area proposed initially included an area around Powell Point and the Schooner Cays off Cape Eleuthera. This area was among the highest ranked areas during a scientific review of proposed fishery reserve sites by Stoner et al. (1999), considering its conch, lobster, grouper, and coral reef habitats. The proposed fishery reserve area and surrounding areas for South Eleuthera were extensively studied in the late 1980s and early 1990s as a focal site for the Perry Institute for Marine Science/Caribbean Marine Research Center’s Fisheries Oceanography and Recruitment in the Caribbean and Sub-Tropics (FORECAST) research program. As a result, there are numerous published accounts on habitats within the area, as well as information about the status of its conch and lobster stocks. These studies have shown that the reef area near Cape Eleuthera provides important lobster habitat, and the area around the Schooner Cays contains some of the highest conch densities in the Bahamas. Due to social concerns, the initial areas proposed have been modified to encompass the cove area from Powell Point to Poison Point. This proposed area contains important inshore areas for conch, juvenile lobsters and juvenile reef fish, including snappers and groupers. Habitats within the current proposed area include extensive sand, seagrass and low-relief hardbottom habitats. The proposed area also includes several mangrove-lined tidal creek systems, conch habitat and nurseries for lobster, Nassau grouper and several snapper species. During more recent stakeholder consultations under the *Bahamas Protected Project* in 2016, the communities of South Eleuthera provided two boundary options for the protection of this site, but they implored that consideration be given to the traditional uses of the area, which include the “hauling of jacks during the summer months.

**Opportunities:** Designating the South Eleuthera Marine Managed Area presents an opportunity to work with the local community of South Eleuthera and to allow entrepreneurs to start ecotourism activities, while also allowing traditional activities to co-exist. Considering the challenges of harvesting juvenile conch and lobster in this area, a critical step would be to develop and implement an education and outreach programme that focuses on conservation and environmental stewardship. The area has extensive data sets from the Cape Eleuthera Institute, and its protection will support further marine research in this area.

## 20. Deep Creek

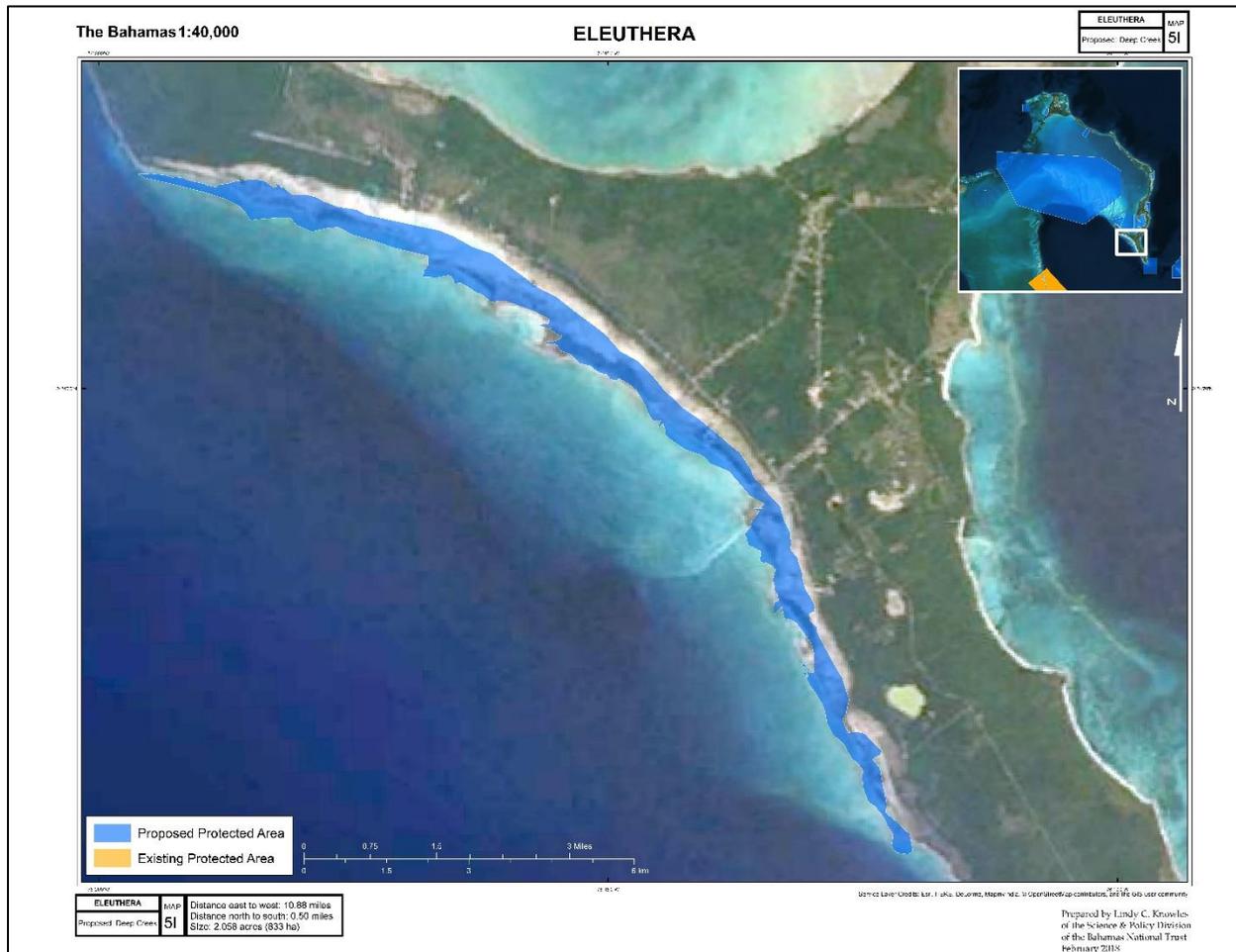
**Size:** 2,058 acres (833 ha)

**Conservation targets and other resources:** nursery area, mangroves, bonefish flats

**Location:** South Eleuthera

**Threats:** IUU fishing, unsustainable development

**Proposed management:** Residents of Deep Creek have voiced their concerns that the area should allow the subsistence fishing that is taking place in the area to continue. The site will therefore be zoned with local participation to allow such practices, using sustainable fishing techniques.



**Site description:** The proposed Deep Creek site runs along the southern coast of South Eleuthera, extending 10.88 miles east of Deep Creek to John Millars settlement. This area was proposed by the community of Tarpum Bay to protect the mangrove system and flats in the southern areas, which are threatened by IUU fishing practices, in addition to unsustainable development that can fill in the wetlands and destroy nursery grounds for fish, conch and lobster. The Deep Creek community depends on this area for subsistence fishing, so management of the area will allow fishing by locals that is sustainable and not detrimental to the area.

**Opportunities:** Protected status will provide an opportunity to develop and implement education and outreach activities in South Eleuthera on sustainable fishing methods, offer ecotourism-based business opportunities, and safeguard nursery habitats that are essential to the livelihoods of South Eleuthera communities.

### 21. Lighthouse Point Marine Area

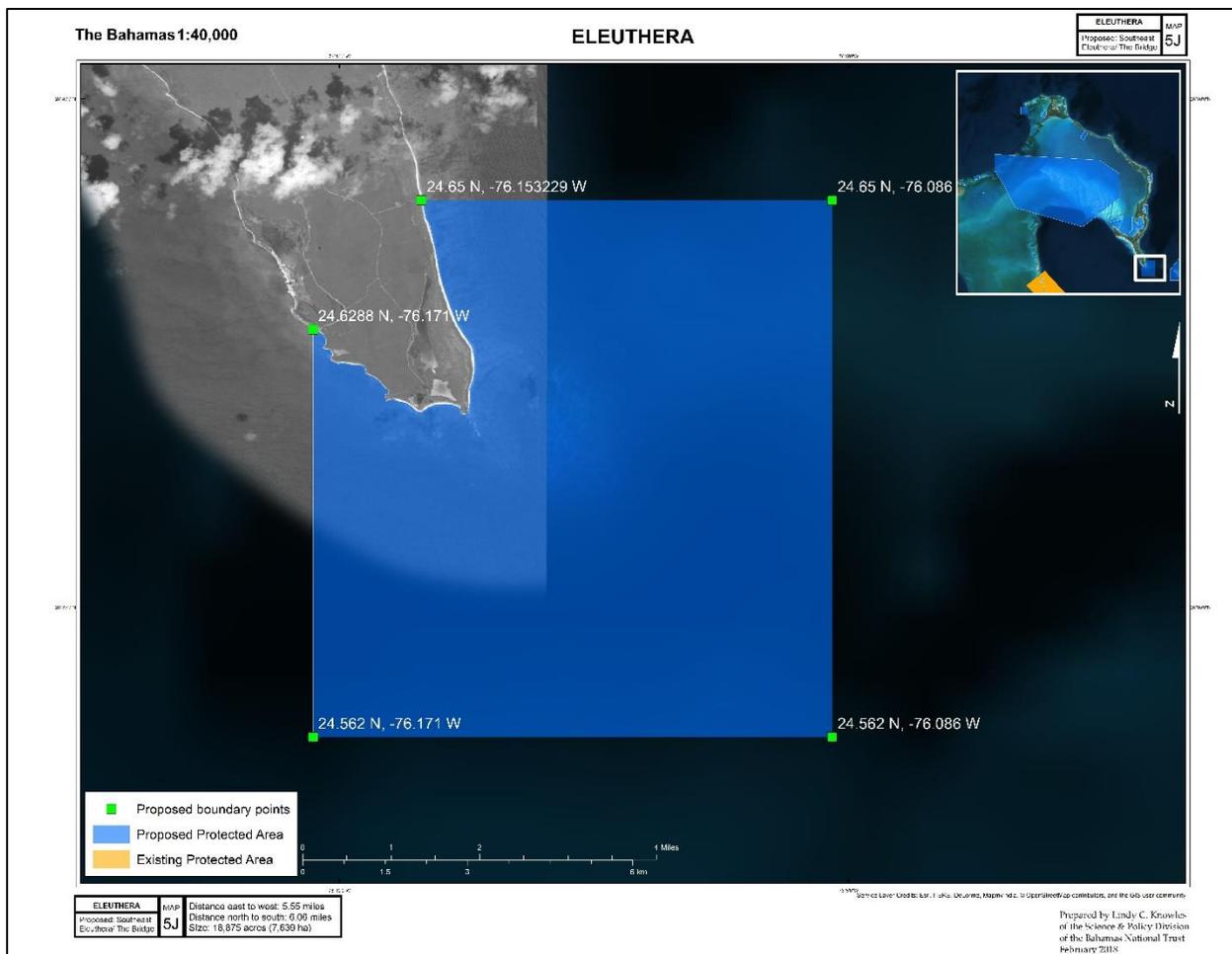
**Size:** 18,876 acres (7,639 ha)

**Conservation targets and other resources:** sand/mud, sandy beaches, seagrass, patch reefs, deepwater features

**Location:** South Eleuthera

**Threats:** unsustainable development

**Proposed management:** zoned for multiple uses as determined by local stakeholders



**Site description:** The proposed Lighthouse Point marine area is located in the southeastern tip of Eleuthera, extending 6 miles south from John Millar’s settlement. The area only includes the marine component of Lighthouse Point and will include the waters up to the high-water mark extending offshore into the reef system and deep ocean to capture deepwater features.

Lighthouse Point is iconic for its aesthetic beauty, with miles of pink sandy beaches and cliffs overlooking beautiful crystal-clear waters.

**Justification for inclusion:** The waters immediately around Lighthouse Point harbour a diversity of marine habitats, including seagrass beds, reef crest habitats and deeper forereef areas. While the reef has suffered from a reduction in live coral cover, healthy colonies of endangered staghorn coral and other species remain and can help repopulate the area.

**Opportunities:** Conservation groups and local communities of South Eleuthera have joined forces to advocate against proposed large-scale commercial development and to promote the protection of Lighthouse Point in the *Save Lighthouse Point* campaign. Considering the need to create jobs and the fact that the majority of the abutting land is privately owned, the group encourages the creation of an ecofriendly boutique resort, to coexist with a land and sea park for South Eleuthera through a public–private partnership. This concept, as opposed to an unsuitable development model, will preserve the integrity of a culturally significant area, benefit the local community through new employment and entrepreneurial opportunities and safeguard the ecological value of the area.



Local residents identifying areas on a map to be proposed as new MPAs, during a community meeting in Tarpum Bay, Eleuthera, September 2016. Courtesy of Bahamas Protected project.

## 22. Corrie Sound

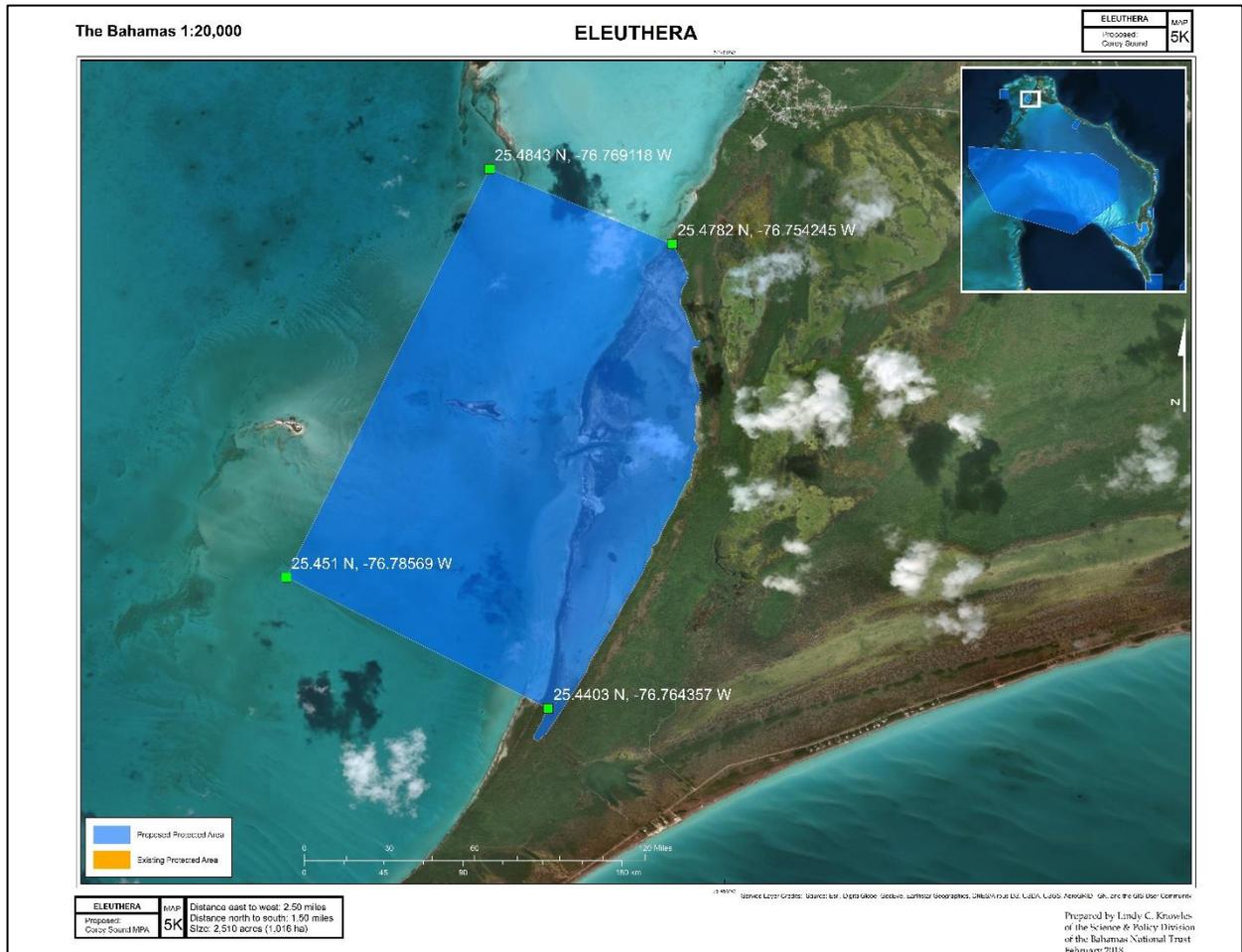
**Size:** 2,510 acres (1,016 ha)

**Conservation targets and other resources:** mangroves, nursery area for fish and conch, sand/mud, bonefish flats

**Location:** North Eleuthera, southwest of the Bluff settlement

**Threats:** IUU fishing, unsustainable development

**Proposed management:** highly protected area (or replenishment area), as recommended by the Spanish Wells community during a stakeholder meeting in May 2018



**Site description:** The area is located just southeast of the Bluff settlement and 4 miles west of Lower Bogue. It is a wetland system known by locals as productive nursery grounds for a variety of fish species. The communities of Spanish Wells and North Eleuthera proposed this site during stakeholder consultations in 2018 under the *Bahamas Protected* project and have proposed that the site be closed off from extractive uses to replenish fishery stocks offshore.

**Justification for inclusion:** The Corrie Sound and its surrounding wetlands and coastal ridges are important breeding sites for water birds and marine life (BNT Park Proposal Document, 1983). The adjacent waters are nursery grounds for lobster, conch and fish and are threatened by illegal fishing practices and future development projects.

**Opportunities:** Protection of this site will ensure the productivity of the nursery area, which feeds into offshore reef and deepwater areas in North Eleuthera and beyond.

## H. Exuma

### 23. Southern Exuma Cays

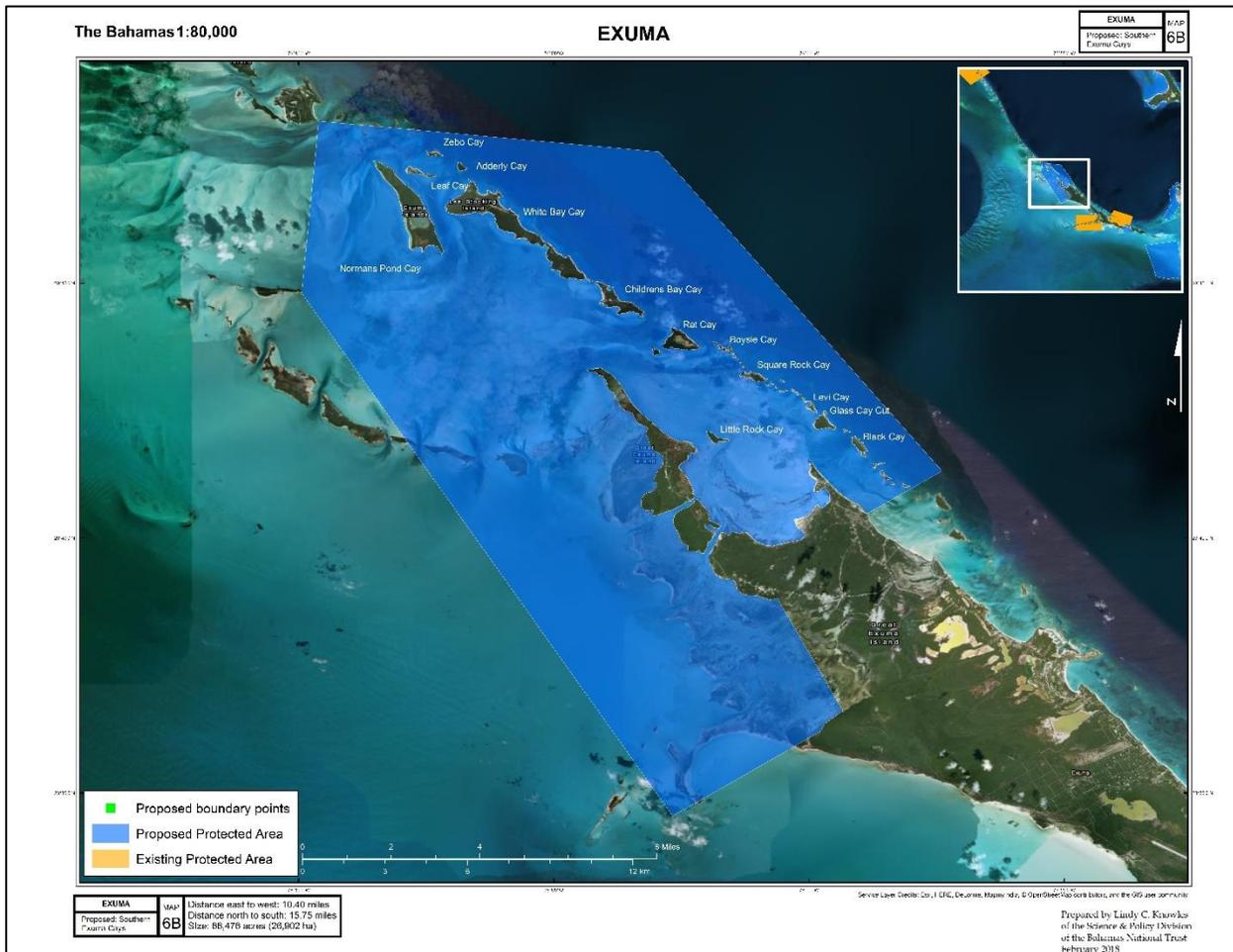
**Size:** 66,476 acres (26,902 ha)

**Conservation targets and other resources:** coral reefs, bonefish flats, mangroves, sand/mud, tidal creeks, nursery area, shorebirds, sandy beaches, rocky shores, blue hole, major conch grounds

**Location:** southernmost Exuma cays, north of Barraterre, and the waters surrounding Lee Stocking Island and nearby cays

**Threats:** overfishing, IUU fishing, unsustainable development

**Proposed management:** Fishers in nearby settlements on Exuma have recommended zoning for multiple use, with a replenishment zone and conservation zones. Recreational activities and small-scale fishing will be allowed.



**Site description:** The area proposed for the Southern Exuma Cays extends from the wetlands west of Stuart Manor and Barraterre settlements to some 16 miles north of Normans Pond Cay. This site was selected as a high priority in the updated Ecological Gap Analysis; it was also a critical site for protection since 1999 under the Network of Marine Reserves. Fishers and other stakeholders agree that protective measures are needed but would like locals to be able to utilize the area for small-scale fishing.

**Justification for inclusion:** The area from Barraterre to Bock Cay includes a range of habitats, from mangroves, sandy beaches and rocky shores to seagrass beds, coral reefs and deepwater areas off the shelf edge. The area is one of the best-studied parts of The Bahamas due to its proximity to Lee Stocking Island, which was the home of the Perry Institute for Marine Science's Caribbean Marine Research Center from the 1970s through 2010. Thus, we know much about the area's value for conch, lobster and grouper, as well as the health of its reefs. The area is also home to giant subtidal stromatolites, which are unique to The Bahamas and are living fossils of the oldest life forms on earth. Fishers from Stuart's Manor and Barraterre have recognized this area as some of the best conch grounds for the Exumas and have advocated for this particular area to be managed to replenish conch populations.

**Opportunities:** This area is rich in data on key marine species and habitats in The Bahamas and can provide a unique field laboratory with long-term datasets. Protection may also enrich conch populations that feed outside the immediate area. Lobster and grouper populations in the area are high compared with other parts of The Bahamas, as the area contains important nurseries for these species.



Bahamas Protected Stakeholder Consultation Team following a radio appearance at the Exuma Breeze (98.3 FM) radio station prior to a community meeting in Barraterre, Exuma, June 2018, Pictured L to R: Ryan Adderley (Communications Officer, BREEF), Indira Brown (Fisheries Officer, DMR), Kenneth Nixon (Host of Roundtable Talk Show, Exuma Breeze), Kirshna Bowe (Co-host of Roundtable Talk Show, Exuma Breeze) Sydnei Cartwright (Environmental Officer, BEST Commission), Marcia Musgrove (Policy Advisor, TNC), and Clayton Brown (Radio Show Producer). Photo courtesy of Bahamas Protected project.

## 24. Expansion of Moriah Harbour Cay National Park

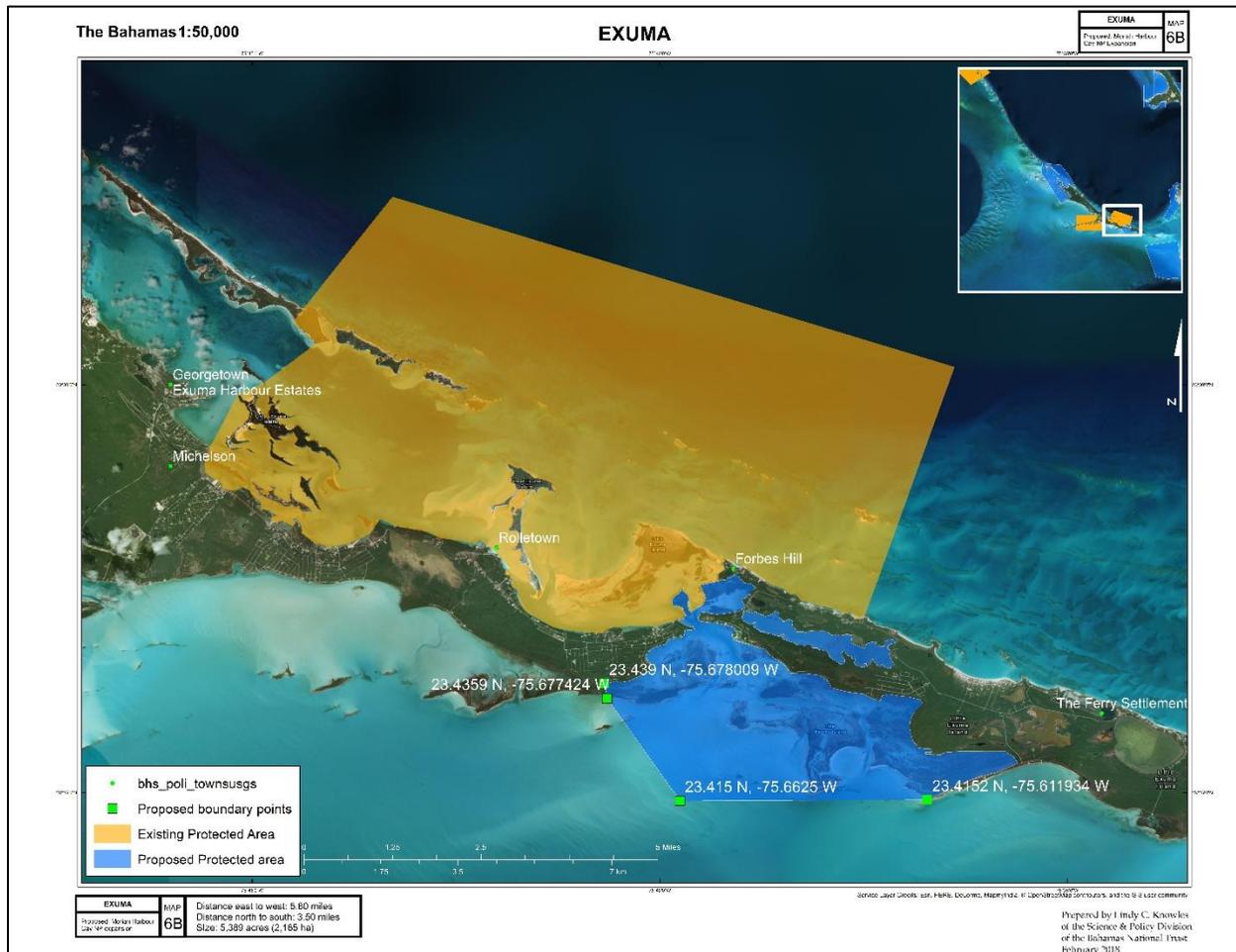
**Size:** 5,349 acres (2,165 ha)

**Conservation targets and other resources:** mangroves, tidal creeks, sand/mud, seagrass, nursery habitat for fish and lobster, bonefish flats, turtle habitat

**Location:** south of Forbes Hill settlement, southwest of the Ferry settlement

**Threats:** unsustainable development (filling in of wetlands), illegal fishing, dredging, sedimentation

**Proposed management:** zoned in accordance with existing park management structure



**Background and site description:** Moriah Harbour Cay National Park (MHCNP) was established in 2002 as part of the Bahamas National Trust system of national parks, to protect the intrinsic value of the marine environment surrounding Moriah Harbour Cay. In 2015, the Government of The Bahamas expanded the park from 16,800 acres to 27,286 acres, protecting representative nearshore marine habitats that connect Great and Little Exuma. The park showcases ecologically diverse habitats, including sand flats, tidal creeks, lagoons, mangroves, coral reefs, rocky and sandy shorelines, sand dunes, blue holes, and coastal plant communities; and important areas for spawning, nursery, nesting, and migration of marine and terrestrial species. Community members on Exuma requested that sensitive creek and mangrove system and nursery areas be

included in adjacent park boundaries. Moreover, this area was identified as an AOI in the marine gap analysis, as it incorporates conservation features that are underrepresented in the existing BNPAS.

**Justification for expansion:** Extending the boundaries to include an additional 5,349 acres will incorporate a significant tidal creek and mangrove system, seagrass beds, nursery habitat for fish and lobster, bonefish flats and turtle feeding grounds, on the southwestern side of Great and Little Exuma.

I. GRAND BAHAMA

25. West End

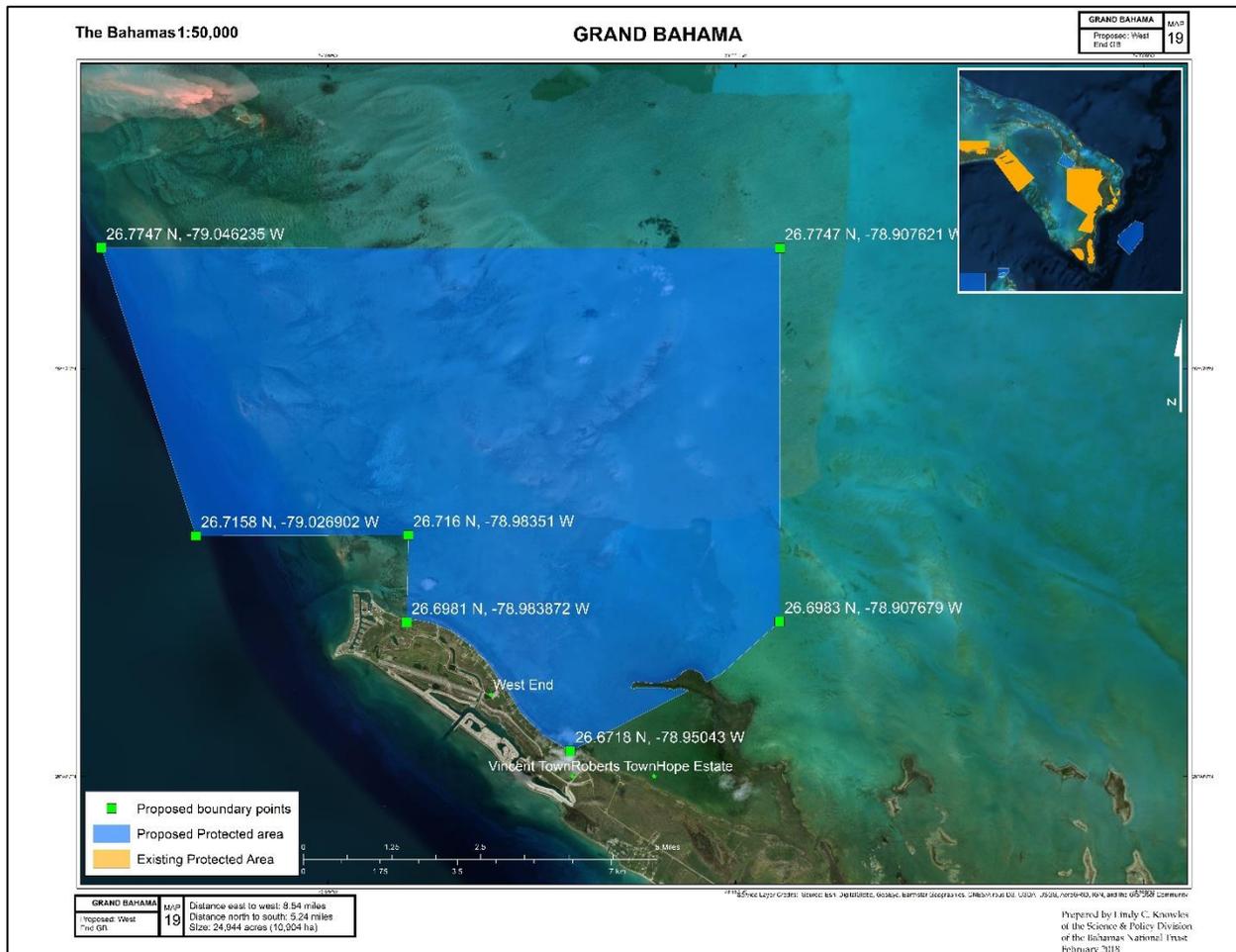
**Size:** 26,945 acres (10,904 ha)

**Conservation targets and other resources:** seagrass, sand/mud, nursery grounds for conch, coral reefs, patch reefs, deepwater features, turtle habitat, marine mammal habitat

**Location:** northwest tip of West End settlement

**Threats:** anchor damage, overfishing, IUU fishing, boat groundings, climate change (increased storms and warming seas/coral bleaching), ship channel

**Proposed management:** Fishers and other concerned residents have recommended zoning for conch populations to replenish them, and to establish reef areas where locals are able to harvest fish and lobsters (on a seasonal basis). Development of zoning will involve the participation of fishers and tour guides in West Grand Bahama.



**Site description:** The proposed West End site is located just offshore of the western tip of the West End settlement on Grand Bahama and includes Wood Cay. This site was proposed by fishers and other residents who expressed grave concerns about the unsustainable fishing practices for

conch, which have been detrimental to the livelihoods of West Enders. The area is proposed to preserve 26,945 acres of nursery grounds for conch, deepwater habitats for pelagic fish and marine mammals, shallow and deep reef sites, seagrass beds and sand banks.

**Rapid Ecological Assessment results:** Representatives from the BNT and Perry Institute for Marine Science conducted an REA in June 2018, with support from the Freeport Harbour Company and Grand Bahama Airport Company. Preliminary results showed impacts of climate change (increased hurricanes, warming seas); coral bleaching and overgrowth of algae on reef structures have heavily degraded the reef systems. Several areas of coral rubble, dead stands of the endangered elkhorn coral, and broken coral boulders suggest that impacts from strong hurricane conditions as well as boat groundings and anchor damage have affected the reefs. In sand and grassy areas, researchers found high concentrations of conch, primarily juveniles, confirming that the area is a significant nursery habitat for queen conch. The area is also important for marine mammals, specifically as a feeding ground for bottlenose dolphins.

**Opportunities:** Creating a marine protected area for West Grand Bahama presents an opportunity to monitor the reef system and restoration efforts, an activity in which visiting guests, students and locals can participate. The area has high boating traffic by U.S. registered boats and local vessels, and it is critical to install mooring buoys and navigation lights to identify shallow reef sites to protect reef structures and control anchor use in sensitive areas within boundaries. There is a strong need to not only protect conch beds but also to implement environmental education and outreach programmes within the West Grand Bahama communities, to limit the number of juvenile conch harvested on a daily basis, to educate resource users on more sustainable fishing practices, and to provide training workshops to help residents start ecotourism businesses. Installing interpretive signage and a small gazebo at Wood Cay would enhance the experience for the many residents who use the small island for picnics and recreational activities.

## J. INAGUA

### 26. South Inagua

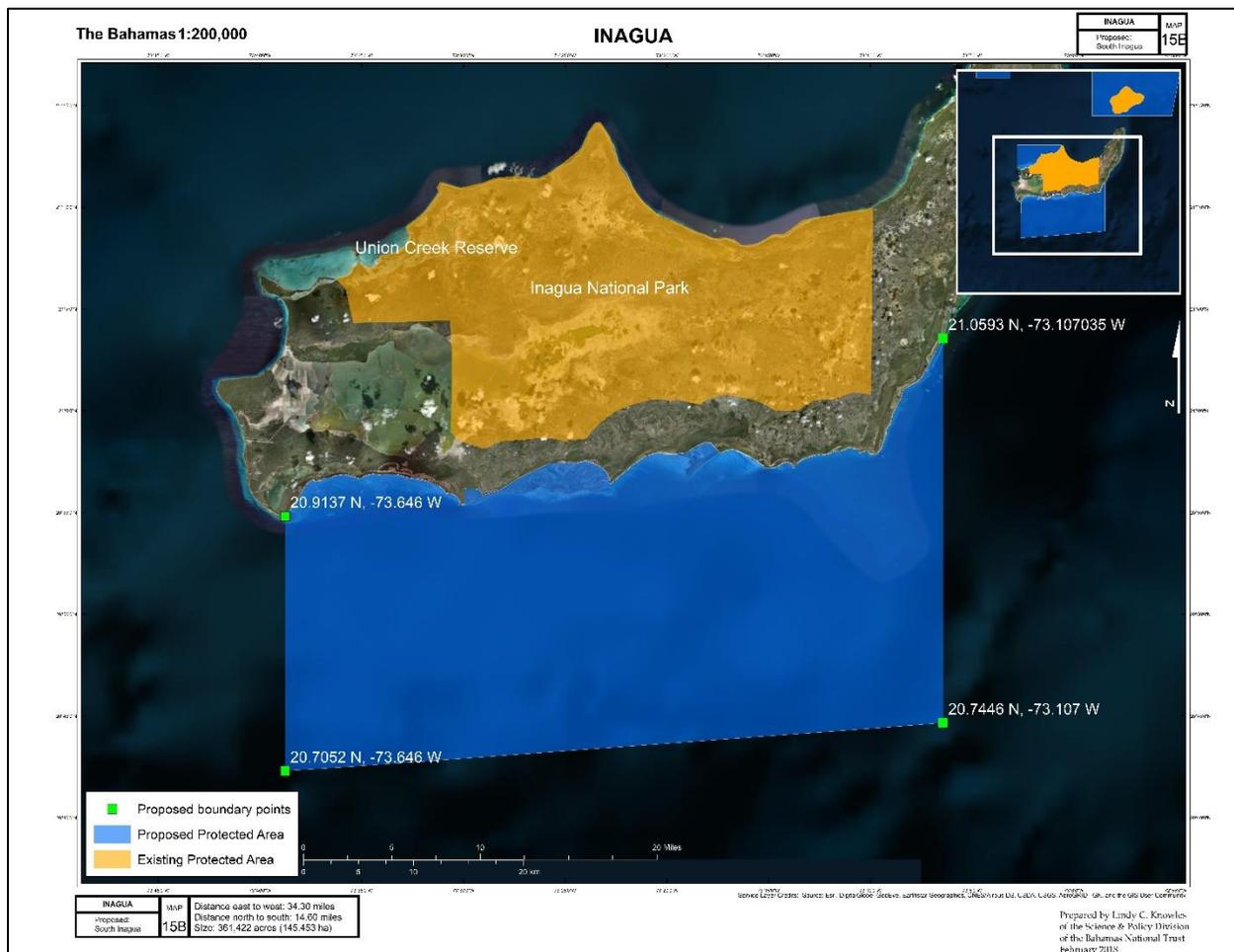
**Size:** 359,422 acres (145,453 ha)

**Conservation targets and other resources:** fish spawning aggregations, deepwater features (underwater cliffs and coral walls), coral reefs, marine mammal habitat, tidal creeks, turtle habitats, mangroves

**Location:** southern coast of Inagua, extending 14 mile east of Southwest Point

**Threats:** poaching from foreign vessels, climate change (intense storms), IUU fishing practices

**Proposed management:** zoning that allows subsistence fishing by locals, as well as an area designated as a fisheries replenishment zone, to be determined with local stakeholders.



**Site description:** This community proposed site is located along the southern coast of Great Inagua, extending 14 miles south from the shoreline, and 34 miles east of Southwest Point. The area covers 359,056 acres of shallow flats and tidal creeks, including South Bay, Sandy Point, Lantern Head Harbour and Southeast Point, and incorporates a coral reef system, offshore

deepwater features that are important for pelagic fish species, marine mammal habitat and breeding grounds for the endangered Nassau grouper.

**Justification for inclusion:** During a community meeting in October 2017, Inagua residents recommended that South Inagua be protected to safeguard Nassau grouper spawning aggregations offshore, extensive tidal creeks and mangrove wetlands along the southern coast, and deepwater reef and drop-off areas that are threatened by illegal fishing from foreign commercial fishing vessels. The deeper waters offshore are also reportedly used by humpback whales during the winter months, the breeding season. Lantern Creek has high populations of sea turtles and extensive mangrove areas that are nursery grounds for fish, conch and lobster.

**Opportunities:** Protection of South Inagua will ensure the preservation of a Nassau grouper spawning aggregation in the southern Bahamas, help reduce poaching from foreign fishing vessels and strengthen partnerships with the Royal Bahamas Defence Force, currently stationed on Inagua. These elements will bring more focused attention and resources for long-term natural resource management to the area, while also supporting plans to protect our borders.

### 27. Expansion of Inagua National Park

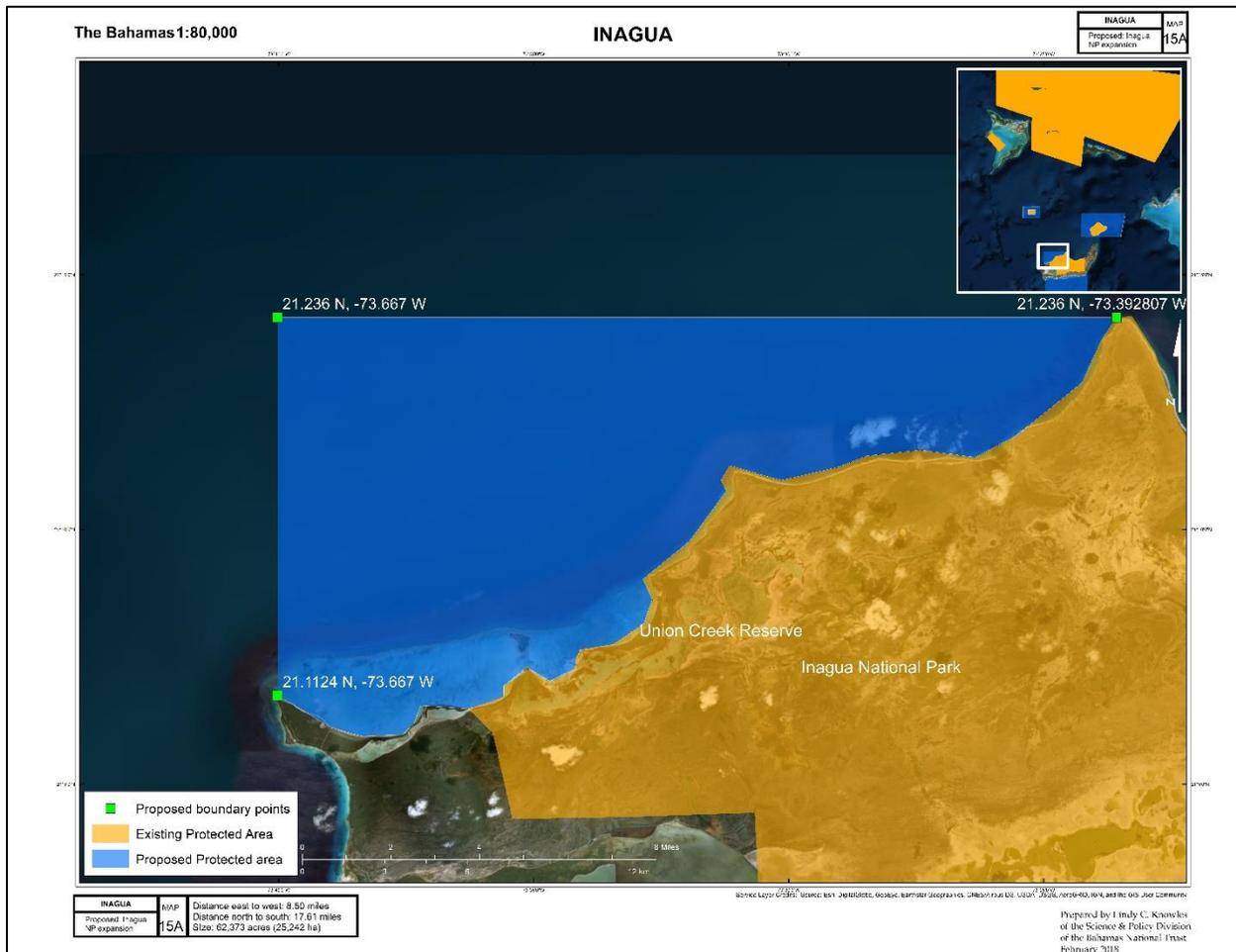
**Size:** 62,373 acres (25,242 ha)

**Conservation targets and other resources (expansion):** coral reef system, hardbottom, mangroves, tidal creeks, sand/mud, nursery area, marine IBA, sandy beach, rocky shore, seagrass, marine mammal habitat

**Location:** North Inagua, from Northwest Point to Pollaca Point

**Threats:** habitat degradation due to extreme weather (hurricanes)

**Proposed management:** Local fishers have recommended that fishing grounds be zoned to allow small-scale fishing to continue, with other zones for more restricted use.



**Site description:** The Inagua National Park covers 220,000 acres of Great Inagua (almost half the island). Bird life dominates the park, and the flamingo (the national bird of The Bahamas) is its star attraction. The park contains one of the largest breeding colonies of West Indian Flamingos in the western hemisphere. Today the world population numbers approximately 60,000 birds, the species having made a 50-year journey back from the edge of extinction. The entire island of Inagua was recognized as an IBA by Birdlife International in 2001. Lake Rosa is The Bahamas’ only

listed Wetland of International Importance recognized under the Ramsar Convention on Wetlands in 1997.

The foundation for the park was laid by Audubon Research Director Robert Porter Allen, who studied flamingos and recorded much of what is known about the Caribbean flamingo's natural history. Inagua is probably the best place in the world to see these reclusive scarlet-feathered birds in their natural habitat. That habitat consists of the island's remote salt marshes. Described as an "immense watery prairie," Lake Rosa is a huge wetland that occupies much of the 184,000-acre Inagua National Park, which in 1965 became the second nature reserve assigned to the fledgling Bahamas National Trust.

Expansion boundaries will add an additional 62,373 acres, located offshore of Union Creek Reserve and Inagua National Park, with boundaries extending 17 miles north of Northwest Point, then 8 miles east to Pollaca Point. Residents have called for the protection of Alfred Sound, which is also now included in expansion boundaries.

**Justification for expansion:** Extending park boundaries will protect a site identified as an AOI by the marine gap analysis, in addition to immediate and offshore areas that were recommended for protection by Inagua stakeholders. These include another Nassau grouper spawning aggregation, areas that are important for pelagic fish, nursery habitat for reef fish, abundant conch and lobsters (although they are threatened by IUU fishing practices), a marine IBA, mangroves and beautiful sandy beaches. The deeper waters include pelagic habitat for marine mammals and shallow waters used by humpback whales during the winter breeding season.

**Opportunities:** Extending protection status to adjacent park areas will protect critical marine habitats that are not yet protected around Inagua and that are underrepresented in the entire BNPAS. Local fishers harvest fish, conch and lobster from areas within the proposed expanded boundaries, so protection of this area presents an opportunity to work with resource users to manage and sustain fisheries stocks, by alleviating issues with illegal fishing practices. Due to the island's vulnerability to hurricanes, expanding boundaries presents an opportunity to monitor and track the ability of healthy marine ecosystems to combat climate change impacts, as well as measuring restoration efforts that will be required for rebuilding heavily degraded reef systems. In addition, sustaining the health of shallow reef areas provides a chance for local residents to develop snorkelling and diving tours to attract more visitors to the island.

## 28. Expansion of Little Inagua National Park

**Size:** 332,642 acres (136,234 ha)

**Conservation targets and other resources:** coral reef system, hardbottom, sand/mud, important deepwater features, turtle habitat, marine mammal habitat

**Location:** Little Inagua Island, east of Great Inagua Island

**Threats:** poaching from foreign commercial fishing vessels

**Proposed management:** zoning for multiple use (in the proposed expanded area only)



**Site description:** Little Inagua is remote and inaccessible, with no fresh water, and is by far the largest uninhabited island in the Wider Caribbean. The park was added to the Bahamas National Trust's park system in 2002, to protect 62,800 acres of natural undisturbed terrestrial biodiversity, as well as the surrounding marine shelf area of Little Inagua. Ocean currents flow through The Bahamas from southeast to the northwest, so Little Inagua is upstream of the rest of the country, thus contributing to the supply of fishery resources, eggs, larvae and sub-adults that are swept into the other parts of the Bahamian marine territory. Park designation increased the percentage of marine ecosystem territory under protection for fishery replenishment purposes. Little Inagua is a documented nesting location for critically endangered sea turtle

species. Proposed expansion of the Little Inagua protected area will extend boundaries around the entire island out to the drop-off areas into deeper waters, protecting unique geological features and marine mammal habitats, in addition to deep coral reef formations.

**Justification for expansion:** Expanding park boundaries to an additional 332,642 acres will encompass deepwater features and additional shallow and deep reef systems for an all-encompassing Land & Sea Park for Little Inagua. Deepwater features include unique geological formations, identified as AOI in the marine gap analysis assessment. Occasional fishing takes place in this area but is very infrequent because ocean currents and other factors restrict access to the area. Fishers have advised that foreign fishing vessels have been observed in this area on several occasions, using illegal fishing gear and methods that destroy the integrity of the reef systems and nursery grounds.

## 29. Expansion of Hogsty Reef Protected Area

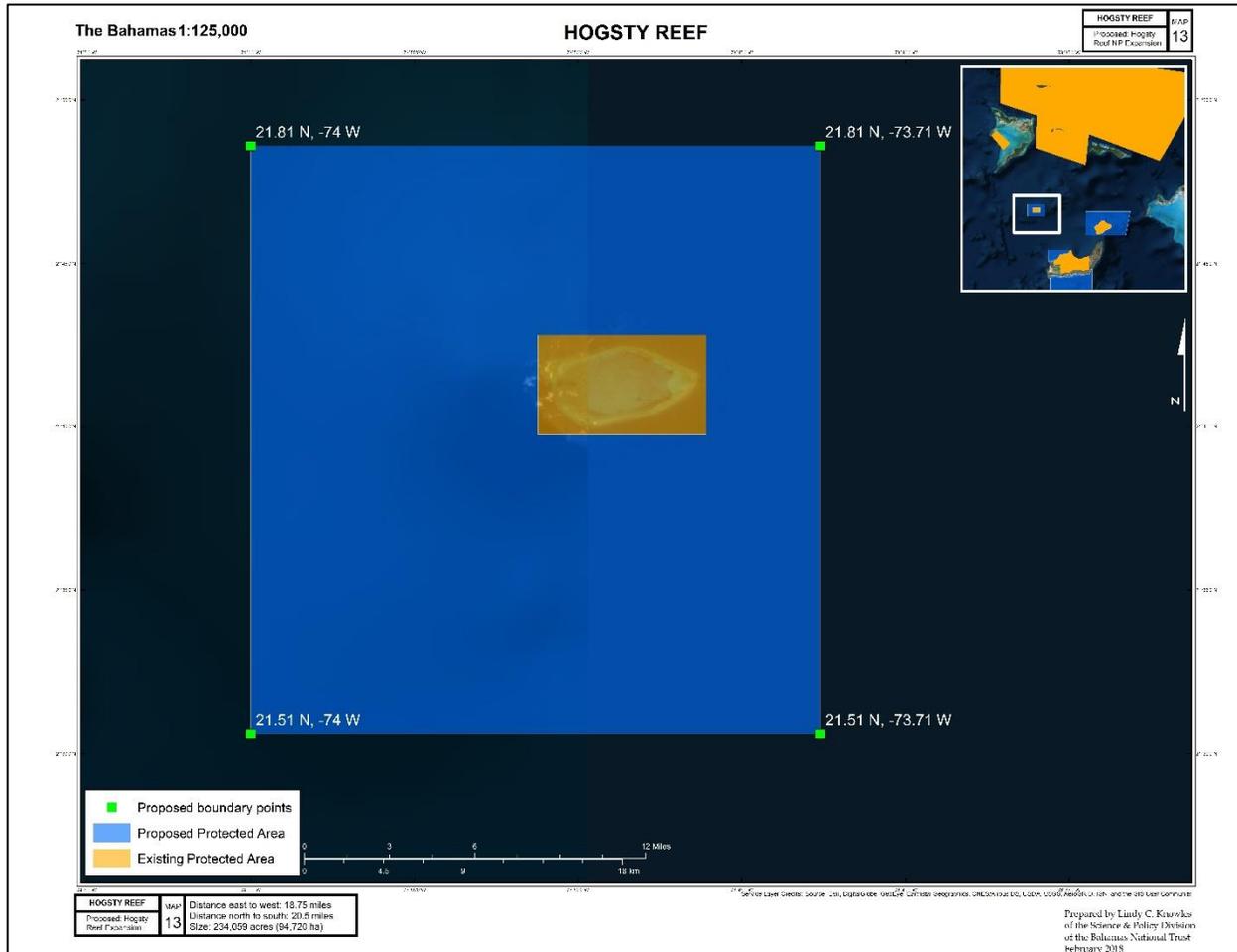
**Size:** 234,059 acres (94,720 ha)

**Conservation targets and other resources:** deepwater features, marine mammal habitat

**Location:** northeast of Great Inagua Island

**Threats:** IUU fishing, poaching, climate change

**Proposed management:** highly protected area (or replenishment area)



**Site description:** Hogsty Reef Protected Area was established in 2015, encompassing 12,322 acres, and under the management of the Department of Marine Resources. The area includes the Hogsty Reef atoll, located northeast of Inagua, which is a popular dive site with diverse coral and fish populations. Hogsty Reef was surveyed in 2010 as part of the Khaled bin Sultan Living Oceans Foundation’s Global Reef Expedition. This area was also earmarked in the 2008 Bahamas Gap Assessment as being of critical importance. The two nearby islands are valuable nesting sites for seabirds and provide a resting site for migratory birds. Proposed expansion plans will incorporate deeper reef systems, deepwater areas that are important for pelagic species, and marine mammal habitat.

**Justification for expansion:** Extending the PA boundaries will encompass a unique bathymetric feature, which is a large ocean ridge (underwater mountain system) outside the existing

protected area. This feature has higher biodiversity than surrounding areas. Deepwater habitats are underrepresented throughout the PA system, and including additional deepwater features will ensure replication and connectivity of habitats, which is critical to the sustainability of fishery stocks throughout The Bahamas.

## K. LONG ISLAND

### 30. North Long Island

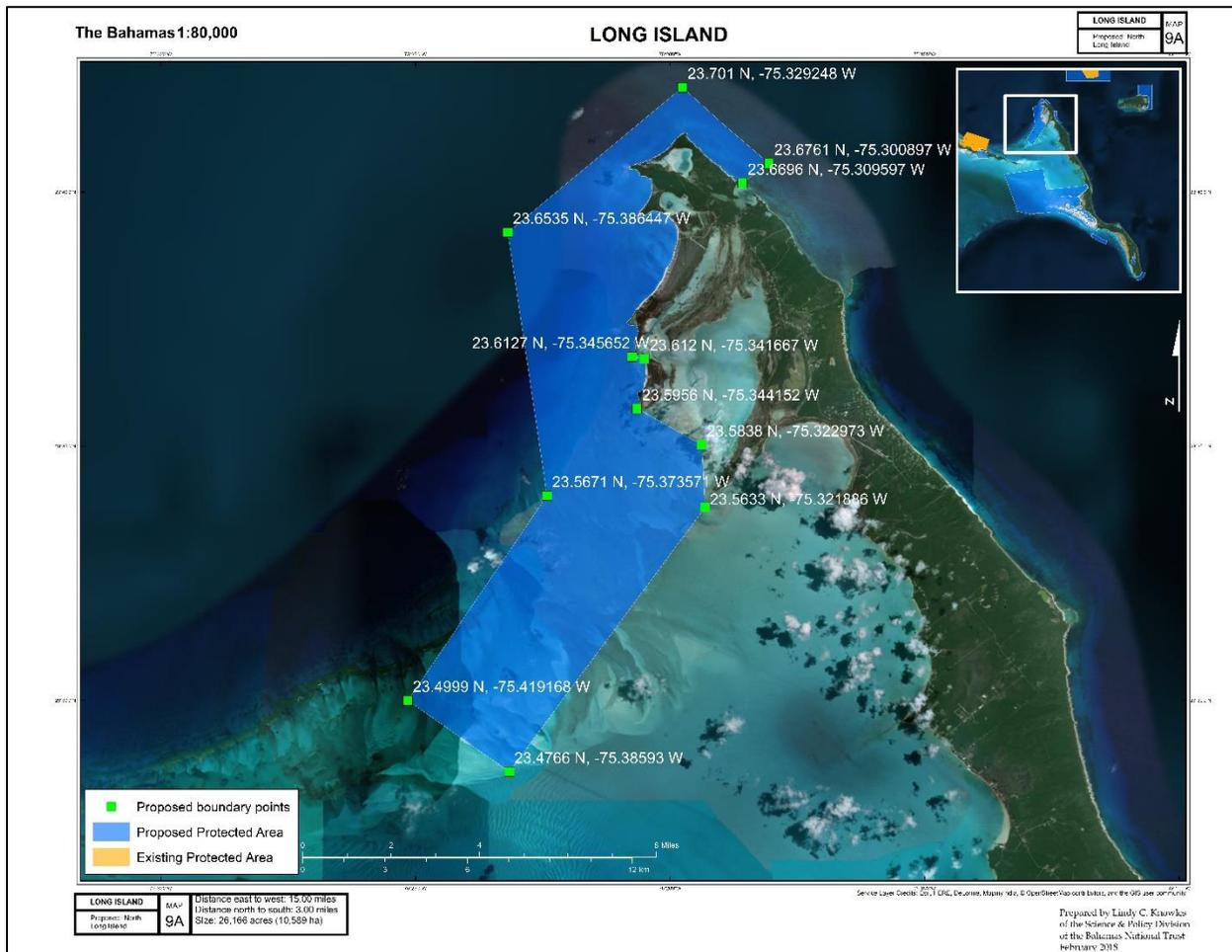
**Size:** 26,166 acres (10,589 ha)

**Conservation targets and other resources:** mangroves, tidal creeks, coral reef

**Location:** North Long Island

**Threats:** IUU fishing; some fishers utilize this area for the hauling of bonefish via nets

**Proposed management:** Multiple zones, to allow fishing and to include an area designated for fishery replenishment, which will be determined with local fishers and stakeholder input. Catch-and-release fly-fishing will continue. Residents have proposed that hand-line fishing and conch harvesting be allowed in the area surrounding Dove Cay.



**Site description:** This proposed MPA seeks to protect the reef system that surrounds the northern tip of Long Island, the adjacent mangrove creek system that serves as a nursery habitat for the reef fish in North Long Island, and some seagrass beds in between. This would allow the protection of fish species from juvenile stages to adulthood. The proposed area would encompass areas of Adderley’s Bay, Calabash Bay, Glintons Sound, Joe Sound, Newton’s Cay, Jewfish Creek and Dove Cay, protecting the northwest, north and northeast coasts of Long Island.

**Rapid Ecological Assessment results:** Ad hoc qualitative research has been conducted around the area, studying the health of queen conch populations and examining spiny lobster genetics. In addition, Nassau Grouper population assessments have been conducted in areas that are adjacent to the proposed site.

**Opportunities:** The area supports ecotourism activities. Establishment of this protected area will help sustain the catch-and-release bonefish fishery and promote the long-term survival of bonefish in the area. Rehabilitation of the mangrove creeks can increase kayak and paddleboard opportunities in the area.



*Community meeting participants in south Long Island identifying areas on a map as proposed MPAs with Bahamas Protected representative Lindy Knowles (Senior Science Officer, BNT), during a series of stakeholder meetings in July 2016. Courtesy of Bahamas Protected project.*

### 31. North East Long Island

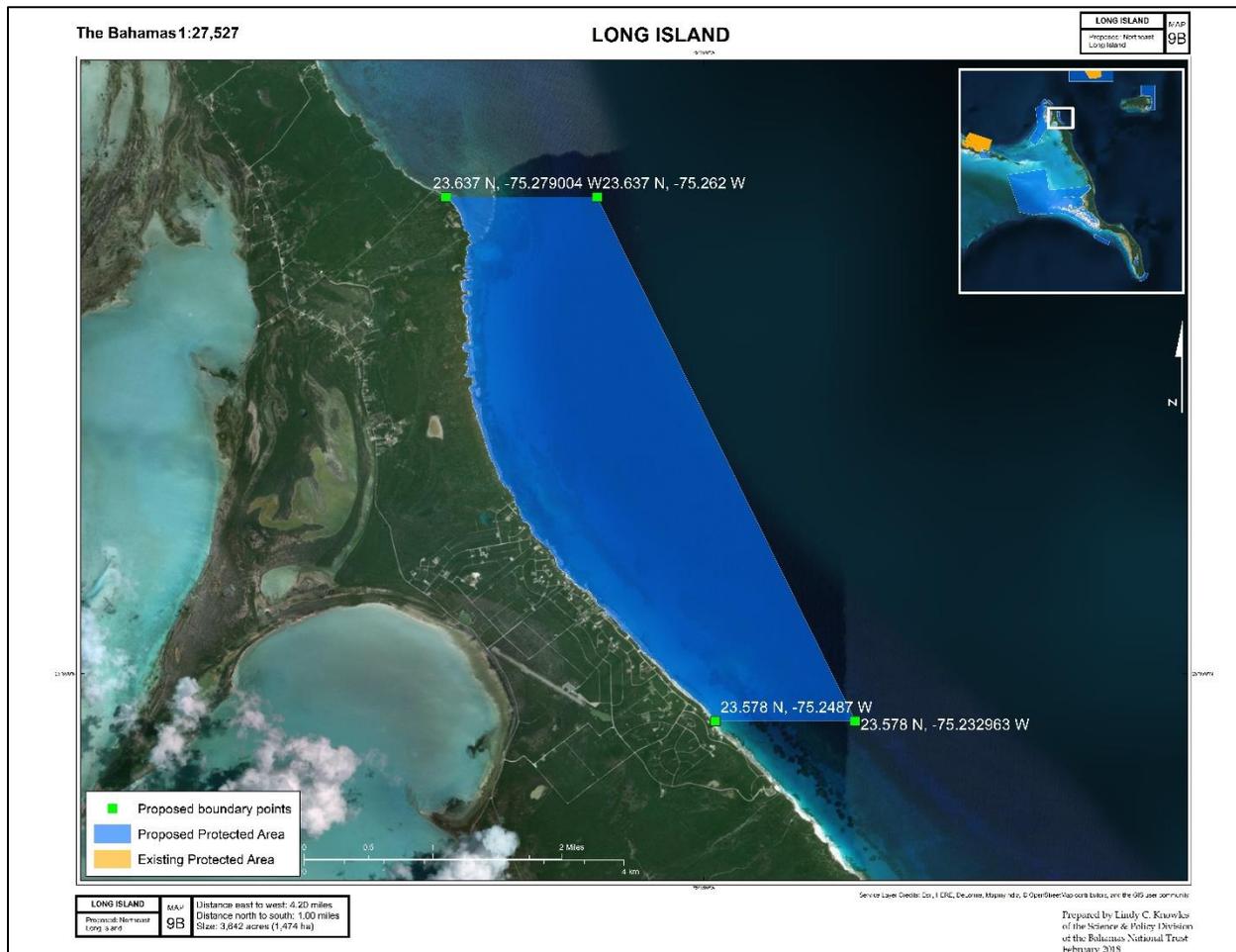
**Size:** 3,642 acres (1,474 ha)

**Conservation targets and other resources:** fish spawning aggregation, coral reef systems

**Location:** North Long Island, offshore from Burnt Ground settlement

**Threats:** During the closed season for Nassau Grouper, illegal fishing may occur in the fish spawning aggregations.

**Proposed management:** zoning for multiple uses, as determined by local stakeholders



**Site description:** This proposed area protects the eastern shoreline of Long Island, covering marine portions of the settlements of Glintons, Burnt Ground and Stella Maris. It was proposed for protection by the local community of North Long Island and protects a fringing reef system and several fish spawning aggregation sites.

**Justification for inclusion:** Within and around the proposed sites, Nassau Grouper assessments have been undertaken sporadically (prior to 2010) and annually since 2010. Some AGRA assessments were conducted in the vicinity of the proposed area in 2017.

**Opportunities:** There is an opportunity for restoration/rehabilitation of corals in the area, and a need to collect data at adjacent Nassau grouper sites on the island. Snorkelling tours would be ideal in this area during calmer weather months.

### 32. Long Island Marine Managed Area (LIMMA)

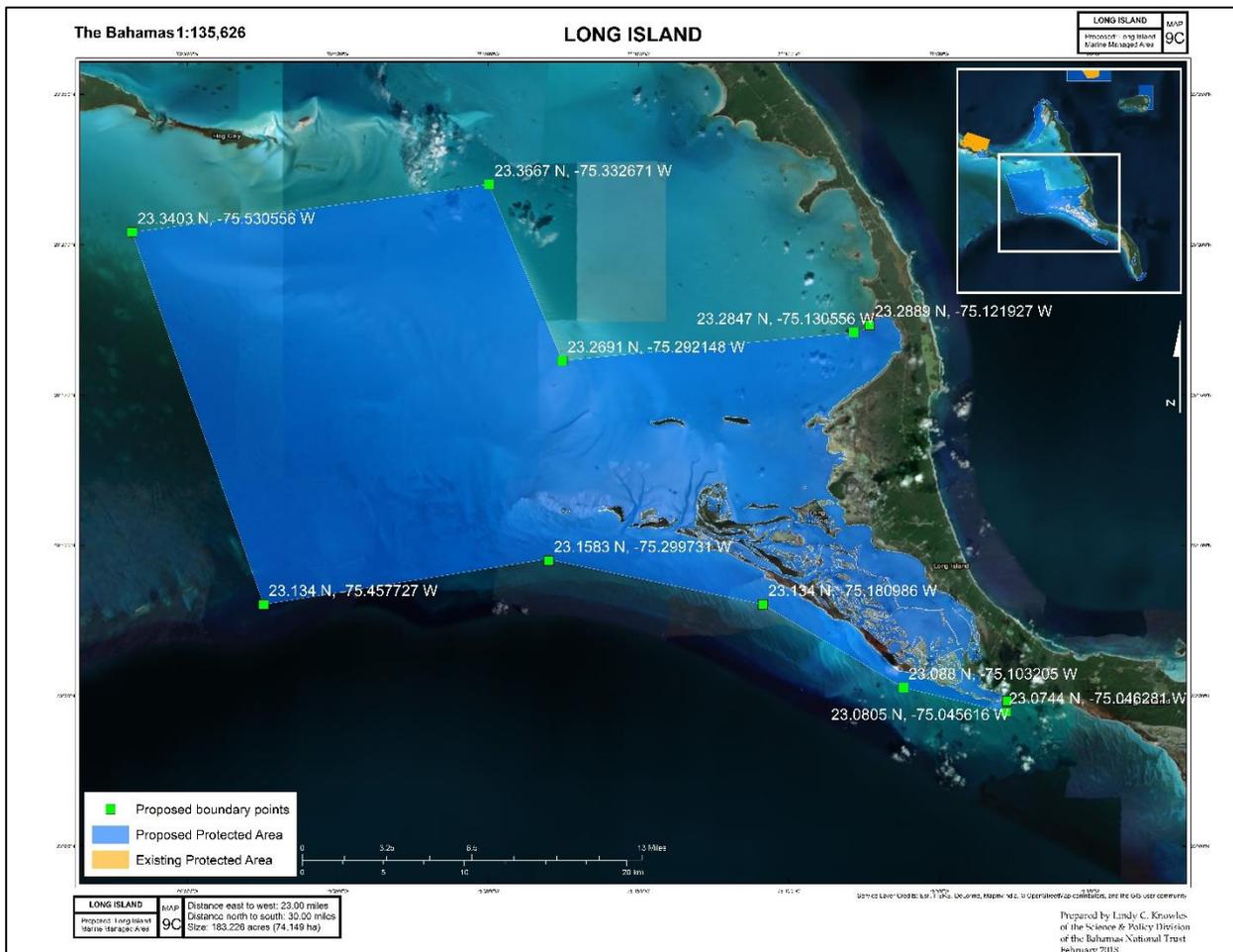
**Size:** 183,226 acres (78,097 ha)

**Conservation targets and other resources:** mangroves, tidal creeks, seagrass, bonefish flats, blue holes, coral reef, sand/mud, nursery areas for all marine life, sponge grounds, conch beds

**Location:** Southwest Long Island

**Threats:** IUU fishing, storm surges

**Proposed management:** During public consultations in July 2016, multiple zones were proposed for the area, including fishing, sponging, research and replenishment zones. The exact locations of zones will be determined with the participation of local fishers and other resource users.



**Site description:** The proposed LIMMA is located west of Gray’s and Deadman’s Cay settlements, extending 23 miles offshore, and encompassing an area of 192,962 acres of shallow banks, as well as a deep drop-off area.

**Justification for inclusion:** This proposed area encompasses several blue holes, an extensive mangrove creek system, traditional nursery grounds for conch, lobster and bonefish, seagrass and a flats system on the western side of Long Island, patch reefs, hardbottom and various species of sponge. LIMMA's features also include a home range and migratory pathways for the economically important bonefish. This area is also an important nursery system for the offshore reefs of Long Island and provides a buffer to the low-lying western side of the mainland against storm surge. A significant catch-and-release recreational fishery for bonefish, tarpon and permit depends on this area. The main threat is illegal netting of bonefish for use as bait for snappers. Other threats include overfishing of marine resources and unsustainable development along the coastline.

**Opportunities:** The proposed area is used for sponging and small-scale fishing of fish, lobster and conch. The perimeter of the boundary is used for deep-drop fishing and scuba diving. Long Island sponge fishers heavily depend on this area, which supports a thriving sponge industry, and protected status will ensure that sponging practices are sustainable. There are healthy bird populations within this proposed area. Protection status can improve the fisheries and tourism opportunities through partnerships with the local tourism office, the Department of Marine Resources and local organizations. The area has experienced extensive modification to facilitate a salt processing facility. Opportunities exist for habitat restoration and rehabilitation of the area to improve water flow and facilitate greater fish movement throughout the area. This site was previously proposed for protection prior to the *Bahamas Protected* project (proposal document developed in December 2013), in which community meetings and Knowledge, Awareness and Practices surveys (commissioned by Ocean Crest Alliance) were administered to determine the feasibility and acceptance of establishing LIMMA. Community members participating in public meetings and survey interviews on Long Island supported this proposed MPA. Protection status would greatly enhance the ability to enforce existing legislation, in addition to improving the livelihoods of resource users and local residents.

33. Long Island Great Lakes

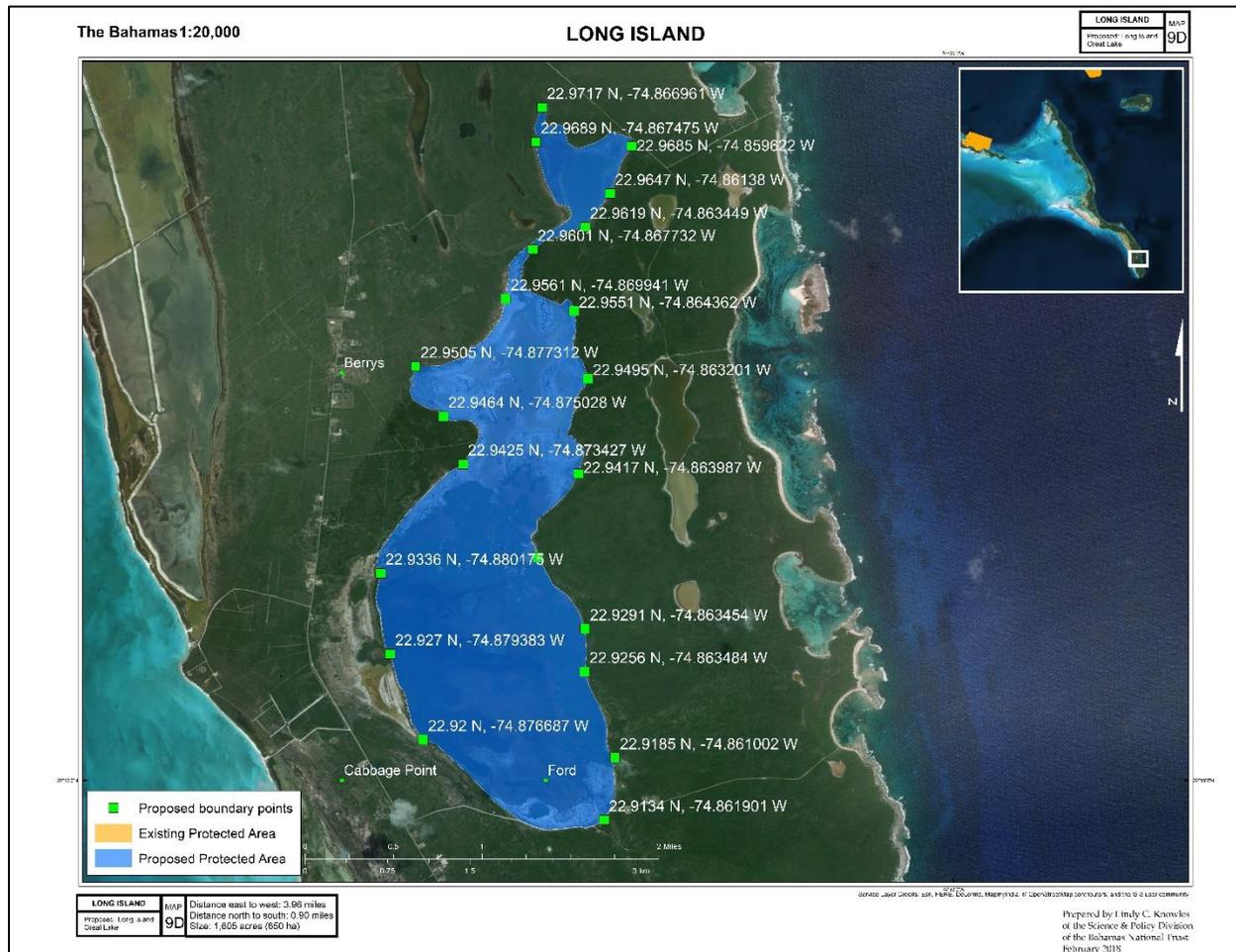
**Size:** 1,065 acres (650 ha)

**Conservation targets and other resources:** Caribbean flamingo population

**Location:** South Long Island

**Threats:** poaching of protected birds (flamingos), unsustainable development, climate change, invasive species (wild hogs)

**Proposed management:** highly protected area (i.e., replenishment area)



**Site description:** This site, the area known as the Great Lakes, is located within the Berry’s settlement, north of Mortimers.

**Justification for inclusion:** This salt pond is home to a resident population of Caribbean (West Indian) flamingos, and protection would set aside an area serving this population. This proposed area protects an inland brackish wetland system and serves as a nesting site for a number of bird species (e.g., white crowned pigeons) and others that depend on the wetland resources, including several important bird species that are highly threatened by wild hogs.

**Opportunities:** There is great potential to expand birding tourism on the island, providing potential business opportunities to residents. Expansion of ecotourism would involve the control of invasive hog populations.

**34. Steven’s Rock**

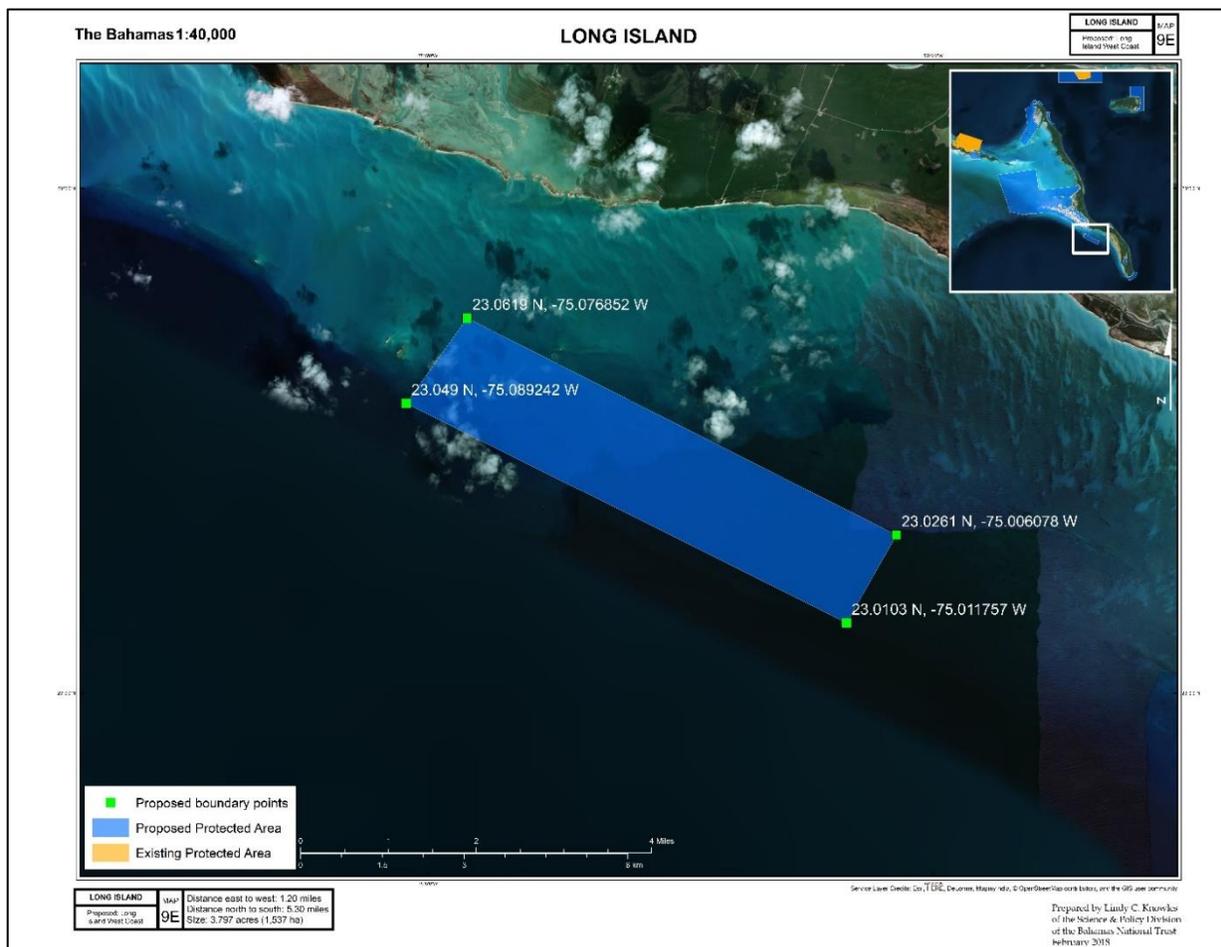
**Size:** 3,797 acres (1,537 ha)

**Conservation targets and other resources:** fish spawning aggregations, soft bed coral and patch reefs, deepwater features, bonefish flats, sand/mud

**Location:** southwest Long Island

**Threats:** IUU fishing, poaching by foreign fishing vessels

**Proposed management:** During public consultations in July 2016, stakeholders proposed that at least 10% of this area be protected as a replenishment zone, with the remaining areas open to fishing.



**Site description:** The site is located offshore of the western side of Long Island, southwest of the Galloway Landing area, and east of the salt pans formerly owned by the Diamond Crystal Salt Company.

**Justification for inclusion:** This proposed area will protect a spawning site for yellowtail snapper, which is threatened by unsustainable fishing practices.

**Opportunities:** If this protected area is legally established, patch reef systems, hardbottom and coral walls will be protected. Because of the connectivity between proposed sites, this area can likely facilitate protection of scalefish populations from juvenile stages to adulthood.

### 35. South Long Island

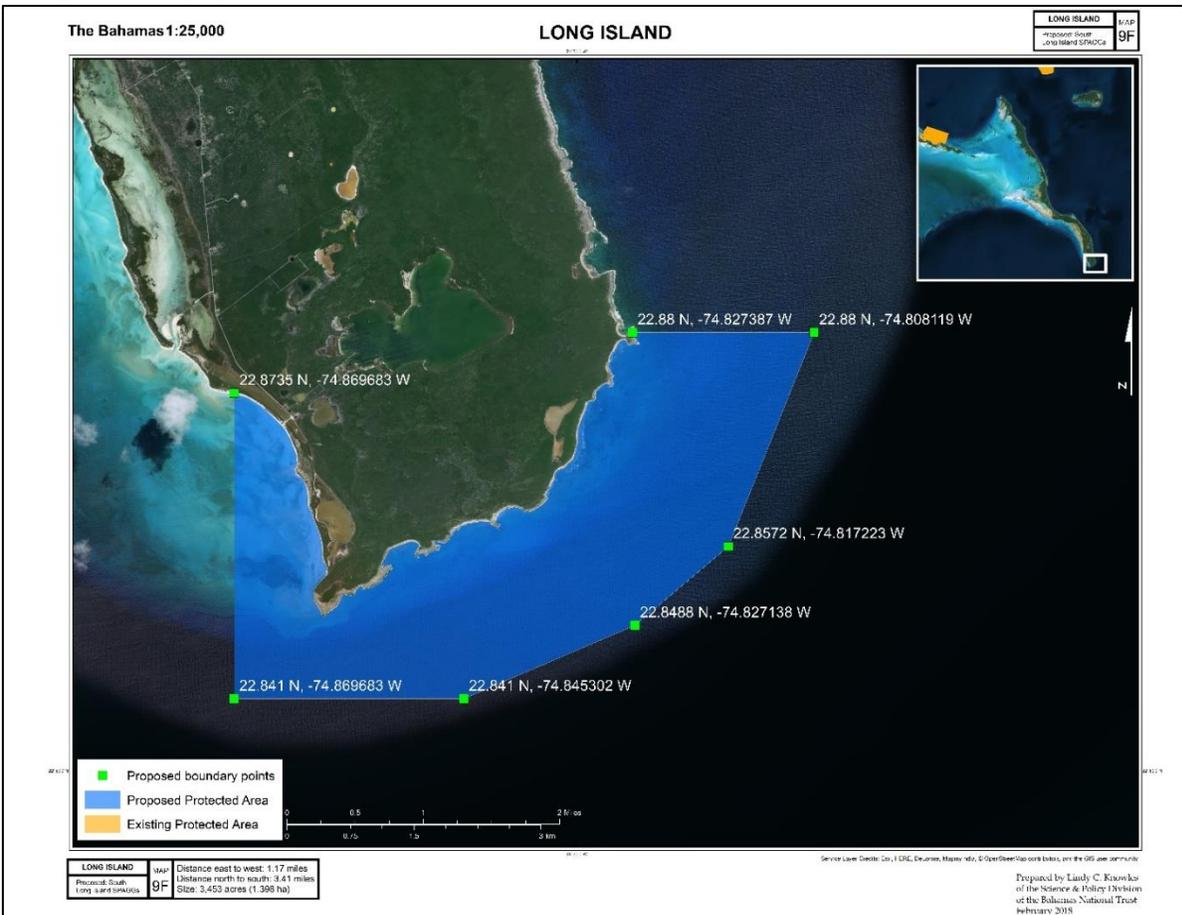
**Size:** 3,456 acres (1,398 ha)

**Conservation targets and other resources:** fish spawning aggregations, patch reefs

**Location:** southwest Long Island

**Threats:** illegal harvesting of spawning Nassau Grouper during the closed season, IUU fishing, climate change

**Proposed management:** multiple zones, and possible seasonal closures for particular species during breeding cycles.



**Site description:** This proposed area is located along the southern tip of Long island, adjacent to the Gordon’s settlement, off the Cape Verde area, and stretches 1.17 miles east to west.

**Justification for inclusion:** The site encompasses a fringing reef system and seeks to protect a Nassau grouper spawning aggregation that is threatened by illegal fishing during the closed season. The easternmost proposed area is reported to be important for bonefish spawning activities and is a probable bonefish pre-spawning aggregation site; it is threatened by illegal netting. Other species spawn in this area in addition to bonefish, so enhancing protection in this area will protect several species of fish. Within and around the proposed sites, Nassau grouper assessments have been undertaken sporadically (prior to 2010) and annually since 2010. Some Atlantic and Gulf Rapid Reef Assessment (AGRRA) surveys were conducted in the vicinity of the proposed area in 2017 and recommended adding protective measures to this area to safeguard Nassau grouper when they are most vulnerable.

**Opportunities:** This site has potential for snorkelling on the patch reefs within the boundaries. Some derelict fish traps and marine litter should be removed from the area to improve the quality of the ecosystem. There is a significant catch-and-release recreational fishery for bonefish that depends on this area, and protection of this area will manage threats of illegal netting, overfishing and coastal development.

## L. MAYAGUANA

### 36. Curtis Creek

**Size:** 6,528 acres (2,642 ha)

**Conservation targets and other resources:** mangroves, seagrass, coral reefs, bonefish flats, sand/mud, nursery grounds for fish and conch, turtle habitat, flamingo habitat, bird nesting

**Location:** northern Mayaguana, east of Pirates Well, north of Abrahams Bay

**Threats:** major development (marina), unsustainable coastal development

**Proposed management:** zoning for multiple uses in consultation with local stakeholders.



**Site description:** The site is the only mangrove system on the northern side of the island. Much of it is filled with muddy-silty substrate and is extremely shallow, especially farther away from the mouth of the creek. Interesting features include what locals call “the hole,” which is a deeper area of the creek where fish and turtles are found during low tide. Mangrove islands are scattered throughout the creek, providing shelter and nursery habitat for marine life. Locals have been lobbying for the protection of Curtis Creek for many years, as it is an important nursery ground,

is a catch-and-release fly-fishing area, supports abundant conch and fish, and is an important nesting site for birds.

**Rapid Ecological Assessment results:** An REA was conducted in October 2017. Preliminary results showed that, as reported by locals, the area is an important mangrove system that serves as a nursery to many species of marine resources, including Nassau grouper, queen conch, spiny lobster and various species of snapper and grunts. Many sea turtles were observed, as well as a few sharks and barracuda. Water flow is good near the mouth of the creek, and many cuts and channels can be found around the entrance to the creek.

**Opportunities:** Ecotourism would be an ideal activity for this area; in addition to the many species of fish in the creek, various bird species frequent the area (including the West Indian flamingo), and the creek is perfect for kayaking and snorkelling. Fly-fishing in the flats to the west of the creek mouth would be a viable activity, along with snorkelling or scuba diving the reefs in the north. Protection of this area would reduce the threat of incompatible development.



Bahamas Protected Stakeholder Consultation Team members following a meeting in with Local Government officials and law enforcement officers during visit for community meetings in Mayaguana, October 2017. Pictured L to R: Superintendent Leonardo Burrows (Royal Bahamas Police Force), Ryan Adderley (Communications Officer, BREEF), Edvaro Charlton (Local Government/Department of Environmental Health), Giselle Deane (Assistant Science Officer, BNT), Mr. Rahming (Local Government), Lashanti Jupp (Conservation Planner, BNT), Earl Campbell (Island Administrator), Patrick Collie (Fisheries Superintendent, DMR), Lindy Knowles (Senior. Science Officer, BNT) and Clayton Farrington (Chief Councillor). Photo courtesy of Bahamas Protected project.

## M. NEW PROVIDENCE

### 37. Athol Island

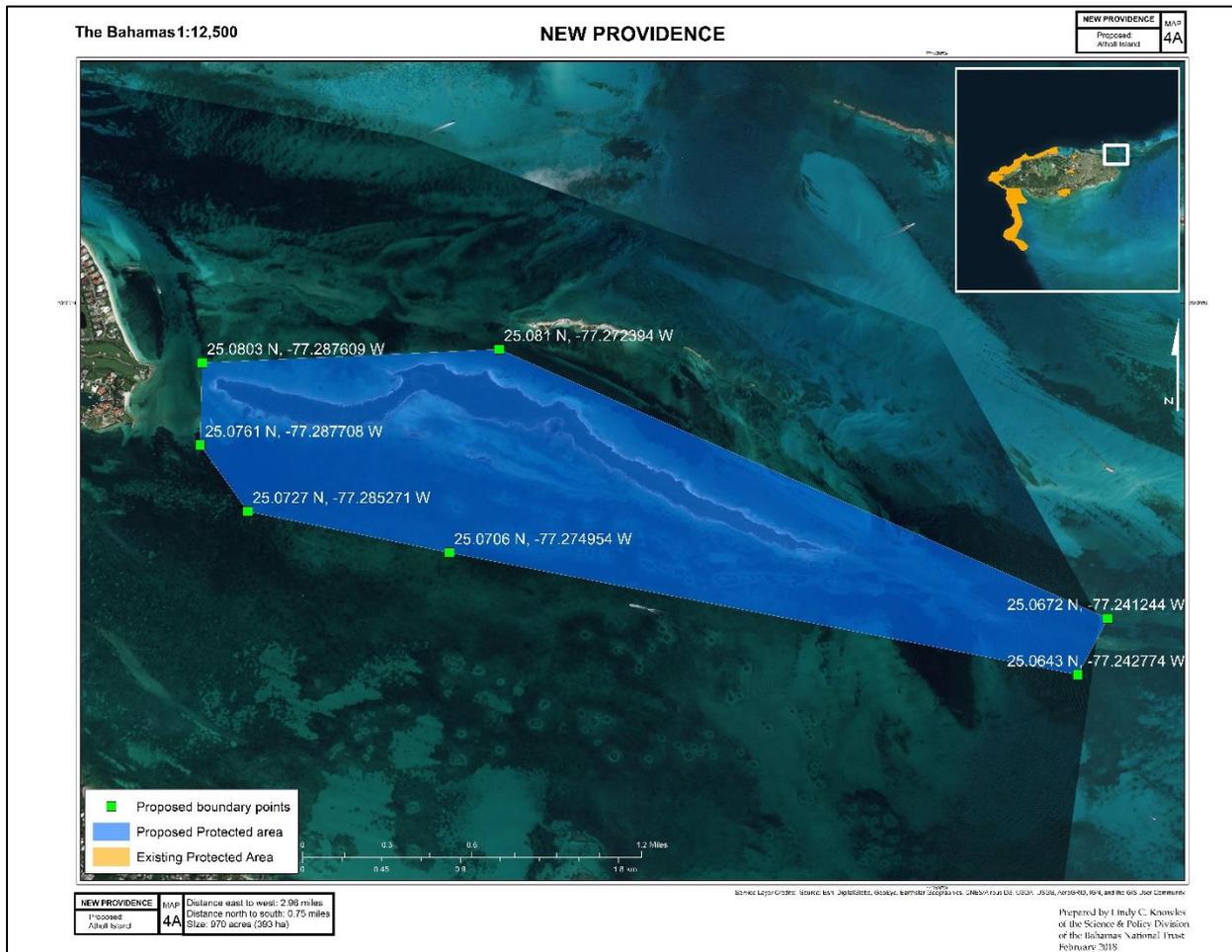
**Size:** 970 acres (393 ha)

**Conservation targets and other resources:** rocky shore, sandy beach, mangroves, seagrass, hardbottom, patch reefs, seabirds

**Location:** northeast of New Providence Island

**Threats:** Proposed unsustainable development, invasive species, uncontrolled use, climate change, anchor damage, boat groundings, private land holdings

**Proposed management:** zoning for multiple-use, including a replenishment zone



**Site description:** Athol Island is a narrow island that is just over 2 miles long. Its elevation ranges from 4 to 30 feet, protecting the northeastern district of New Providence from storm surges. Athol Island and its surrounding waters are of ecological importance and historical significance and hold great economic potential.

**Justification for inclusion:** The island's biodiversity is a good representation of the area. It contains seven different vegetation types, mainly dry broad-leaved evergreen forest, beach strand communities, rocky shore communities and wetland communities. A total of 94 plant species have been identified, including two Bahamian protected species, at least one CITES protected species and at least two species listed as Endangered by the IUCN Red List. Many species of birds live there, including white-crowned pigeons, ospreys, yellow-crowned night herons, Wilson's plovers, oystercatchers, Antillean nighthawks, white-cheeked pintail ducks, gray kingbirds, thick-billed vireos and bananaquits. Reptiles reported on Athol Island include green anoles, brown anoles, bark anoles and curly-tailed lizards, as well as two subspecies of Bahamian boa (New Providence and Andros) that were released on the island. Iguanas have also been released onto the island. White land crabs are known to inhabit the island.

The marine environment surrounding the island is shallow and consists of a mosaic of seagrass beds, patch reefs, *Thalassia* communities, and *Sargassum* and gorgonian hardbottom communities. These communities support many species of algae, stony and soft corals, fish and invertebrates that are typical of these habitats and that are important ecologically and economically.

**Historical significance:** The island has a long history. In the 1800s, it was reportedly inhabited by residents who dug freshwater wells and farmed. During this time, the waters to the west of Athol Island were designated as the very first MPA in The Bahamas, known as the Sea Gardens. It was a very popular site for tourists to visit in glass-bottomed canoes. Around 1860, a quarantine station was constructed to protect New Providence from ships whose crews carried yellow fever, smallpox and other infectious diseases. In the early 1900s, it was reportedly used to house lepers. The ruins of the quarantine station and a former lighthouse remain on the island and provide great opportunities for tourism.

**Opportunities:** Athol Island provides socio-economic benefits to many Bahamians. There are several sandy beach bays that are frequently used by residents and tourists. A wreck and patch reefs are very popular dive sites, and the historic Sea Gardens continues to be visited by glass-bottomed boats. The newly proposed protected area will ensure that nature-based tourism businesses will continue to thrive. With the addition of footpaths to points of interest around the island, the enhancement of historical sites, informative signage, a tour guide training programme, and opportunities for food and souvenir vendors, the site can provide growth in economic returns for the businesses that are currently present.

Through proper planning and management, the environmental threats posed by these businesses can be reduced and controlled. The placement of strategic mooring buoys, docking facilities, restrooms and garbage facilities can minimize damage to the environment.

The control of invasive species and gradual enhancement of biodiversity on the island will not only improve the aesthetics for visitors but will improve the resilience of the island in the face of climate change.

### 38. Lost Blue Holes

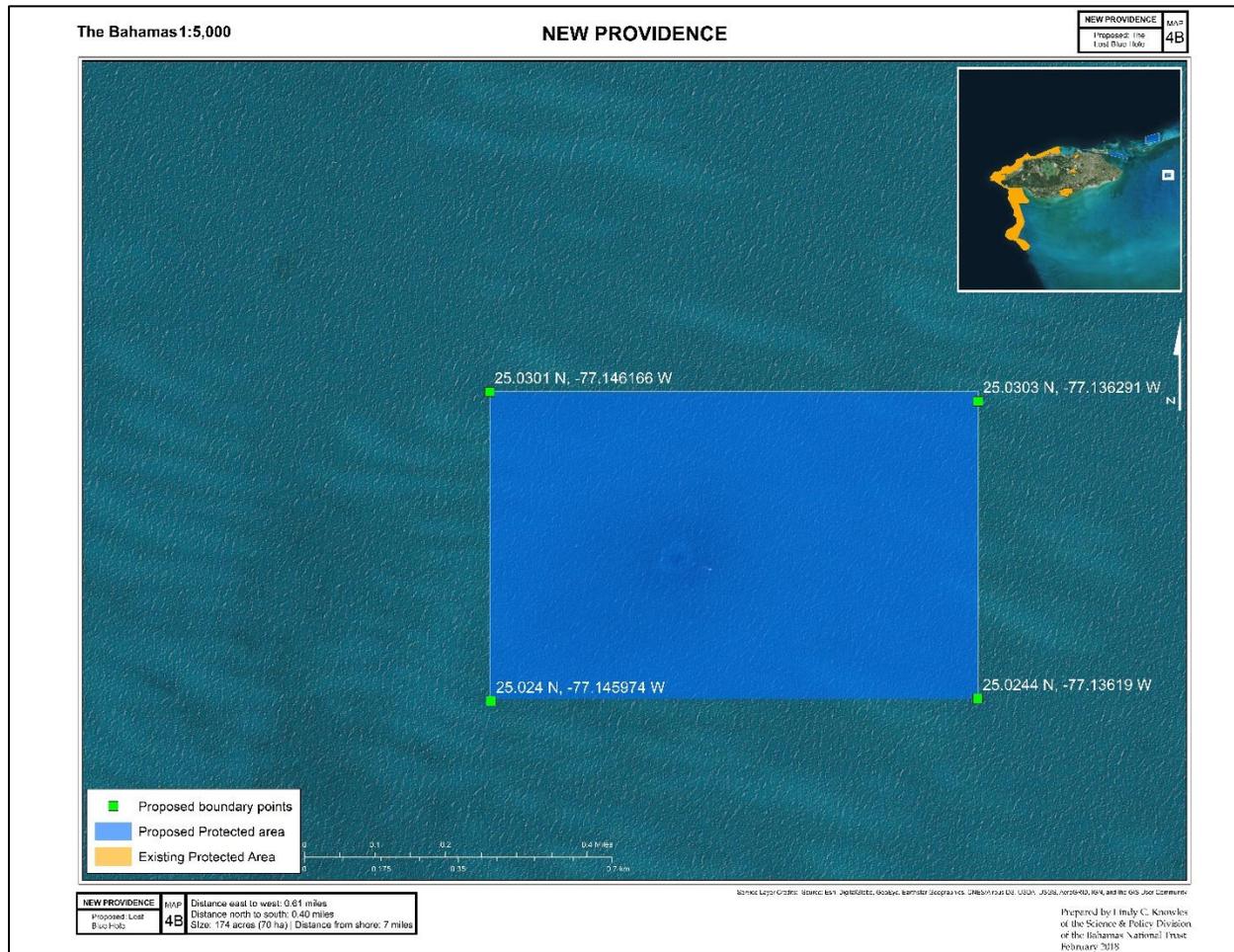
**Size:** 174 acres (70 ha)

**Conservation targets and other resources:** seagrass, sand, blue hole

**Location:** 10 miles east of New Providence Island

**Threats:** uncontrolled use, anchor damage (the sea floor becomes gradually degraded when there are no mooring buoys), incompatible uses (fishing and diving activities need to be managed), scarring of seagrass

**Proposed management:** zoning for multiple uses and control of overuse of site.



**Site description:** The Lost Blue Hole is located 10 miles east of New Providence and includes the entire blue hole and a significant portion of the shallow water around it. It is a submerged blue hole that is 100 feet in diameter and 200 feet deep.

**Justification for inclusion:** This site has great importance ecologically, culturally and socio-economically. The site is famous for the large numbers of nurse sharks, reef sharks, angelfish, butterflyfish, snappers, amberjacks, yellowtails, manta rays, morays and sea turtles. It is also famous for schools of silky sharks in the spring and summer. The walls are rich in sponges, corals and macroalgae. The site is used by fishers mostly for line fishing and is an extremely popular dive site.

**Opportunities:** Designating this area as protected would reduce the threats posed to wildlife by providing mooring buoys and controlling the types of fishing activities and feeding of wildlife. The area could also be enhanced through seagrass and reef restoration activities.

### 39. Eastern Cays (Green Cay)

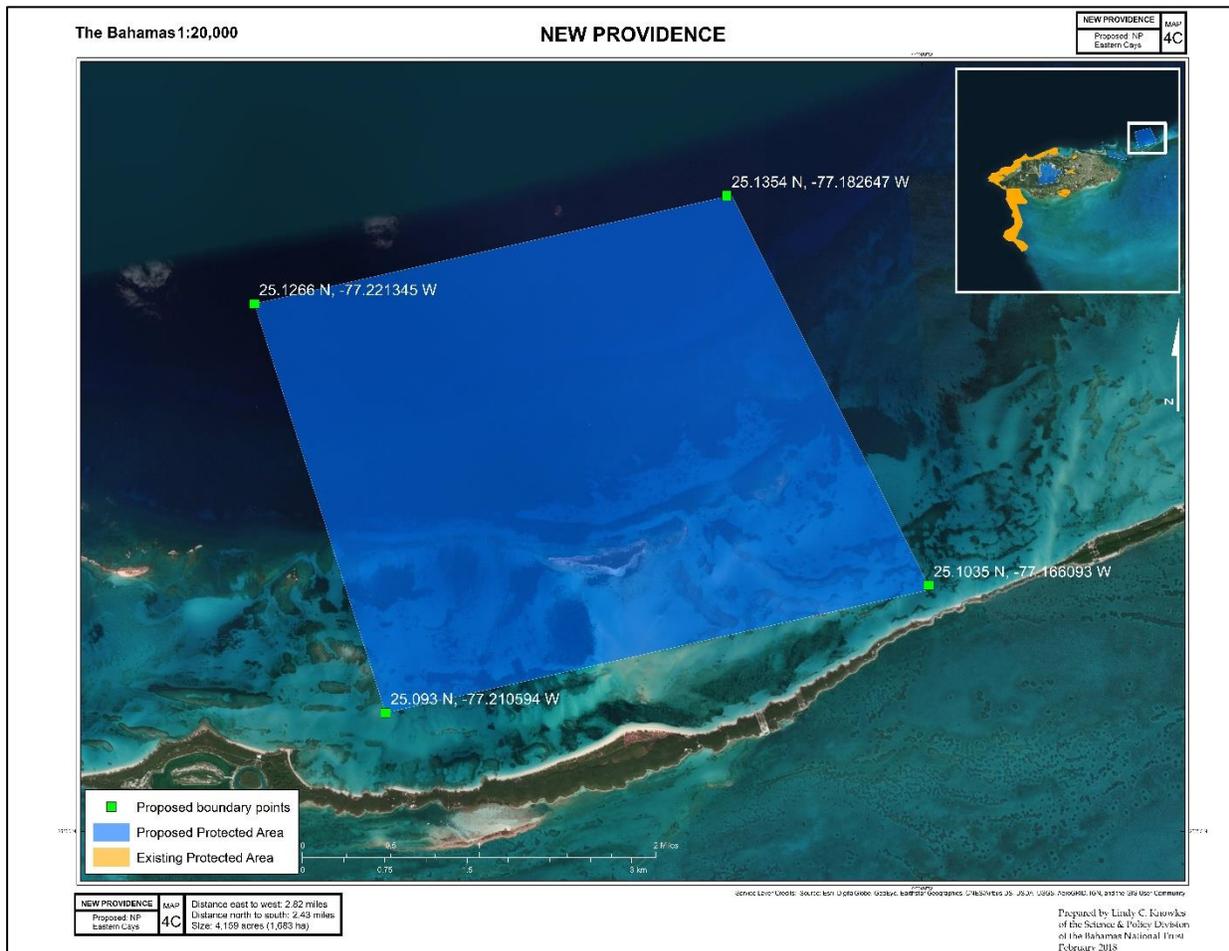
**Size:** 4,159 acres (1,683 ha)

**Conservation targets and other resources:** rocky shore, mangroves, seagrass, hardbottom, patch reefs, seabirds, turtle habitat, historical fish spawning aggregation, deepwater

**Location:** northeast of New Providence and north of Rose Island

**Threats:** overfishing activities and extreme sea surface temperatures, uncontrolled use, invasive species and lack of general management, invasive species, uncontrolled use, anchor damage, boat groundings, disturbance to wildlife

**Proposed management:** highly protected area (or replenishment area)



**Site description:** The area surrounding Green Cay just north of Rose Island is biologically diverse and has great cultural and socio-economic importance. The proposed site would include the waters surrounding Green Cay, from the shallow bank on the south of the island to well beyond the shelf edge to the north into deeper waters.

**Justification for inclusion:** The area is typical of a Bahamian marine environment and is composed of a mosaic of patch reefs, seagrass beds, sand bars, gorgonian hardbottom, a deepwater drop-off and associated habitat. The shallow banks are littered with patch reefs that

have colonies of elkhorn and staghorn corals. The area has a large number of subadult hawksbill sea turtles and adult green sea turtles. Historically, the area supported very high populations of queen triggerfish, queen conch, Nassau grouper and spiny lobster, but most of these populations have been depleted. The deep water supports great numbers of red snappers and once had an important Nassau grouper spawning site.

**Opportunities:** The site is heavily used by recreational and commercial boaters for many different activities, including fishing, sightseeing, shelling and snorkelling and as an anchorage. Designating this area would protect and restore the marine habitats so that the area can once again flourish, enhance the experiences for visitors and generate great opportunities for tour companies. Protection from destructive fishing practices will allow marine resources to replenish the surrounding areas with resources that can be fished.



Bahamas Protected representatives after radio appearance on Island FM's Morning Boil radio show. Pictured L to R: Ryan Adderley (Communications Officer, BREEF), Sannie Brown (Co-Host of Morning Boil Show), Lashanti Jupp (Conservation Planner, BNT), Eddie Carter (Host of Morning Boil Show) and Casuarina McKinney-Lambert (Executive Director, BREEF). Photo courtesy of Bahamas Protected project.

#### 40. Lake Killarney

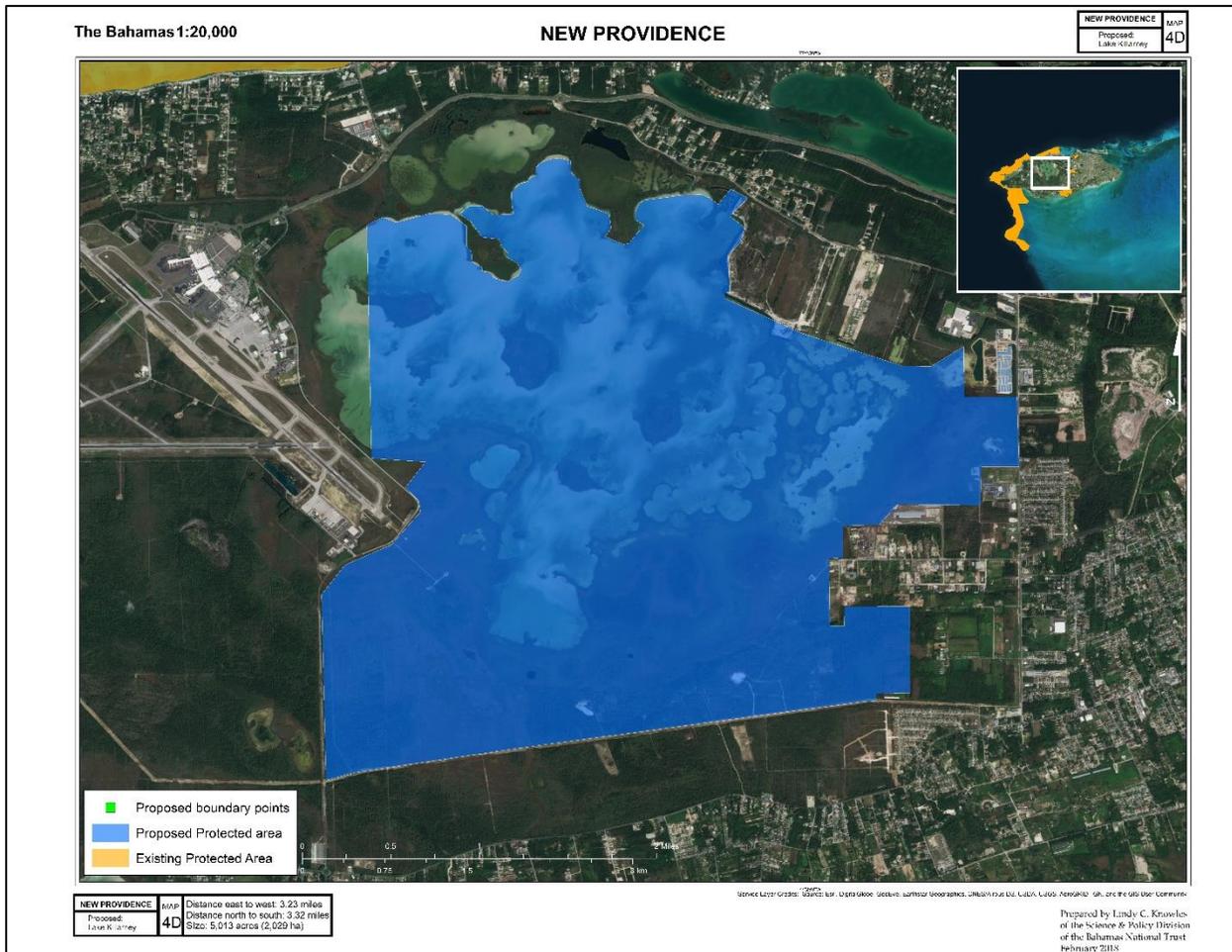
**Size:** 5,013 acres (2,028 ha)

**Conservation targets and other resources:** coppice forest pinelands, inland lake, freshwater wetlands

**Location:** east of New Providence

**Threats:** development, dumping, poor water quality, groundwater contamination from landfill, invasive plants, encroachment

**Proposed management.** To be managed for multiple uses.



**Site description:** Lake Killarney is located in the centre of New Providence Island and is bordered by John F. Kennedy Drive (north), Gladstone Road (east), Carmichael Road (south) and Coral Harbour Road (west). The proposed area would include the entire area that is not currently private or deemed to remain Crown lands due to the proximity of the airport.

As with the rest of New Providence, development is the greatest threat. The northern portion is currently owned by Baha Mar and reserved Crown land, and consists of the greatest portions of the unique Red Cedar community. The eastern portion is being encroached on and used as an

illegal dumping ground. The official landfill site also sits on the southeast boundary and is very likely a source of groundwater contamination.

**Justification for inclusion:** Lake Killarney is the largest landlocked body of water on New Providence and provides important ecological and socio-economic functions. The lake itself is typical of an inland wetland in The Bahamas and has some connectivity to the sea; it is dominated by red mangrove and sawgrass. Dry broad-leaved evergreen forest and pine woodland dominate the perimeter. The area is abundant in orchids and bromeliads, but more notable is the community of West Indian red cedar, a species that is listed as vulnerable by the IUCN Red List and is endemic, found only in The Bahamas.

Many birds also use the area; however, the most noteworthy animals are the freshwater fishes. Lake Killarney is home to the island endemic (only found on New Providence) Bahama pupfish as well of the endemic Bahama mosquitofish.

The site is used for both recreational and commercial kayaking but mostly used for its water resources. Two significant freshwater lenses border the lake. The largest is to the west and contains an estimated 88M m<sup>3</sup> of freshwater, while the adjacent lens located in the south contains over 3M m<sup>3</sup>. A reverse osmosis plant was installed in 1977 at the southern portion of the lake, and by 1978 it provided up to 9% of New Providence's freshwater production. The entire area also remains important as a floodwater catchment area.

**Opportunities:** The purpose of establishing Lake Killarney as a protected area would be to preserve the pine forest area for low-impact activities and protect the unique populations of red cedar, Bahama pupfish and Bahama mosquitofish and their associated habitats, while ensuring continued and sustainable water resources for New Providence. Plants that have a natural ability to remove pollutants from the soil (phytoremediation) could be planted in the southeast area, to strategically reduce potentially toxic leachates from the landfill and other sources. This is an ideal site to develop ecotourism activities with hiking and biking trails, scenic observation decks, and multiple kayaking access points. Considering its proximity to the airport, the site offers great opportunities for concessional facilities.

## N. RAGGED ISLAND

### 41. Cay Verde

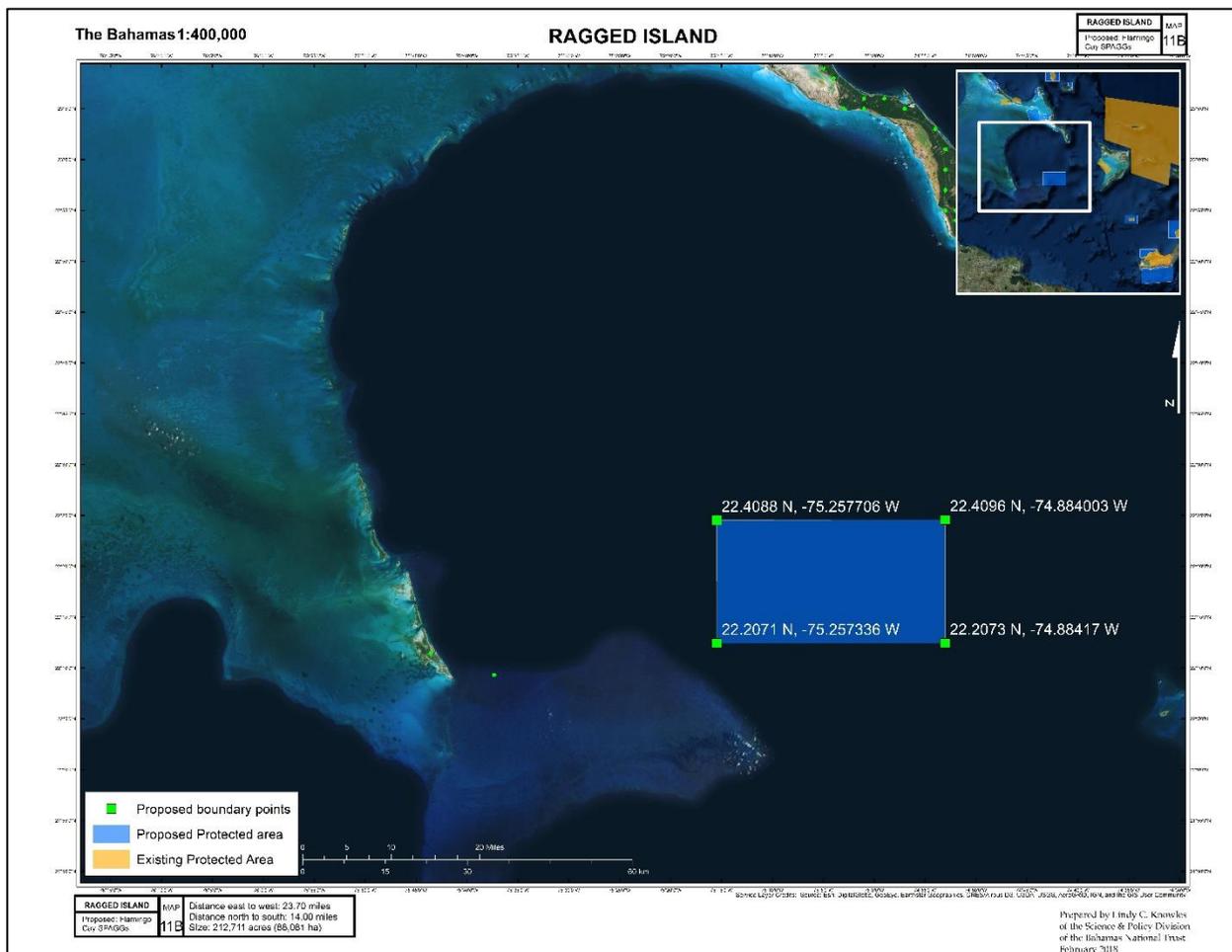
**Size:** 212,711 acres (86,081 ha)

**Conservation targets and other resources:** fish spawning aggregation, deepwater features, coral reef system, sand/mud

**Location:** between Crooked Island/Acklins and Ragged Island chain (45 miles east of Ragged Islands)

**Threats:** poaching from foreign fishing vessels, IUU fishing

**Proposed management:** fishers have requested the area be zoned for multiple uses.



**Site description:** This proposed area is located about 45 miles east of the Ragged Island chain, between the Ragged Islands and Crooked/Acklins islands. It contains the largest documented Nassau grouper spawning aggregation in the region, deepwater habitats, important coral reef systems on the edge of the bank, turtle feeding habitat, and shorebird habitats. Proposed boundaries extend 23 miles east to west, and 14 miles north to south, and include the waters around Flamingo Cay.

**Justification for inclusion:** The Flamingo Cay spawning aggregation is the largest documented spawning site for the endangered Nassau grouper and is therefore vulnerable to overfishing without protection measures in place. Cay Verde is home to high populations of shorebirds and migratory birds that rest and feed on the cay during winter months.

**Opportunities:** Protecting this area would preserve the largest Nassau grouper spawning sites in the wider Caribbean, assist with addressing poaching issues and IUU fishing through strategic planning and partnerships with enforcement agencies, and provide opportunities for scientific research and monitoring of habitats and species of concern.

## O. RUM CAY

### 42. Southeast Rum Cay

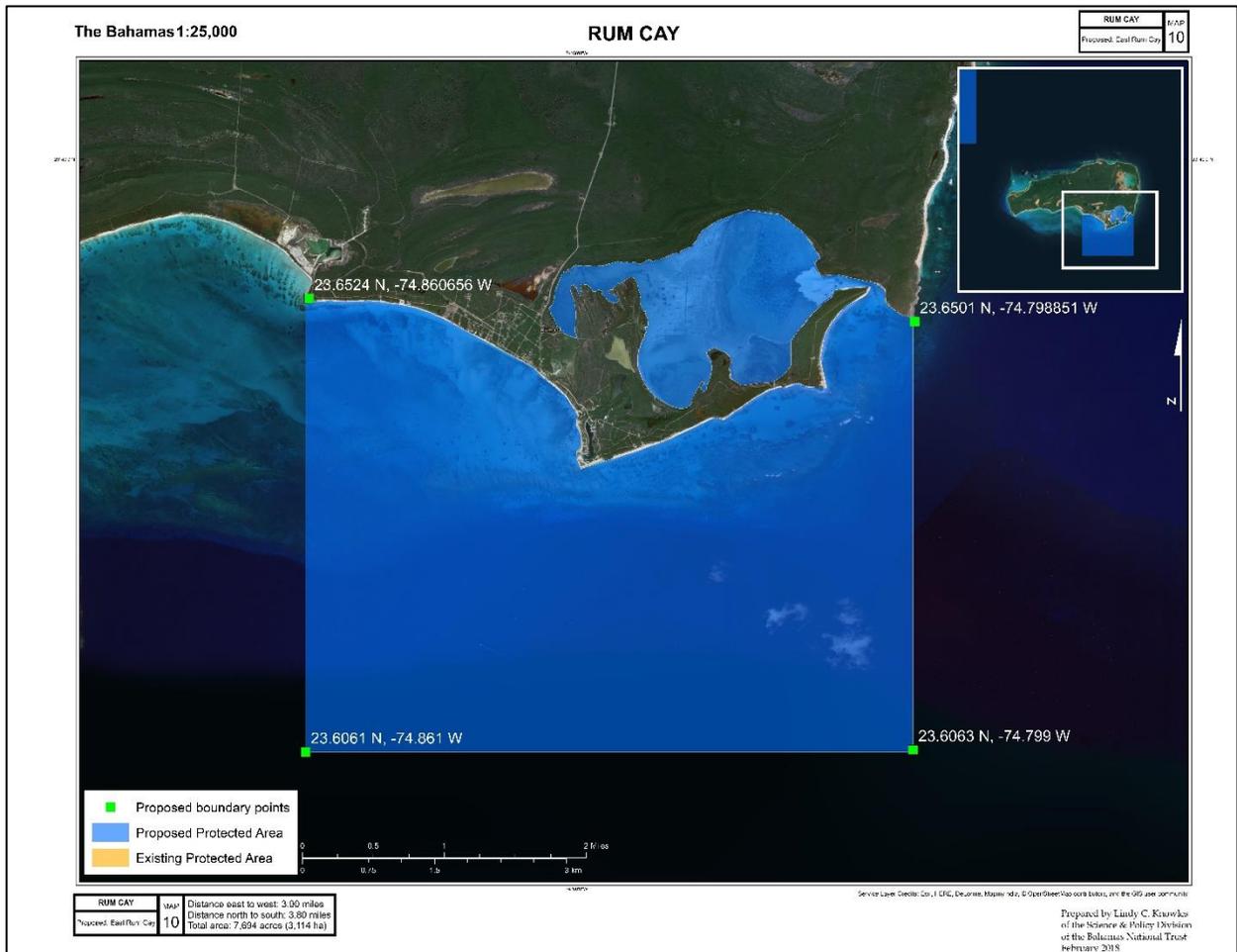
**Size:** 7,694 acres (3,114 ha)

**Conservation targets and other resources:** rocky shore, sandy beach, seagrass, mangrove, patch reef, forereef, tidal creek

**Location:** Cotton Field Point, extending east to Signal Point and northeast to include Salt Pond Lake

**Threats:** overfishing, uncontrolled use, IUU fishing, boat groundings, incompatible uses (subsistence fishing, sportfishing, commercial fishing, diving)

**Proposed management:** zoned for multiple uses, with a fisheries replenishment zone in nursery areas, as well as areas where fishing is allowed, as proposed by the Rum Cay community.



**Site description:** The proposed Southeast Rum Cay site would protect healthy habitat for several endangered species, including staghorn and elkhorn corals, which are important reef-building corals; Nassau grouper; and hammerhead sharks. The boundaries extend east of Cotton Field

Point to include the Port Nelson Bay area, extending 3.4 miles offshore, and north and northeast to include Salt Pond Lake.

**Justification for inclusion:** The Salt Lake Pond/creek system is known for its abundance of juvenile conch, reef fish, spiny lobster, and lemon and tiger sharks. Spotted eagle rays and green turtles frequent the creek and surrounding thriving seagrass sites within the MPA. Large coral heads provide habitat for a range of finfish. Sportfishing for deepwater species like the wahoo and tuna is popular in the northeast area of the MPA. Endangered hammerhead sharks pass through the area. The more northern beaches are popular surfing and swimming sites for Rum Cay residents. The site is used by neighbouring islands for commercial fishing year-round. Trapping mainly for Nassau grouper in the deeper parts of the proposed MPA is common.

**Opportunities:** Establishing East Rum Cay as an MPA will protect the only tidal creek system on the island and establish the first MPA for the island. It will also address the issues of incompatible uses and other threats, which include harvesting of undersized conch and poaching from foreign vessels.



*Frederick Arnett (Conservation Practitioner, TNC), a member of the Stakeholder Consultation Team of the Bahamas Protected project, speaking during a community meeting in South Andros, May 2018. Photo courtesy of Bahamas Protected project.*

P. SOUTHWEST GREAT BAHAMA BANK

43. Columbus Bank

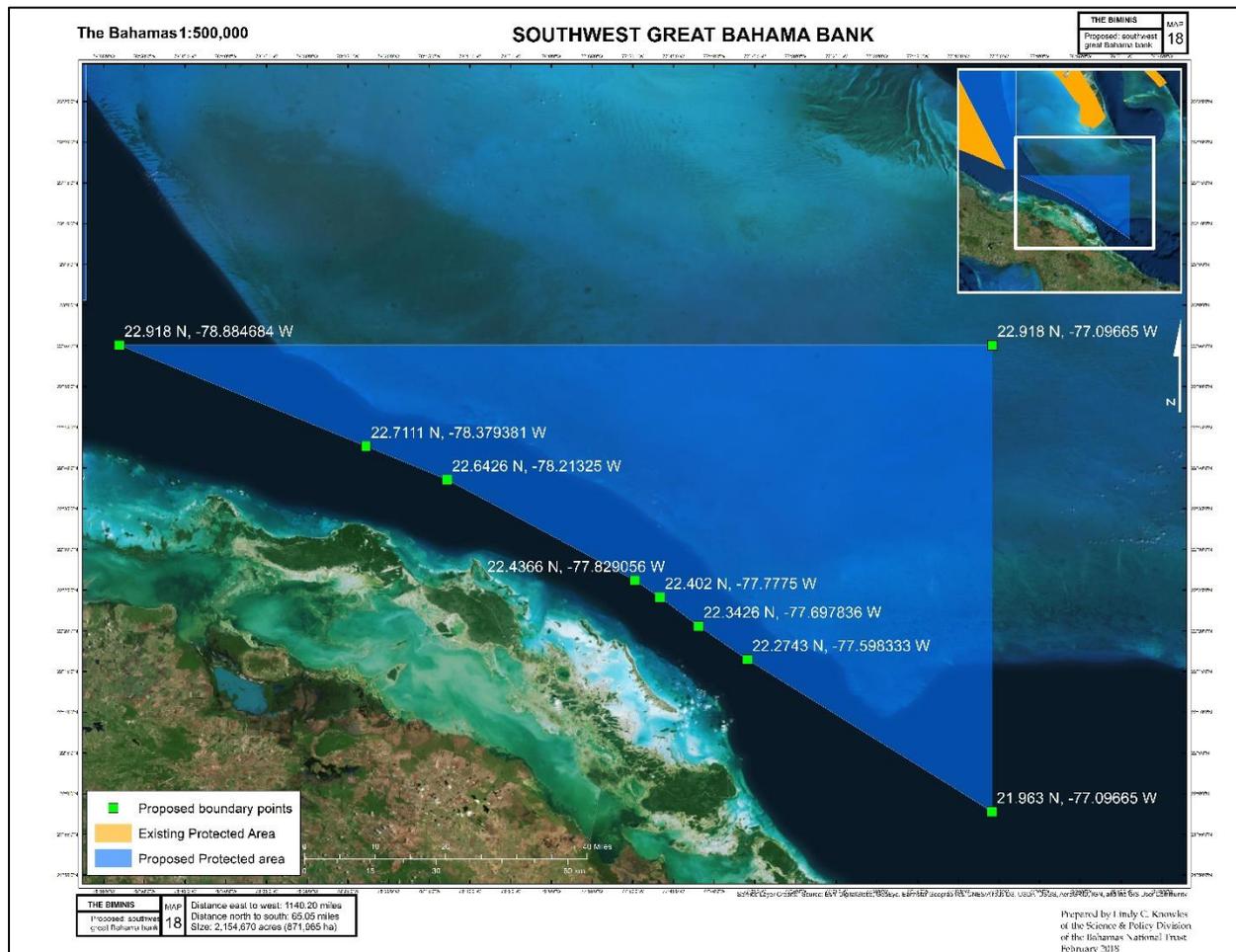
**Size:** 2,162,120 acres (874,978 ha)

**Conservation targets and other resources:** turtle habitat, patch reefs, seagrass, sand/mud, marine IBA (mIBA), fish spawning aggregation, deepwater features, sandy beach

**Location:** southwest edge of Great Bahama Bank, north of Cuba

**Threats:** poaching by foreign fishing vessels, IUU fishing, unsustainable fishing practices

**Proposed management:** Management should reduce the threats of illegal fishing by neighbouring countries, with varying approaches that will be determined with resources users and other key stakeholders during the management planning process.



**Site description:** This proposed area is located along the southwestern border of the country’s territorial waters and will protect several conservation features, including deepwater, patch reefs on the edge of the bank, turtle feeding habitat, and shorebird habitats. It encompasses a marine IBA (mIBA) and a Nassau grouper spawning aggregation that is targeted by foreign fishing vessels. Proposed boundaries extend 1,140 miles east to west, and 65 miles north to south.

**Justification for inclusion:** The proposed area includes the Cay Lobos marine IBA, which supports significant breeding populations of roseate terns and regionally important populations of least terns and bridled terns. Other migratory birds flock to this area, as it is an important flyway area between North and South America. The site contains the historical Cay Lobos Lighthouse, established in the 1860s. Protected area status would protect a vulnerable Nassau grouper spawning aggregation that is susceptible to poaching activities, in addition to IUU fishing practices on spawning sites and reef areas.

**Opportunities:** Establishing an MPA along the country's border will not only improve natural resource management at a key fishing ground in the southwestern Bahamas but will also enhance the ability to enforce existing legislation to address the major challenge in the fishing industry, which is poaching by neighbouring countries. Greater collaboration and shared resources will be required among the various Government Departments to strengthen relationships between enforcement agencies.



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# Conclusion

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This document, *20 by 20 White Paper: Marine Protection Plan*, proposes a set of 43 areas to protect important marine resources across The Bahamas and achieve the country's 20 by 20 goal, which the Government of The Bahamas has committed to doing. These areas were selected based on the best available science from the marine gap analysis and through an extensive stakeholder consultative process, supported by an active PR campaign.

Government approval of the areas outlined in this paper will move the country from the present level of 10% protection to its target goal of protecting 20% of marine and coastal environments. However, these areas must be assigned to protected area management agency/agencies, and the legal process should be fully completed. The advancement of this process will move the country towards sustainable development goal 14 (SDG 14), which seeks to conserve and sustainably use the oceans, seas and marine resources for sustainable development. This approach is critical to the economic development of The Bahamas and the wellbeing of its residents.

We invite the Government of The Bahamas to note the following:

- i. The Bahamas has committed to fulfilling the CCI 20 by 20 goal: to protect at least 20% of the marine and coastal environment by 2020.
- ii. The *Bahamas Protected* project is a three-year initiative that was undertaken to support the Government of The Bahamas in meeting the 20 by 20 commitment.
- iii. The project used a marine gap analysis and public consultation process to identify areas listed in Table 1 that should become MPAs.
- iv. Stakeholders were engaged via the marine gap analysis, public consultations and a public relations campaign.

Therefore, we urge the Government of The Bahamas to:

- v. Endorse the declaration of the areas in Table 1 as protected areas within The Bahamas;  
and
- vi. Instruct the relevant agencies to complete the legal process for establishing the areas in Table 1 as protected areas within The Bahamas.

## REFERENCES

1. Arkema, K. D., Fisher, K. Wyatt. 2017. Economic valuation of ecosystem services in Bahamian marine protected areas. Prepared for BREEF by The Natural Capital Project, Stanford University.
2. BirdLife International (2017). Country profile: Bahamas. Available from <http://www.birdlife.org/datazone/country/bahamas>. Accessed on 06 December 2017.
3. Brumbaugh, D. R., 2017. Co-Management of Marine Protected Areas: A Suggested Framework for The Bahamas, A Technical Report.
4. Conservation Clinic at the University of Florida, Levin College of Law and Ocean Crest Alliance (2013). LIMMA: A Proposal for the Long Island, Bahamas Marine Managed Area.
5. Dahlgren, C.P., Knowles, L.C., Jupp, L., Brittain, C., Masonjones, H. (2017). Rapid Ecological Assessment of the Mangroves and Coral Reefs Around Savannah Sound, Eleuthera.
6. Irizarry, V.A., Wege, D.C. (2016). A Gap Analysis for the Protection of Marine Important Bird and Biodiversity Areas in The Bahamas.
7. IUCN (2017). *The IUCN Red List of Threatened Species. Version 2017-3*. Available from <http://www.iucnredlist.org>. Downloaded on 06 December 2017.
8. Joryl, D.E. (1987). Biological data on Berry Islands (Bahamas) queen conchs, *Strombus gigas*, with mariculture and fisheries management implications. *Fishery Bulletin*, 85(2).
9. Knowles, J.E., Green, A.L., Dahlgren, C.P., Arnett, F., Knowles, L. (2017). Expanding the Bahamas Marine Protected Area Network to Protect 20% of the Marine and Coastal Environment by 2020: A Gap Analysis.
10. Moss, S., Moultrie, S. 2014. Ecological Gap Analysis: GEF FSP Sustainable Network of MPAs – The Bahamas. Nassau: BEST Commission.
11. Stoner, A.W., Nixon, M.A., Dahlgren, C.P. (1999). Scientific Review of the Marine Reserve Network Proposed for the Commonwealth of The Bahamas by the Bahamas Department of Fisheries.
12. Sullivan Sealey, K. 2011. Final Report: Assessment of illegal, unreported and unregulated fishing in the Bahamian Spiny Lobster Fisher. University of Miami.
13. Thurlow, K.E., Palmer, M. 2007. The Bahamas Ecological Gap Analysis. The Nature Conservancy, Northern Caribbean Program, Nassau, The Bahamas.

## APPENDIX A – Summary of Stakeholder Consultations

Table 4. Engagement of Island Administrators and Local Government Officials 2016-2018

LOCATION	DATE	DESCRIPTION
Cat Island – North	July 12, 2016	BNT met with Island Administrator Jackson McIntosh, North Chief Councilor Kevin Brown and North Deputy Chief Councilor Alvin Thurston in North Cat Island to discuss proposing new protected areas for Cat Island for the <i>Bahamas Protected</i> project.
Cat Island – South	July 13, 2016	BNT met with Administrator in Training Frances Symonette, Chairman Omar Stubbs and other Local Government Council members for South Cat Island, including Olevia Burrows, Mandy Major, Monette Poitier, Alvin Thurston, Clifford Hepburn, Jerry Smith and Stanley Webb, to discuss establishing new protected areas for Cat Island, and the field assessments underway to advance PA designations.
Long Island	July 25, 2016	BNT representatives met with Island Administrator Terrence Bootle-Bethel, Chief Councilor Ian Knowles, Deputy Chief Councilor Sharon Cartwright, and Local Government Secretary Cindy Cartwright at Long Island District Council Office in Grays, Long Island, to discuss sites proposed as new Protected Areas on and around Long Island.
Berry Islands – North	August 18, 2016	BNT met with Cardinal Rolle, Chief Councilor Henry-Lee Butler, Deputy Chief Councilor Monalisa Arana, Local Government Secretary Lawrence Rolle, and a Local Government Council representative.
Eleuthera – Central	September 26, 2016	BNT, TNC and BREEF representatives met with three members of the Central Eleuthera Local Government Council: Deputy Chief Councilor Denny Rankin, Osborne Pinder and Edith Rolle.
Eleuthera – South	September 27, 2016	BNT, TNC and BREEF representatives met with Government Officials at the South Eleuthera Local Government Council to discuss and receive input on areas proposed for Eleuthera. The meeting included South Eleuthera Administrator Glenn Lightbourn, Chief Councilor Ronald Lloyd Horton, Hilbert Richards from Green Castle Township, Philip McPhee from Bannerman Town and Wemyss Bight Township, Ernest Sweeting from Wemyss Bight Township, Daniel Smith from Wemyss Bight township, Phillipa Strachan from Rock Sound Township, Edward Sands from Rock Sound Township Council, and District Council Secretary Shakira Gardiner.
Inagua	October 11, 2017	BNT and TNC representatives met with Island Administrator Julita Ingraham to discuss the plans for expanding the Inagua National Park System and to provide background information on <i>Bahamas Protected</i> .
Mayaguana	October 27, 2017	BNT and BREEF representatives met with Island Administrator Earl Campbell, Chief Councilor Clayton Farrington, Fisheries Superintendent Patrick Collie, Police Superintendent Leonardo

		Burrows and Council Members Debbia Moss and Mr. Rahming to provide background information on <i>Bahamas Protected</i> and the history of protected areas in Mayaguana.
Cat Island	November 1, 2017	TNC, BNT and BREEF representatives met with Island Administrator Neil Campbell, Local Government Council Chairman Jerry Smith, South Fisheries Superintendent Nathaniel Gilbert and Council Member Mr. Barnes to provide updates on the status of Cat Island proposed sites and progress of the <i>Bahamas Protected</i> project.
Exuma – George Town	November 10, 2017	BNT representatives met with Island Administrator Oscar Munroe, Chief Councilor Godfrey Gray, and East Town Chairman Ken McPhee, as well as Council Members Pam Brennen and Perry Rolle, to discuss the <i>Bahamas Protected</i> project.
Grand Bahama	February 7, 2018	BNT representatives on Grand Bahama met with West Island Administrator Don Cornish to introduce the <i>Bahamas Protected</i> project and the concept of an MPA for West End.
Andros – South	May 3, 2018	BNT, TNC and BEST Commission representatives met with South Island Administrator Colebrooke and Local Government office staff Stacey Adderley, Bridget Lloyd, Burnell Rolle, Chedretta Flowers, Ranisha Francis, Percita Knowles, Rance Smith and Sophie Smith to discuss proposed sites near South Andros and the <i>Bahamas Protected</i> project.
Grand Bahama	May 15, 2018	BNT representatives met with West Grand Bahama Administrator Don Cornish and the Local Government Council for West Grand Bahama, including the following council members: Chief Councilor Ken Bar-Smith, Deputy Chief Councilor Morton Wilchcombe, Constance Hanna, Carolyn Ferguson, Keithora Munroe and Mauva Hanna.
Abaco – South	May 15, 2018	BNT, TNC, and BEST Commission representatives met with the Ministry of the Environment and Forestry Unit.
Eleuthera – North	May 22, 2018	BNT, TNC, BREEF, BEST Commission, Department of Marine Resources and Ministry of the Environment representatives met with North Island Administrator Ivan Ferguson, Island Administrator Trainee Gaye Bowe and Deputy Chief Councilor Ernie Kelly about sites proposed for protection around Eleuthera and the <i>Bahamas Protected</i> project.
Exuma – George Town	June 6, 2018	BNT representatives met with Island Administrator Oscar Munroe to update him on the status of the <i>Bahamas Protected</i> project.

Table 5. Stakeholder Meetings Held to Propose Sites for Designation as Marine Protected Areas, 2016–2018

Date	Location	Description	Total Attendees
July 12, 2016	Cat Island – North	Community meeting	8
July 13, 2016	Cat Island – South	Community meeting	9
July 26, 2016	Long Island – South	Community meeting	20
July 27, 2016	Long Island – North	Community meeting	9
Aug. 18, 2016	Berry Islands – North	Community meeting	10
Sept. 26, 2016	Eleuthera – Central	Community meeting	7
Sept. 27, 2016	Eleuthera – South	Community meeting	16
Sept. 28, 2016	Eleuthera – South	Community meeting	9
Sept. 28, 2016	Eleuthera – South	Community meeting	21
Oct. 12, 2017	Inagua	Community meeting	14
Oct. 27, 2017	Mayaguana	Community meeting	34
Nov. 1, 2017	Cat Island – North	Community meeting	21
Nov. 2, 2017	Cat Island – South	Community meeting	14
Nov. 9, 2017	Exuma – North West	Community meeting	12
Apr. 11, 2018	Hatchet Bay, Eleuthera	Community Meeting (Sweetings Pond)	22
Apr. 12, 2018	Gregory Town, Eleuthera	Community Meeting (Sweetings Pond)	14
May 3, 2018	South Andros	Community Meeting	58 (24 students)
May 15, 2018	South Abaco	Community Meeting	33
May 22, 2018	Spanish Wells, Eleuthera	Community Meeting	41
May 23, 2018	North Eleuthera	Community Meeting	12
May 24, 2018	Harbour Island	Community Meeting	13
May 29, 2018	West Grand Bahama	Community Meeting	12
June 6, 2018	Exuma, North	Community Meeting	31
June 28, 2018	Potter’s Cay Dock and Montague Ramp, New Providence	Pop-Up Meeting	15
July 8, 2018	New Providence	Focus Group Meeting w/ Tour Companies	4

## Appendix B – Listing of Stakeholders Engaged in the *20 by 20 White Paper: Marine Protection Plan* Process

### **ABACO**

May 2018 (South, Sandy Point): Bruce Smith, Arthur Lightbourne, Pernille Tonnesen, Susly Lill, Chloe Malinka, Charlotte Dunn, Pastor Wells, Jacob Allqeia, Kenzo Esquivel, Laurence Riviere, Diane Claridge, Lottie Rolle, Spurgeon Dames, Vaughn Rolle, Donald Rolle, Jacquelyn W. Estevez, Laurestine Fox, Shakur Fox, I. William, Paul Pinder, Jeremie Saunders, Marcus Davis, Preston Roberts, Gregory Deveaux, Karan Deveaux, Danero Greene, W. Stephen Knowles, Anita Knowles, John Heddeu, Basil McKinney, Shenique Bain, Veronia Saunders, Lavanda Smith

**Community Walk-a-bout (South, Cherokee):** Noel Lowe, Krystle Weatherfors, Rex Pinder, Joy Albury, Michelle Lowe

### **ANDROS**

May 2018 (South Andros): Irma Quiroga Torres, Lerissa Rahming, Jerome Forbes, Raynessia Watkins, Sonia Miller, Sonia M. Neeley, Jeanne Capie, Chelsea Rudess Leopald, Alphaeus R. Forbes, Lonix Smith, Sayretine Johnson Hewitt, Esther Thompson, Cherene Smith, Zebedee Rolle, Bernadette Rolle, Rebecca Sweeting, Sharon Henfred, Charmaine Ferguson, Wayde Forbes, Sandra Nixon, Sharlene Moxey, Joshua Rolle, Adrian Knowles, Benaly Forbes, Rayniel Lewis, McRoy Wilson, Joel Rahming, Sherene Gray, Michael Rolle, Sheila Harris, Valderine Lewis, Andy Horn, Aaron Rolle, Ava Rahming, Jeffery Francis, Morece Ferguson, Lachea Roberts, Leah Wallace, Nadurius Ferguson, Carlissa Johnson, Cassidy Rolle, Lauryn Rahming, Mattanyah Johnson, Dainah Williams, Emmanuel Williams, Alicia Leslie, Hope Leslie, Serria Forbes, Dionette Nottage, Kirstavio Fernander, Alayah Godet, Maujah Johnson, Tavara Rolle, Deonte Morris, Terrell Andrews, Samuel Ellis, Deaisha Webb

### **BERRY ISLANDS**

August 2016: Kathlyn Johnson, Gaynell Brown, Barry North, Cardinal Rolle, Elon Rolle, William Kalis, Kevin Wallace, Lawrence Rolle, Clayton Brannan, Laurent Rolle

### **CAT ISLAND**

July 2016:

**Meeting 1:** Demick Rolle, Garth H. King, Mark Keasler, Birthlan Dewlats, Tito Thurston, Mark Thurston, Duke Modd, Nathaniel Gilbert, Carl Rolle

**Meeting 2:** Garth H. King, Sybil McGillion, Sherrie Cleare, Curtis Campaigne, Jackson McIntosh, Jacqueline Campaigne, Demick Rolle, Mark Keasler

November 2017:

**Meeting 1 (North, Arthur's Town):** Jerry A. Smith, J.P., Denrick E. Rolle, Edwin W. McDonald, Ethel Turner, Jonathan Armbrister, Michael Armbrister, Denburgh Turner, Debra Armbrister, Casey Stubbs, Michalette Pratt, Jeinekque Rolle, Leonardette Ross-King, Mark Deane, Devia V.

Burrows, Claudella Campbell, Mandy Major, Omar Stubbs, Willette Rolle, Marvin Webb, Trevor Strachan, Veronica Baine

**Meeting 2 (South, Old Bight):** Wendy Finlayson, Nura Seepma, Herman Gilbert, Inez Moss, Madlyn Stubbs, Daisy Hunter, Ali Seymour, Tito Thurston, Kendal Butten, Lonnie Brown, Sophiette Russell, Harrison King, Sabre Rolle

## **ELEUTHERA**

### September 2016:

**Meeting 1 (Central, Governor's Harbour):** Denny Rankine, Julius Rankine, Julius Rankine Sr., Lester Wallace, George Johnson, Nicholette Duncombe, Embri Stuart-Kamu

**Meeting 2 (South, Wemyss Bight):** Dennis Johnson, Kevin Sears, Darryl Miller, Keith Kemp, Nehemiah, Levitians Hudson, Roosevelt Hudson, Otis Tynes, James Tynes, Scyetha Tynes, Aretha Tynes, Daniel Smith, Devon Young, Ernest Gomez, Lynden Mackey, Ricardo

**Meeting 3 (South, Deep Creek):** Ernest Gomez, Andrew McKinney, Syrano Anderson, Shannon Anderson, Alvin Johnson, Ezra Anderson, John Miller, Donald Goodman, Anthony Leary, Winton Gibson, Bishop Anderson, Shawn Delancy Pinder, Ernel Thompson, Jermaine Pinder, Wayne Thompson, Mark Anderson, Walter Miller, Adrian Ferguson, John Pinder, Kennedy Pinder, Junior Pratt

**Meeting 4 (South, Tarpum Bay):** Philip Culmer, Janet Hunt, Andrew Hunt, John McCartney, Mr. Knowles, Julian Carey, Ronald Horton, Shakera Gardiner, Shawna McCartney

### April 2018:

**Meeting 1, Sweetings Pond/Seahorse National Park (Hatchet Bay):** Johnny Cleare, Stella Randall, Johnathan Randall, Marvin Bethel, Robin Helweg Larsen, Eliza Helwig Larsen, Lonnie Rolle, Frederich Ferguson, Marcita Sawyer, Christopher Cambridge, Vandra Rolle, Vernita Dean, Adrian Hanna, Robert B. Scavella, McClain Pinder, Mertalia Farrington, Jasmine Ferguson, V'Anntae Johnson, Indira A. Rolle, Mat Dean, Dedrie Sands, Robert Simmons

**Meeting 2, Sweetings Pond/Seahorse National Park (Gregory Town):** Trudy William, Mr. Williams, Ellie Barney, Godfrey Albert Kelly, Dina Johnson, Byron M. Roberts, Quantele Cartwright, Angela Cooper, Rebecca Courtemache, Kyra Courtemanche, Dianna Thompson, Ricardo Dean, Whitney Albury

### May 2018:

**Meeting 1 (North, Spanish Wells):** Lynton Pinder, Chuck Pinder, Berard Sweeting, Virginia Parks, Jessie Sweeting, Karen Taylor, Rick Taylor, Ross Albury, John Pinder, Herbert Albury, Ivanhoe Sweeting, Bently Pinder, Mary D. Bachman, Cheryl Abramowitz, Margaret Pinder, Theo Linn, David Albury, Norma Albury, Gino Russell, George Sweeting, Thomas Pinder, Edgar Higgs, Ian Roberts, Franillin Burrows, Neiko Higgs, Jerry Pinder, Clayton Pinder, Ernest Albury, Andrew Pinder, Patrick Gilbert, Benjamin Higgs, Howard Albury, Bobby Cartwright, Tony Symonette,

Bruno Underwood, Jerrod Pinder, Mitchell Underwood, Denise Pinder, Shanandoah Sweeting, Tyson Newbold, Shaw Underwood

**Meeting 2 (North, Lower Bouge):** Elvis Bain, Heather Masonjones, Michael Culmer, Gaye Antoine-Bowe, James Munroe, Eddy Raphael, Mallory Raphael, Hillory Ranley, Jesse Greene, Kianna Imani Dean, Ricardo Belle, Zoe Brown

**Meeting 3 (North, Harbour Island):** Howard Ricky Mackey, Boyd Reise-Ward, Dianna Whitfield Decosta, Jay-Jay Percentie, Mandy Duscombe, Arki Busson, Christina Darville, Heather Masonjones, Shane Gross, Harvey Roberts, Fredricka Higgs, June Dean, Andrieka Burrows

## EXUMA

November 2017 (North/east, Stuart Manor): Pat Smith, Stacy Williams, R. Smith Williams, Thelma Smith, Joy Burrows, Phil McKenzie, Randy Smith, Kendal McKenzie, Kamal Thompson, Don Smith, Algernon Brown, Hedly Smith

June 2018 (North/east, Barraterre): Raymond Smith, Darren Burrows, Vandakyn McKenzie, Recardo McKenzie, Perez Wright, Ray Lightbourn, U. Burrows, Martin Rolle, Sanchez Rolle, Juletta Charlton, Wellington Charlton, Edmon Burrows, Clayton Smith, Monty Charlton, Milcent Wright, Anvva Lloyd, Badorn Lloyd, Anthony Richardson, Leslie Moss, Mr. Douglas Shuttleworth, Mrs. Shuttleworth, Dwayne Gardiner, Shaslie Mckenzie, Jermaine Mckenzie, Horris McKenzie, Martha Johnson, Vernese Franas, Hughrie Lloyd, Deanne Mckenzie, Ashley Lloyd, Teddy Clarke

## INAGUA

October 2017: Julita Ingraham, Vivian Moultrie, Iona Cox, Walter Ewing, Tarra Lindo, Celeste Mullings, Takeo Cox, Nicholas Lindo, Colin Ingraham Sr.

## LONG ISLAND

July 2016:

**Meeting 1 (South):** Mark Cartwright, Patricia Turnquest, Sherling Turnquest, Irwin Cartwright, Jereme Cartwright, Edward Darville, Angelo Constantakis, Nicholas Constantakis, Sean Wells, Sylvester Burrows, Joseph Ierna, Nicola Ierna, Nicholar Maillis, "Fiona Maillis for Luke + Anthony", Pat Major, Winston Major, George Fox, Deral Wells, Percy Taylor, Larado Roxberry

**Meeting 2 (North):** Joel Friese, Kira Friese, Joseph Ierna, Nicola Ierna, Zeke Adderley, Jermaine Adderley, Malinda Pratt, Craig Knowles, Allen R. Dixon Sr.

## MAYAGUANA

October 2017: Rorenda Brooks, Vernethn Edwards, Pastor Eulease Brook, Tyrine Murphy, Trevor Goppy, Earnel Brown, Dereck Bowe, Edvardo Charlton, B. McPhee, Sonia Brooks, Albert Paris, Rose Rahming, Clayton Farrington, Lakeisha Rolle, Deangelo Beneby, Patrick Collie, Sylvia Collie, Bridgette Charlton, Jessie Moss, Remilda Jones, Sharlene Charlton, Terrance Daxon, Daisymae Ford, Utica Lightbourne, Virlent Moss, Tena Johnson

## Appendix C – Table of Current National Protected Area System

	National Parks/Protected Areas	Island/Group	Date Established & Expanded	Size (Acres)	PA Type
	<b>Managed by the Bahamas National Trust</b>				
1	Tilloo Cay Reserve	Abaco	1990	11	Terrestrial
2	Fowl Cays National Park		2009	3,200	Marine and Terrestrial
3	Abaco National Park		1994	22,500	Terrestrial
4	Walker's Cay National Park		2002	5,800	Marine
5	Black Sound Cay National Park		1988	2	Marine and Terrestrial
6	Pelican Cays Land And Sea Park		1972	2,100	Marine and Terrestrial
7	Blue Holes National Park	Andros	2002	40,000	Terrestrial with freshwater
8	Crab Replenishment Reserve		2002	4,000	Marine and Terrestrial
9	Andros North Marine Park		2002	5,000	Marine and Terrestrial
10	Andros South Marine Park		2002	3,500	Marine
11	West Side National Park		2002, exp. 2012	1,500,000	Marine and Terrestrial
12	Conception Island National Park	Conception Island	1971, exp. 2010	30,000	Marine and Terrestrial
13	Marine Farm	Crooked Island	2002	4.44	Terrestrial
14	Hope Great House		2002	3.60	Terrestrial
15	Leon Levy Native Plant Preserve	Eleuthera	2009	25	Terrestrial
16	Exuma Cays Land and Sea Park	Exuma	1958	174,194	Marine and Terrestrial
17	Moriah Harbour Cay National Park		2002, exp. 2015	22,833	Marine and Terrestrial
18	Rand Nature Centre	Grand Bahama	1992	100	Terrestrial
19	Lucayan National Park		1982, exp. 2015	1,937	Marine and Terrestrial
20	Peterson Cay National Park		1968, exp. 2015	1,090	Marine and Terrestrial
21	Little Inagua National Park	Inagua	2002	62,800	Marine and Terrestrial
22	Inagua National Park		1965	220,000	Marine and Terrestrial
23	Union Creek Reserve		1965	6,150	Marine
24	The Retreat	New Providence	1985	11	Terrestrial
25	Primeval Forest National Park		2002	7.5	Terrestrial

26	Bonefish Pond National Park		2002	1,235	Marine and Terrestrial
27	Harrold & Wilson's Ponds National Park		2002	250	Terrestrial with freshwater
28	Graham's Harbour Iguana and Seabird National Park	San Salvador	2015	5,723	Marine and Terrestrial
29	West Coast Marine Park		2015	10,313	Marine
30	Pigeon Creek & Snow Bay National Park		2015	5,060	Marine
31	Southern Great Lake National Park		2015	4,068	Terrestrial with freshwater
32	Green's Bay National Park		2015	586	Marine
<b>Managed by the Department of Marine Resources</b>					
33	Crab Cay Marine Reserve	Abaco	2010	1,075	Marine
34	No Name Cay Marine Reserve		2010	1,210	Marine
35	South Berry Islands Marine Reserve	Berry Islands	2009	63,002	Marine
36	Exuma (Jewfish Cay) Marine Reserve	Exuma	2009	37,165	Marine
<b>Managed by Clifton Heritage Authority</b>					
37	Clifton National Heritage Park	New Providence	2002	208	Terrestrial
<b>Unassigned/No PA Agency Assigned</b>					
38	Hogsty Reef	Inagua Area	2015	12,322	Marine
39	Southeastern Bahamas Marine Managed Area	Acklins/Crooked Island	2015	6,053,010	Marine
40	Acklins Bight		2015	61,436	Marine and Terrestrial
41	Cay Sal	Cay Sal	2015	4,162,319	Marine
42	Cross Harbour	Abaco	2015	15,182	Marine
43	South Abaco Blue Holes National Park		2015	31,833	Marine and Terrestrial
44	Marls of Abaco		2015	214,097	Marine and Terrestrial
45	East Abaco Creeks – The Bight		2015	4,062	Marine
46	East Abaco Creeks – Snake Cays		2015	3,281	Marine
47	East Abaco Creeks – Cherokee		2015	5,902	Marine

48	Joulter Cays	Andros	2015	92,734	Marine and Terrestrial
49	Green Cay		2015	2,697	Marine and Terrestrial
50	Booby Cay	Mayaguana	2015	121	Terrestrial
51	Perpall Tract	New Providence	2015	177	Terrestrial
52	Southwest New Providence Marine Managed Area		2015	18,222	Marine
53	East Grand Bahama	Grand Bahama	2015	120,448	Marine and Terrestrial
54	Northshore/Gap		2015	233,919	Marine and Terrestrial