South Central Region Coastal Zone Management Guidelines

Photo Credit: Coastal Zone Management Authority & Institute

Coastal Zone Management Authority & Institute
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The Belize Coastal Zone Management Authority and Institute (CZMAI) extends its sincere gratitude to all those individuals and organizations who participated in the development of the South Central Region Coastal Zone Management Guidelines. The process of developing management guidelines for the region began with the Placencia and Laughing Bird Cayes Region Development Guidelines, which had a specific focus on development issues for the region's cayes. The cayes development guidelines for this region were prepared in 2004 by a small stakeholder group of interested, and led by Melanie McField, PhD.

CZMAI also acknowledges all those interested individuals and stakeholder groups of the region for their time commitments in updating the cayes development guidelines that have led to the preparation of the present coastal zone management guidelines for the region. The individuals that participated in the process during 2011-2012 are namely:

NAME	ORGANIZATION/AFFILIATION
Hassan Palacio	Seine Bight Village Council
Albert Nunez	Hopkins Village Council
Adrian Vernon	Peninsula Citizens for Sustainable Development
Mary Toy	Peninsula Citizens for Sustainable Development
Annelise Hagan, PhD	Southern Environmental Association
Julie Robinson	The Nature Conservancy
Harald Wallen	Placencia Village Council
Melanie McField, PhD	Smithsonian – Healthy Reefs Initiative
David Vernon	Placencia Village Council
Steve Christensen	Southern Environmental Association
Alex Martinez	The Nature Conservancy

The Peninsula 2020 Steering Committee also contributed valuable information to the process. Specifically, the Committee provided CZMAI with the document, ***Peninsula 2020 Initiative: A Consensual Vision of the Future of the Placencia Peninsula***, which helped to inform the social and environmental components of the coastal zone management guidelines.

CZMAI held a series of consultation meetings that were open to the general public during the mandatory 60-day public review period following the completion of the first comprehensive draft of the Belize Integrated Coastal Zone Management Plan document. The meeting for the South Central Region was held in Placencia Village on Wednesday June 5, 2013, and had participation from the following individuals:

NAME	**ORGANIZATION/AFFILIATION**
George S. Westby	Westwind Hotel
Mark Thompson	Fisherman
Rene Nunez	Laru Beya Resort
Mary Toy	Peninsula Citizens for Sustainable Development
Annelise Hagan, PhD	Independent Consultant
Matthew James	CONCH
Ilsa Villanueva	Placencia Village Council
Conrad Villanueva	Placencia Tour Guides Association
Nicole Auil-Gomez	Southern Environmental Association
Dan Santos	Southern Environmental Association

A final round of consultations was held July 7th 2015-September 7th 2015 as-the re-constituted CZMA Board of 2014 directed a re-opening of the public comment period.

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BTIA	Belize Tourism Industry Association
CAC	Coastal Advisory Committee
CBA	Central Building Authority
COMPACT	Community Management of Protected Areas for Conservation
CZAC	Coastal Zone Advisory Council
CZM	Coastal Zone Management
CZMAI	Coastal Zone Management Authority and Institute
DOE	Department of the Environment
GOB	Government of Belize
HRA	Habitat Risk Assessment
InVEST	Integrated Valuation of Ecosystem Services and Trade-offs
ICZM	Integrated Coastal Zone Management
NGO	Non-governmental Organization
SCRCAC	South Central Region Coastal Advisory Committee
SEA	Southern Environmental Association
STP	National Sustainable Tourism Master Plan of Belize
USBF	Upflow Sludge Blanket Filtration

GLOSSARY OF TERMS

Certain technical terms have been used in the text of these guidelines. The following represents an explanation of such terms where they have not provided within the text.

Artisanal/Subsistence Fishing *means traditional fisheries involving fishing households (as opposed to commercial companies), using relatively small amount of capital and energy, relatively small fishing vessels (if any), making short fishing trips, close to shore, mainly for local consumption*

Building Height *means the recommended maximum building height allowed for each building to be measured from ground level to roof*

Building Setback *means the recommended minimum distance between buildings or between buildings and site boundaries*

Commerce *means the storage and retail of consumer goods*

Commercial Development *means land use involving the construction of a building or buildings that are used solely for commerce and business activities by the owners or others to the exclusion of all other uses within the density requirements of these guidelines*

Commercial Fishing *means the harvesting of fish, either in whole or in part, for sale, barter or trade*

Conservation *means the retention of the natural features but with allowance of limited non-disruptive development*

Conservation Area *means areas including the 66ft reserve and other reserves, canal buffers, water bodies, flood prone lands; areas with ecological significance such as mangrove wetlands*

Community Facilities *means spaces set aside in large residential or commercial subdivisions for public purposes. They may include facilities such as public parking lots, schools, cemeteries, churches, public sporting areas, youth centers, police stations or health facilities*

Coverage *means any building, including balconies and verandas, and expressed as a percentage of total lot size*

Density *means a level of development within a site, as measured by the number of lots per acre, number of dwelling units per acre, or maximum site coverage*

Development *means any activity which involves mining, engineering, building operations or change of use of land or building in, under, over or on land*

Dwelling Unit *means a living area consisting of contiguous rooms intended for convenient, long-term occupancy by one family and providing complete, independent facilities for living, eating, cooking, sleeping and sanitation*

Fish camp *means a building that is permanently or temporarily used for ancillary housing, trap-making and storage, boar repair and docking by full or part time commercial fishermen as licensed by the Fisheries Department*

Habitable Room *means any room except that used for a kitchen or bathroom*

Land *means all incorporeal hereditaments of every tenure or description that are either permanently or temporarily above the surface of the sea, whether through natural or man-made activity. The seabed, while not 'physical' land, is defined as National Land*

Liquid Waste *means grey water from bath, basin and sink and sewage waste that consist mainly from discharge of body waste*

Low-Density Development *means development of a site that does not exceed 20 dwelling units per acre, 6 lots per acre and a maximum site coverage of 50 percent*

Low-Impact Development *means an ecologically-friendly approach to site development and storm water management that mitigates development impacts to land, water and air; through conserving natural systems and hydrologic functions of the site. Site development includes residential dwelling units and community facilities and impervious surface cover is a maximum of 30 percent of total cover*

Marina *means a mooring facility for four or more recreational vessels*

Maximum Human Carrying Capacity *means the maximum population size of humans in an area that the local environment can sustain indefinitely, given accessibility to the food, habitat, water, and other necessities*

Maximum Number of Floors *means the recommended maximum number of floors a building will be allowed to have including attics or roof space designed for habitation*

Maximum Number of Lots *means the recommended maximum number of lots in which an acre of land can be subdivided and alienated*

Maximum Habitable Rooms *means the recommended maximum number of rooms to be allowed and measured per acre of land*

Maximum Building Coverage *means the recommended maximum ground coverage of any building including balconies and verandahs and expressed as a percentage of total lot size*

Maximum Site Clearance *means the recommended maximum amount of land that will be allowed to be cleared expressed as a percentage of the total site area*

Medium-Density Development *means development of a site that does not exceed 40 dwelling units per acre, 8 lots per acre and a maximum site coverage of 66 percent*

Medium-Impact Development *means an ecologically-friendly approach to site development and storm water management that mitigates development impacts to land, water and air; through conserving natural systems and hydrologic functions of the site. Site development includes a combination of residential dwelling units, community facilities and commercial activities, and impervious surface cover is a maximum of 50 percent of total cover*

Minimum Lot Size *means the recommended smallest size a parcel will be allowed to be alienated*

National Land *means all lands, including cayes and parts thereof not already located or granted, and any lands which have been, or may hereafter become, escheated to, leased by, or otherwise acquired by the Government*

Piers per Site *means the recommended number of piers that will be allowed to be constructed on any site*

Primary Land Use *means the recommended preferred use for the site*

Residential Development *means land use that involves the construction of a building or buildings that are used solely for permanent or temporary domiciles by the owners or others on a non-commercial basis to the exclusion of all other uses within the density requirements of these guidelines*

Resort *means a building, buildings or site which offers accommodation and general amenities to visitors with other uses such as bars, restaurants, general storage and repair facilities and docking*

Secondary Land *means the recommended next preferred use to be applied to the site either in conjunction with the primary land use or as an alternative to the primary land use if that is not applicable*

Solid Waste *means any unwanted material that is useless and thrown away or, discarded*

Swamp *means an area of very shallow lagoon with mud, savannah or very low vegetation*

Utility *means the service and infrastructure used for the supply of energy, water, communication and waste disposal*

PREAMBLE

The Belize Coastal Zone Management Authority and Institute (CZMAI), a statutory body established by the Coastal Zone Management (CZM) Act of 1998, is tasked with the broad responsibility of assisting with the development of policies, strategies and guidelines for the improved management and sustainable use of the country's coastal resources at a national level. In keeping with its mandate to prepare an integrated coastal zone management plan, CZMAI has developed regional coastal zone management guidelines to provide support for planned development and resource management along the coastline and offshore areas of the entire country. These guidelines have been prepared for nine (9) coastal planning regions (**Map 1**), which were demarcated based on commonalities, geographic definition and regional characteristics. The coastal zone management guidelines will help to integrate management efforts across the land-sea interface.

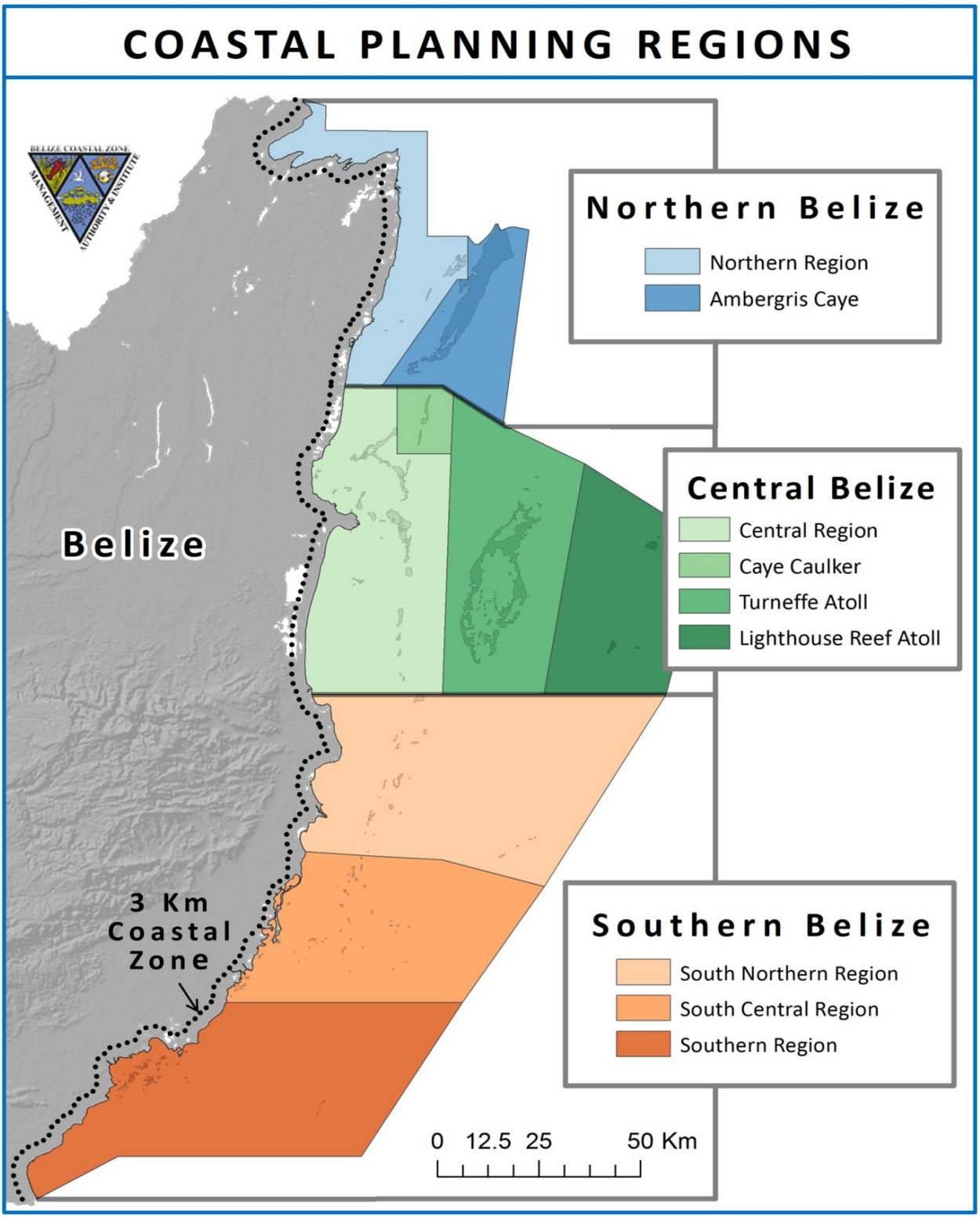
The South Central Region Coastal Zone Management Guidelines were developed in conjunction with the stakeholder communities within the region. The South Central Region; which includes the coastal communities of Seine Bight Village, Maya Beach community, Placencia Village, Riversdale community, and Independence Village, is relatively developed but is also known for its diverse flora and fauna as well as its coastal and marine ecosystems. The region is home to Laughing Bird Caye National Park-a World Heritage Site. Using the expert subjective information from stakeholders in addition to the best available objective data, CZMAI was able to produce this guideline with the following goals:

1. Encourage and promote the sustainable development of coastal and offshore areas within the South Central Region that will promote economic growth while simultaneously ensuring ecosystem stability and the efficient delivery of ecosystem services.

2. Protect and preserve the traditional way of life of the stakeholders within the South Central Region

3. Ensure sustainability of coastal resources by identifying areas in need of conservation and reducing user conflicts

These goals are culturally informed, and rooted, where possible, on sound science and local knowledge. These guidelines represent the views and recommendations of the stakeholders of the South Central Region. They are also a response towards addressing the management gaps identified by stakeholder communities through an extensive consultation process. The coastal zone management guidelines will ensure that human use of the coastal region occurs in consideration of the carrying capacity of the environment in addition to other ecological, cultural, social and economic development priorities of the region. These guidelines will aid policy development for integrated coastal zone management. They will be implemented by all those agencies that have legal mandates and/or permitting powers that impact resource utilization in the coastal zone of Belize, in partnership with this region's stakeholder groups.



Map 1: Coastal Planning Regions of Belize

1.0 INTRODUCTION

The South Central planning region, formerly the Placencia/Laughing Bird Cayes region, comprises approximately seventy-five (75) cayes and five (5) communities located on the Placencia Peninsula (**Table 1**). The sea and cayes lying in this region make up one of the nine coastal planning regions of Belize that have shared social, economic, geographic and administrative factors.

Table 1: Coastal Communities and Cayes within the South Central Planning Region

Coastal Communities:	
Seine Bight Village	Placencia Village
Maya Beach Community	Riversdale Community
Independence Village	
Cayes:	
Abigail Caye	Bakers Rendezvous Caye: North Caye
Booby Caye	Bakers Rendezvous Caye: South Caye
Bugle Cayes: West Caye	Bugle Cayes: East Caye
Buttonwood Caye	Cary Caye: North
Cary Caye: South	Channel Caye: North
Channel Caye: South	Colson Caye
Crawl Caye	Dredge Caye
Elbow (Saddle) Caye	False Caye
Funk Cayes: Eastern Caye	Funk Cayes: Western Caye
Gladden Cayes: Eastern Caye	Gladden Cayes: Western Caye
Great Monkey Caye (Long Caye)	Harvest Caye: East Caye
Hatchet Caye	Harvest Caye: West Caye
Ivan Caye	Jack's Caye
Lagoon Cayes: Southern Caye	Lagoon Cayes: Northern Caye
Lark Caye Range	Lark Caye
Lazy Caye	Laughing Bird Caye
Little Monkey Caye	Little Harvest Caye
Little Water Caye	Little Morris Caye
Long Coco Caye	Loggerhead Caye
Moho (Trapp's) Caye	Long Coco (LONG) Caye
Mosquito Caye	Morris (Owen) Caye
Norval (Bread and Butter) Caye	Palmetto Caye: Western Caye
Palmetto Caye: Eastern Caye	Pelican Cayes: Godfrey Caye
Pelican Cayes: North East Caye	Pelican Cayes: Little East Caye
Pelican Caye: Faux Caye	Pelican Cayes: Northern Lagoon Cayes
Pelican Cayes: South Central Caye	Pelican Cayes: Cat Caye

Pelican Cayes: South West Caye	Pelican Cayes: Big East Caye
Pelican Cayes: South East Caye	Peter Douglas (Old Rendezvous) Caye
Placencia Caye	Pompion (Pumpkin) Caye
Queen Cayes	Quamino Caye
Rendezvous Caye	Rocky Point Caye
Rosanna Caye	Round Caye
Round (French Louis') Caye	Saddle Caye
Samphire Caye	Scipio Caye
Silk Cayes: North Caye	Silk Cayes: South Caye
Silk Cayes: Middle Caye	Spider Caye
Robert's Caye	Tarpon (Tarpum) Caye
Wippari Caye	

The cayes in the region range in size from about 65 acres (Lark Caye) to only several square yards. The majority of the cayes are predominantly in their natural state. Development consists of fishing camps, small eco-type resorts (maximum of ten people), and residential housing. There are a small number of individuals who are either planning or expanding small-scale resort type facilities. The great majority of cayes have some claim (either ownership or lease) on them, either wholly or partly.

Located at the southern-most tip of the Placencia Peninsula is Placencia Village, traditionally a Creole fishing village that is now mostly focused on tourism. Just a few miles north of Placencia Village is Seine Bight, a predominantly Garifuna village that is quite arguably one of the most economically-distressed communities on the entire peninsula. The Maya Beach community is technically within the municipal boundary of Seine Bight, however residents of have little social or political involvement in the village. Residents of Maya Beach are largely full and part-time expatriate residents from the United States, Canada and Europe (to a lesser extent than the latter two). North of Maya Beach is the Riversdale community that is comprised of a few families, most of whom fish for a living. Independence Village, while not located directly on the peninsula, is an important stakeholder community for this region. It is the largest community with a more diverse group of residents that have multiple livelihood portfolios. It contains two primary schools and one secondary and one tertiary institution, all of which host students from its neighboring communities.

The coastal zone management guidelines have been prepared with a view to guiding current and future development activities on the Placencia Peninsula and all the cayes that lie in the region. The guidelines are based on provisions set out in the National Integrated Coastal Zone Management Strategy for Belize 2003 for sustainable coastal area use and management. The policy recommendations draw on those presented in the recently completed "Peninsula 2020 Initiative", which represents a consensual vision by the peninsular communities for the future of the Placencia Peninsula. The policy recommendations include, but are not limited to, the following: fishing and tourism development, land use planning and development management,

land tenure, conservation of natural resources, mineral extraction, waste disposal, and national strategic considerations.

2.0 REGION BOUNDARIES

Location and Geographic Definition

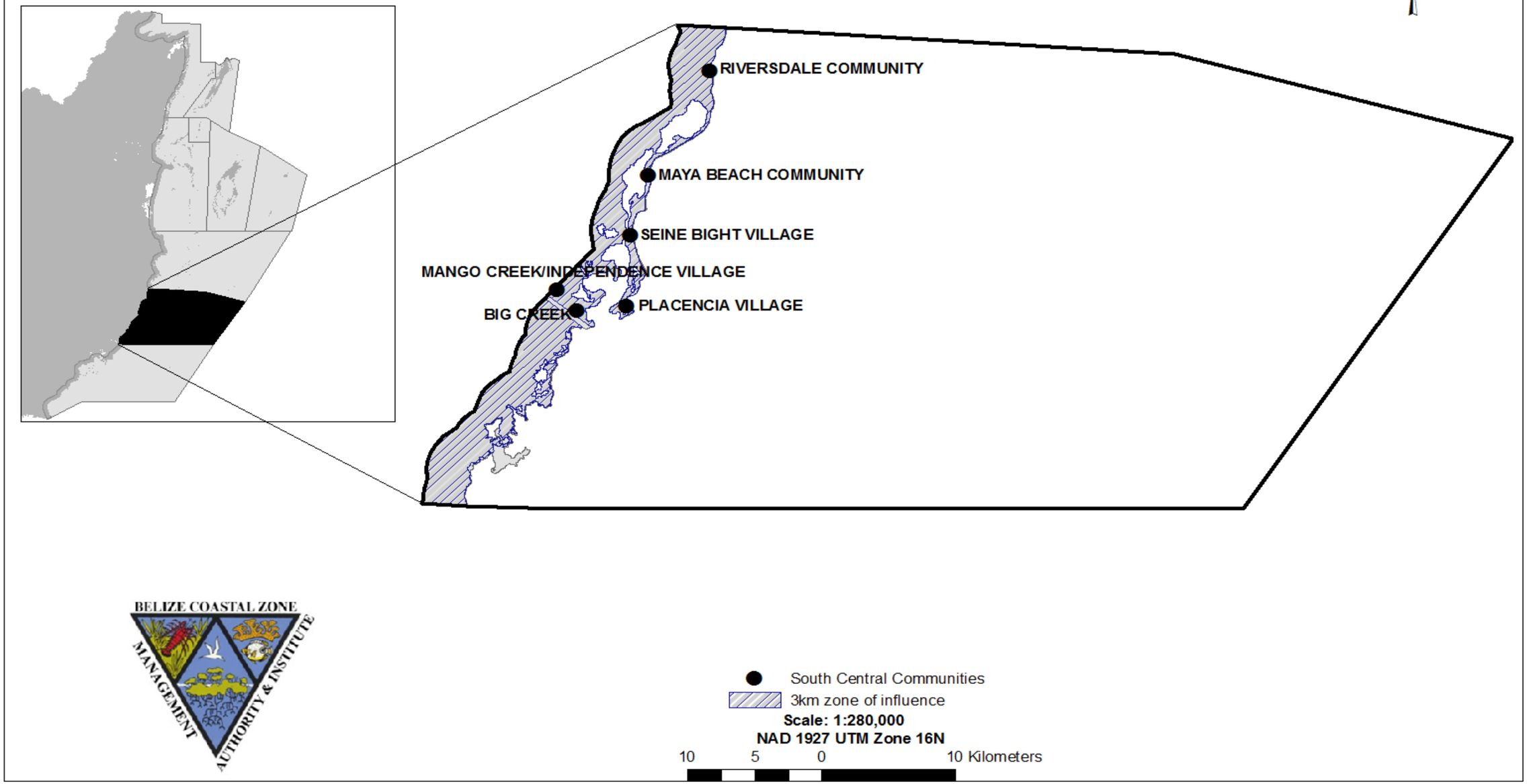
The South Central Region, for which these coastal zone management guidelines have been prepared, is one of nine regions into which the coastal zone has been demarcated (**Map 1**). The region encompasses 2315 square kilometers, and extends along the coast from the mouth of South Stann Creek River, to the mouth of Monkey River, extending seaward to include the barrier reef, with Norval Caye in the north, Pompion Caye in the south, and Gladden Spit in the east (**See Maps 2, 3, 4, 5**). It is comprised of all that area enclosed by the lines joining points that have the following UTM 16 coordinates:

Point 1: (1849442 N, 357790 E)
Point 2: (1847114 N, 395043 E)
Point 3: (1840234 N, 420020 E)
Point 4: (1809860 N, 399912 E)
Point 5: (1810495 N, 338846 E)

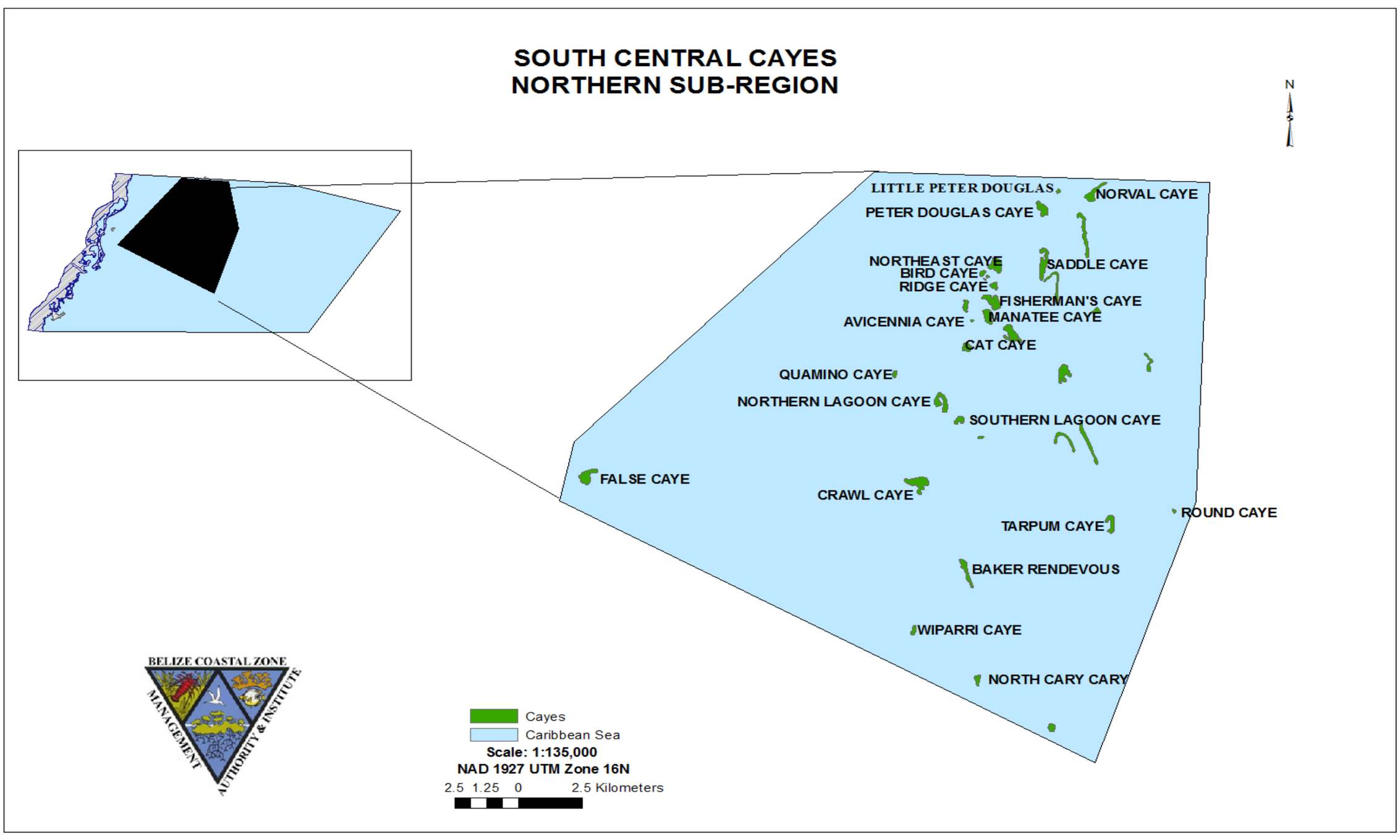
Regional Context

The South Central Region comprises approximately 2716 square kilometers of terrestrial and aquatic environment. The mainland portion of this region includes five coastal communities that fall within three kilometres of the coastline from the mean high water mark. This area accounts for approximately 139 square kilometers

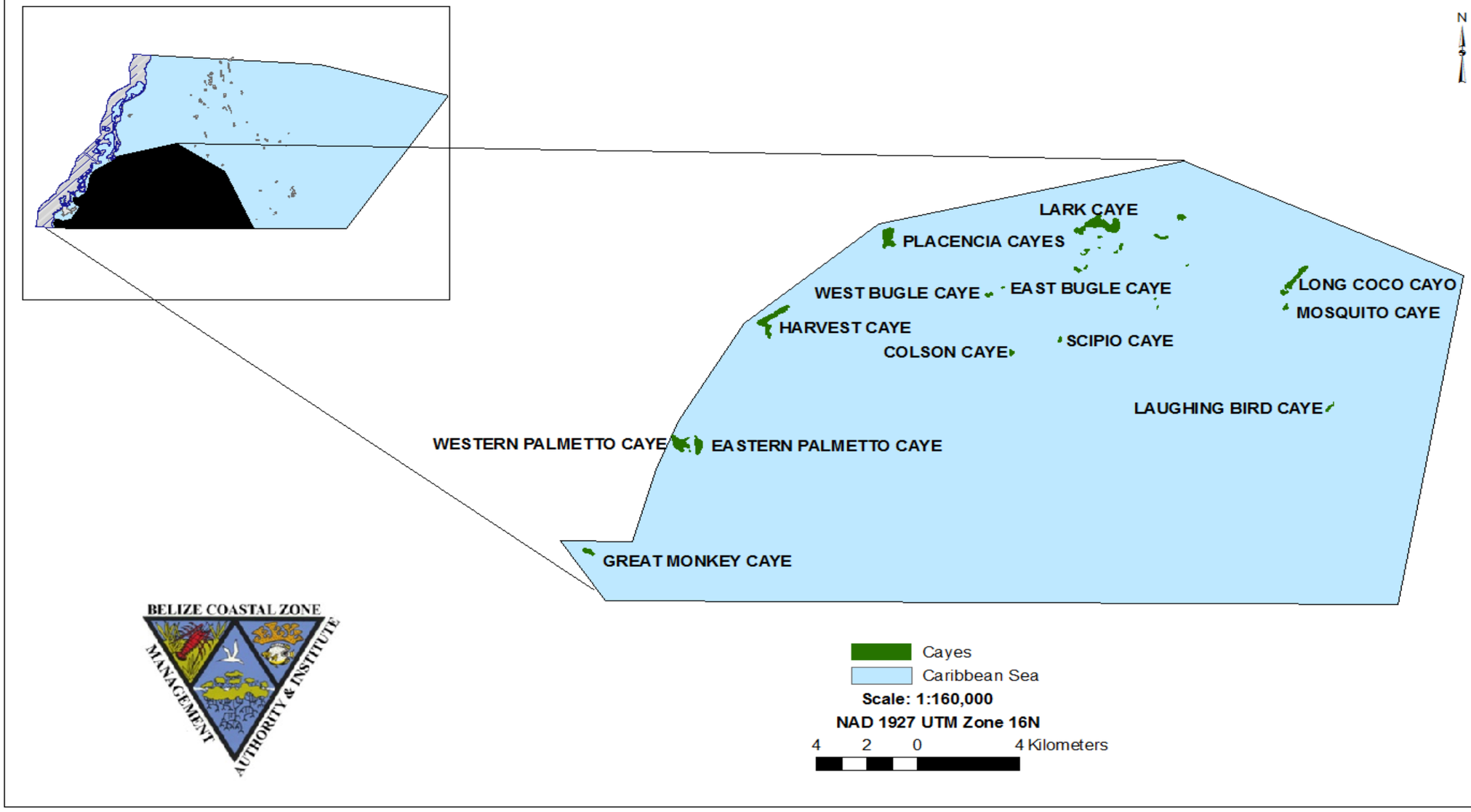
SOUTH CENTRAL COASTAL ZONE PLANNING REGION



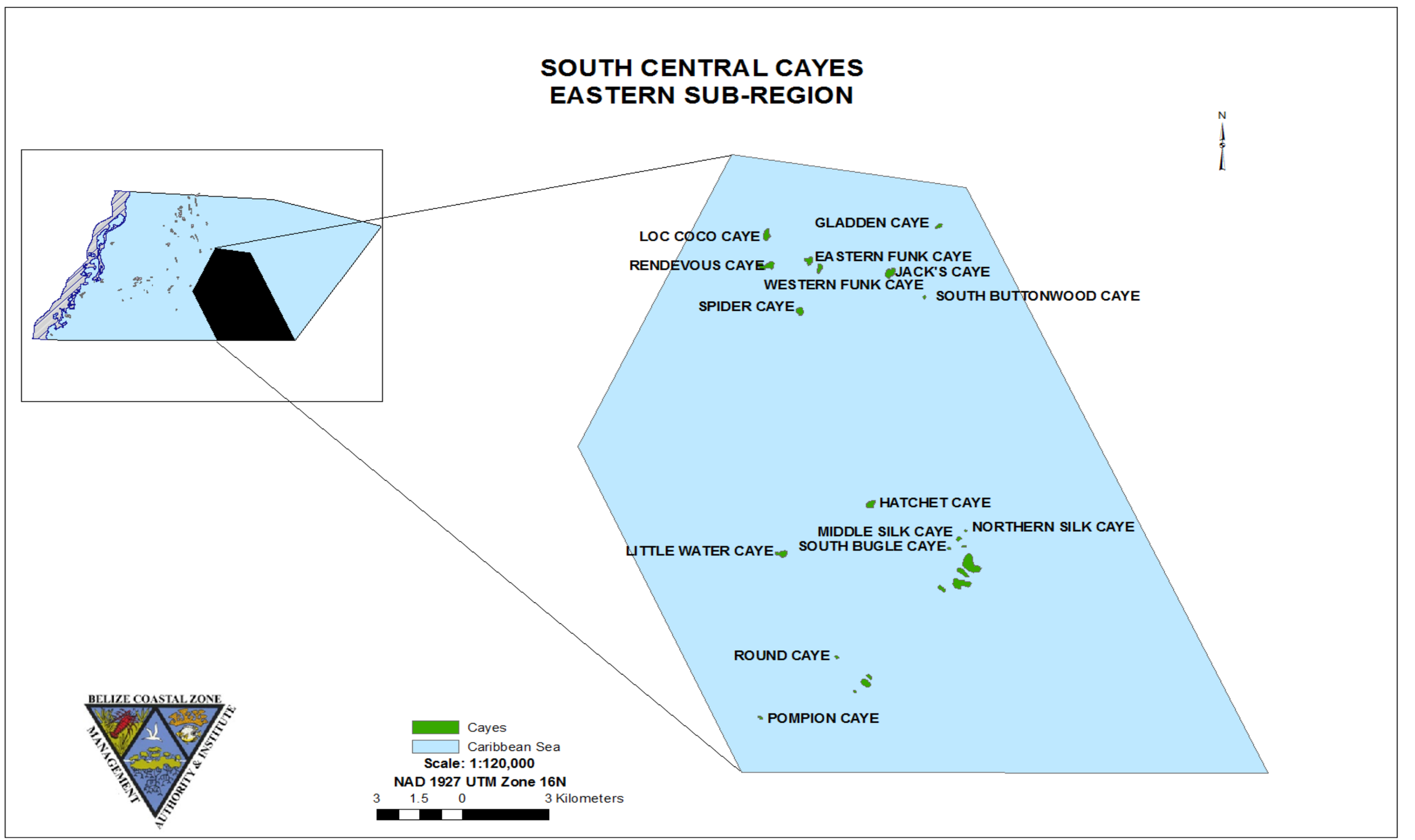
Map 2: South Central Coastal Zone Planning Region



Map 3: South Central Region Cayes (Northern Sub-region)



Map 4: South Central Region Cayes (Western Sub-region)



Map 5: South Central Region Cayes (Eastern Sub-region)

3.0 OBJECTIVES

The management of the South Central region's coastal zone must be linked to the goals and aspirations of the people of Belize, particularly the residents of coastal communities within the Stann Creek District. Consequently, it must be intrinsically tied to the socio-economic, cultural and other basic needs of the people of the south and of Belize, and their use and demand for land and marine resources. In order to ensure the continued protection of nationally significant species, biotic communities and physical features and the continued delivery of ecosystem services to the several thriving communities within the region, the objectives of these coastal zone management guidelines include:

1. Protecting the fishing resources and traditional fishing rights, especially for the fisherfolk from the communities of Placencia, Seine Bight, Riversdale, Independence and Maya Beach

2. Promoting orderly and sustainable development, based on suitable land use planning, and with effective development guidelines that will meet the needs of current and future generations

3. Maintaining and protecting on going and future conservation, recreational and tourism areas and uses

4. Preventing inappropriate high-impact, unsustainable developments that are incompatible with community needs

5. Protecting and preserving significant national and international natural features and ecological biodiversity of special interest or uniqueness that define the character and scientific importance of the South Central coastal zone

6. Preserving the social and cultural values of the people and communities of the region that are connected to the environment

7. Fostering and supporting a continued partnership among stakeholders for managing the coastal resources

8. Establishing a framework for regulating the development and use of resource of the region through the continuation of CZMAI's coastal planning program activities and coastal advisory committee process

4.0 LEGISLATIVE AND INSTITUTIONAL FRAMEWORK FOR INTEGRATED COASTAL ZONE MANAGEMENT IN BELIZE

The Coastal Zone Management Act, hereinafter referred to as "the Act", was enacted in 1998 and has been described as reflective of the trend in legislation in Belize towards more accountability and transparency for government actions, and more direct participation by the public in decision making, particularly public resources. The intent of the Act is to promote the sustainable development of coastal and ocean areas through coordination of existing legislation affecting coastal resources and through building capacity and expertise to manage coastal resources. The main purpose of the Act is to:

- Provide for the improvement of coastal zone management in Belize through the establishment of a Coastal Zone Management Authority and a Coastal Zone Management Institute;

- Provide for the establishment of a Board of Directors to control and manage the affairs of the Authority;

- Provide for the preparation of a Coastal Zone Management (CZM) Plan;

- Provide for the establishment of mechanisms to improve monitoring of various activities within the coastal zone;

- Provide for the payment of fees and charges related to the use of the coastal zone and

- Provide for matters connected therewith and incidental thereto

The Coastal Zone Management Authority is the policy making and planning institution for coastal zone management. Its functions are primarily in the realm of planning, advising, cooperating, collaborating and monitoring. It is given no jurisdiction to permit or regulate activities which may affect the sustainable development of the coastal zone. The Coastal Zone Management Institute is the research and technical arm of the Authority. As is indicated above, the Coastal Zone Management Authority is mandated to develop a comprehensive Coastal Zone Management (CZM) Plan for Belize. The CZM Plan is to be developed by the Chief Executive Officer (CEO) of the Authority through consultation with all affected government agencies, non-governmental agencies, statutory bodies and the private sector. The Act mandates that the plan address certain areas. These include:

- Guidelines to be used in determining the suitability of particular development activities in the coastal zone;
- Guidelines for the general monitoring of the coastal zone, including its biological species, communities and habitats;

- Proposals, including existing proposals from Government agencies, relating to the coastal zone that deal with the following subjects:
    - Land use
    - Planning for the establishment of marine protected areas and for the conservation of threatened or potentially threatened or endangered species;
    - Preservation and management of the scenic, cultural and other natural resources;
    - Recreation and tourism;
    - Monitoring of the environment and natural resources, mineral extraction, living resources, human settlements, agriculture, aquaculture, and industry

- Proposals for the reservation of land or water in the coastal zone for certain uses, or for the prohibition of certain activities in certain areas of the coastal zone;

- Recommendation for the improvement of public education as well as public participation in the management of coastal resources;

- Recommendations for strengthening governmental policies and powers and the conduct of research for the purposes of coastal resources conservation and management

The process for approval of the CZM Plan is as follows: The Act requires the CEO of the Authority to submit the CZM Plan to the Board of the Authority, who has sixty days to make modifications. Thereafter, the Board is to notify the public of the availability of the CZM Plan by an order published in the Gazette. Any member of the public may submit comments within sixty days. Upon completion of the sixty days, the Board may approve the CZM Plan, subject to modifications, if they deem it fit in regard to the comments submitted, and then submit the same to the Minister for approval. The Minister, after approving the CZM Plan, shall table it in the House of Representatives for approval by the House by affirmative resolution. Subsequent to approval by the House, the CZM Plan must be published in three consecutive issues of the Gazette. The CZM Plan is to come into operation on the date of the last publication or such later date as may be specified therein. The Act requires the CZM Plan to be revised during the four year period after it comes into operation.

It was agreed by the CZMAI that the CZM Plan would be developed in phases, with the first phase being the development of an Integrated Coastal Zone Management Strategy document, which underwent extensive public consultation. It was endorsed by the cabinet in

2003, and is an official policy document of CZMAI. The second phase involved the formulation of cayes development guidelines for eight of the nine coastal planning regions into which the coastal zone has been sub-divided by the CZMAI. This subdivision was based on geographical, biological, administrative and economic similarities. The Ambergris Caye Development Master Plan serves as a guide for regulating the use and development of land in the Ambergris Caye Planning Region. See **Map 1** for the definition of the nine coastal planning regions.

The development guidelines were formulated using the Cayes Development Policy (2001) as a framework. During 2010-2012, the cayes development guidelines were updated to include new information on the cayes, but also to include human use of the coastline and marine waters. As such, the development guidelines have been renamed the coastal zone management guidelines. Thus, the Integrated Coastal Zone Management Strategy (2003), together with the coastal zone management guidelines for the nine coastal planning regions, contributes to the development of the comprehensive Integrated Coastal Zone Management Plan.

5.0 GUIDING PRINCIPLES

It is important that the coastal zone management guidelines for the region be formulated as a part of a sustainable plan geared towards contributing to national, regional and local development policies, goals and aspirations. They must therefore be holistic and pragmatic, yet underpinned by certain fundamental principles. These can be detailed as follows:

Principle 1:- *Recognition that the South Central Region needs special protection and management because of its physical, economic, scientific, cultural and aesthetic attributes*

Principle 2:- *Recognition of the need to avoid placing undue strain on the terrestrial and aquatic environment of the region by ensuring that proposed development activities do not exceed the carrying capacity of the region*

Principle 3:- *Recognition of the rights and interests of traditional users and stakeholders while acknowledging the national development policy which promotes tourism and job creation*

Principle 4:- *Recognition that environmental concerns are best handled with the participation of all concerned stakeholders at all levels and from all sectors*

Principle 5:- *Recognition that planning guidelines represent a preventative and precautionary approach to environmental degradation and a tool for pursuing sustainable development of the region*

6.0 SECTORAL ISSUES AND POLICIES

These policies are organized into ten sectors that address current and potential issues within the South Central coastal zone, and provide recommendations from stakeholders. They include: Fishing, Marine Tourism and Recreation, Land-Use, Marine Dredging, Sensitive Habitats, Utilities, Pollution Control, Social Amenities, Conservation, and Research & Education. They were developed by stakeholders of the region in consultation with the Coastal Zone Management Authority and Institute.

6.1 Fishing

The cayes of the South Central coastal planning region and their surrounding waters have provided a reliable source of fishing for centuries. The very nature of the land, sea and the over wash mangroves acts as ideal breeding grounds that could be devastated by inappropriate development and unsustainable use. Commercial and subsistence fishing has been an economic mainstay for the Peninsula region perhaps as far back as the earliest occupation by the ancient Maya. The industry in this region reached a peak in the 1970s, particularly through the activities of the Placencia Fishermen's Cooperative. Although fishing as an economic activity has been largely supplanted by tourism, it is still important, both culturally and as a viable economic diversifier and a source of fish protein for residents, local resorts and restaurants.

Commercial fishing in the region employs fishers from Placencia Village, Seine Bight Village, and Monkey River Village (although it is claimed that most Monkey River fishermen fish further south). Fishermen from Hopkins and Sarteneja also frequent the area. Common catches include lobster, conch, barracuda, groupers, jack, snappers, mackerel, and grunts. Permits, tarpon and bonefish are sought after for sport fishing and until very recently, the harvesting of both sea cucumber and seaweed has emerged as viable fisheries.

The total spiny lobster coverage for the South Central was determined to be approximately 869 km^2. Using InVEST's ecosystem service model for Spiny Lobster, it was estimated that the lobster tail catch for the current zoning scheme is 28,026 lbs and generating revenue of approximately BZ $0.75 million (**Fig 4, Appendix**). In addition, model results suggest that a Conservation Zoning Scheme could increase catch to 44,667 lbs; and generate an annual revenue of BZ $1.2 million by 2025. However, a development zoning scheme would decrease the catch significantly to 3,673 lbs; with exports of tail meat amounting to 4,512 lbs, and generating annual revenue of only BZ $0.12 million by 2025. The model results indicate that the proposed zoning (Informed Management) scheme (**Map 6**) for this region could increase catch to 37,361 lbs. Exports of tail meat would be in the amount of 24,696 lbs, generating annual revenue of BZ $0.99 million by 2025. This represents a 21% increase from 2010 returns.

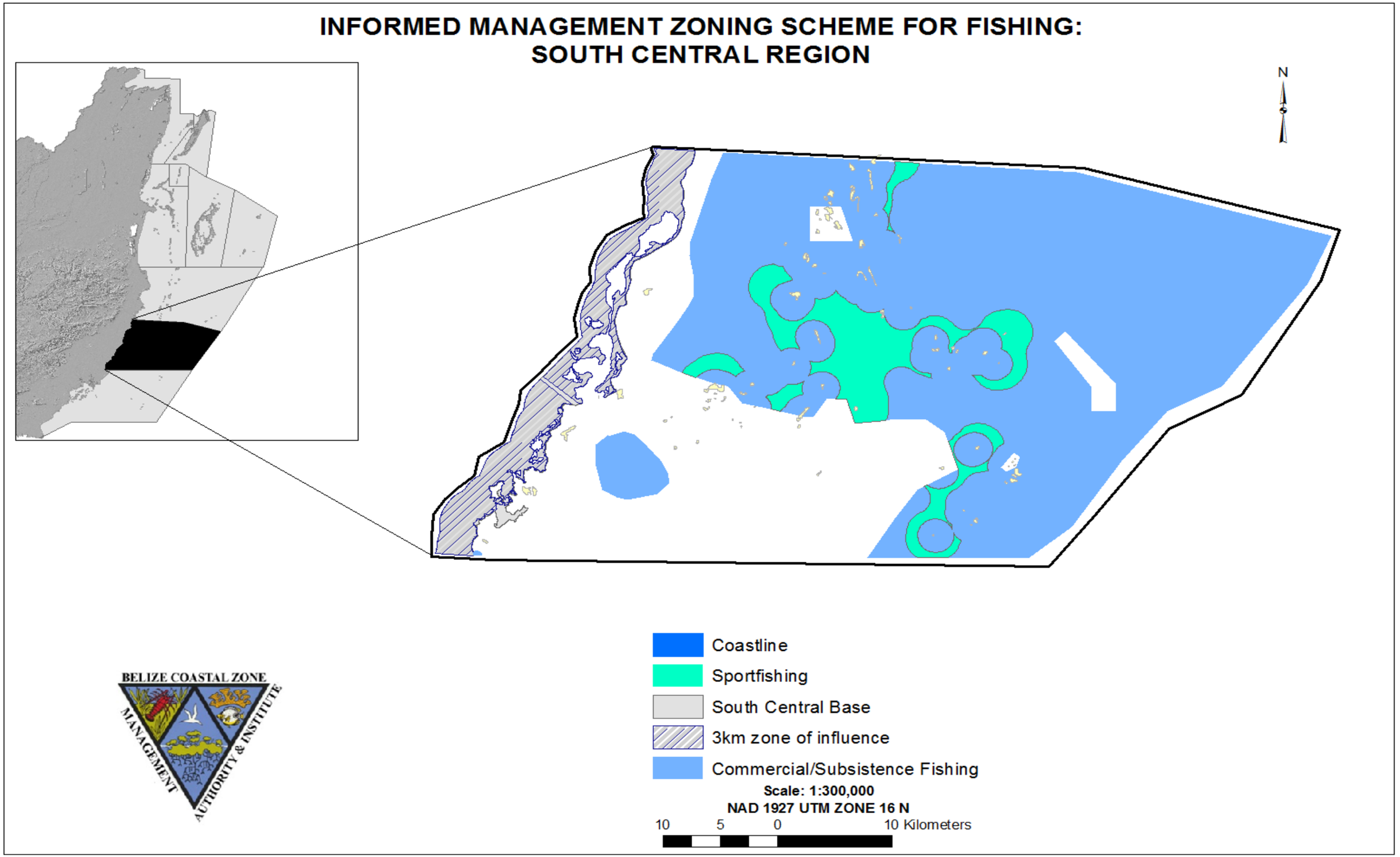
Compared to the Informed Management Zoning Scheme (**Map 6**), the Conservation Zoning Scheme is the better option for maintaining increased lobster catch and revenue through to 2025. This is mainly attributed to the fact that under the Conservation Zoning Scheme,

habitats that support the lobster fishery are under relatively less stress from human activity than in the Informed Management scheme. However, while the zoning scheme under a Conservation Scenario is good for habitats and the provision of important ecosystem services, such as protein from lobster, significantly less human activities occur in this zoning scheme. Although there may be some loss to habitat quality and lobster production, the Informed Management zoning scheme represents a balance between managing the resources of the coastal zone and the continued allocation of areas for human use through to 2025.

In discussing the results of the InVEST ecosystem models, and in particular the lobster fishery model, there is the need to consider limitations of the model, which are highlighted below:

- Population growth parameters are nationwide, not region-specific
- Habitat dependencies are obligatory (e.g., habitat substitutability is not explicit represented).
- The population responds to change in habitat quantity (i.e., areal extent of mangrove, seagrass, and coral reef), not quality of those habitats.
- The fishery is assumed to take place at the start of the year, before natural mortality
- The model assumes near knife-edge selectivity in harvest function
- Harvest selectivity (and catchabilitiy) is invariant, such that technological improvements to gear or changes in fishing practices are not modeled.
- Market operations are fixed, such that they do not vary in response to amount of harvest, shifts in market or consumer preference, or technological changes.
- Climate change impacts are not directly accounted for in model

Additional information on how this model works can be found in **Appendix B.4** of the Belize Integrated Coastal Zone Management Plan.



Map 6: Informed Management Zoning Scheme for Fishing in the South Central Region

Each community seems to focus its fishing effort on a particular marine product. For instance, Placencia and Monkey River specialize in lobster fishing, while it appears that Seine Bight does not. There are marketing variations too. Placencia has a well-organized co-operative and freezing facility, and markets its fish through the Belize City-based fishing co-operatives. In Seine Bight and Monkey River, although some individuals belong to the Placencia Fishermen's Co-operative, catches are frequently sold locally. A new co-operative has recently been established in Independence.

One particular trend has been repeatedly reported by fishers is a general depletion in commercial species, particularly conch, but also lobster, sharks, snook, and Goliath grouper. The vicinity around Buttonwood, Funk, Gladden, Jack's cayes is a historically rich fishing area, principally for grouper and snapper, and fishermen from several communities use it. However fishermen have identified a distinct decrease in the area. The False Bight area has also been seen to be on the decline, as has the Ranguana Caye area to the south. Straight forward over-fishing may be the cause of the decline, though locals point to the constant illegal fishing by fishermen from Guatemala and Honduras, and, indeed, there is ample evidence of their presence, particularly in the night. The decline is manifested in the switch many fishermen are making to tour guiding and the development of small tourist accommodations on the cayes.

The coastal area inland from the region is dominated by shrimp farming, with at least 7 active farms in operation. While these make a hefty contribution to the national economy, local employment is relatively small. There are concerns too over the concentration of nutrients from the farms in the poorly flushed Placencia Lagoon, and this may be having a deleterious impact on the waters around and south of Placencia. It is noteworthy to mention that one potentially viable, low-impact and sustainable mariculture venture that has been considered in the region is the cultivation and harvesting of seaweed. This venture is being piloted by the Placencia Producers Cooperative Limited with support from the Community Management of Protected Areas for Conservation Initiative (COMPACT) and the World Wildlife Fund.

The Fisheries Act, administered under the Fisheries Department, is the principal governing legislation to regulate the fishing industry (**Table 2**), and is directly concerned with maintaining sustainable fish stocks and protecting the marine and freshwater environments. In order to protect the fisheries resources of the Corozal Bay area and the traditional fishing rights of fishing communities of the region, the following action steps are recommended, to complement the existing Fisheries regulations and to enhance regional management of the fisheries resources.

Table 2: Framework for Implementing Informed Fisheries Management in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	Compatible	Regulated			
Fishing	Marine area defined for the extraction of fish for food and commercial trade, except for sport fishing which only involves the catch and release of fish	1.Sportfishing(bonefish, tarpon, permit); 2.Wild capture of commercial fish species using only permitted fishing gear 3. Subsistence fishing using traditional fishing gear 3. Wild capture of invasive species	Marine recreation and eco-tourism Passage/entry of fishing vessels Research and Education within marine reserves Establishment of fish pots and traps Seaweed culture	Sport fishing Commercial fishing Research and Education	1. Illegal extraction of catch and release species, endangered marine species and organisms under seasonal management regime; 2.Extraction within legally specified "no-take"/replenishment zones 3. Dredging 4. Use of prohibited fishing gear 5. Trawling 6. Shipping and navigation 7. Dumping of solid and liquid wastes 8. Oil exploration and extraction	Fisheries Act Coastal Zone Management Act	Fisheries Department Coastal Zone Management Authority

Recommended Actions:

1. Protect spawning aggregation sites, traditional fishing grounds and critical areas of the South Central coastal zone including, but not limited to, replenishment zones and no-take areas, through the clear identification and demarcation of these areas.

2. Provide stronger enforcement of the Belize Fisheries Act and its regulations, including foreign fishing in Belizean waters, closed seasons, and size limits. Increased training of enforcement officer could serve an effective enforcement mechanisms

3. Incorporate fishing areas into development planning for the region

4. Amend the Fisheries Regulations to include harsher penalties for non-compliance with fisheries management policies

5. Preserve mangrove areas important for the provision of fish nursery habitats

6. Disseminate information to the general public via public awareness campaigns on an ongoing basis on fisheries legislations, especially the protection of fish species of conservation and/or commercial significance

7. Secure long-term alternative livelihood options for traditional fishers of the region

8. Limit dredging activities from areas within close proximity to important fishing grounds

9. Conduct research on the relationship between abiotic factors, (such as salinity, temperature) and fish stocks

10. Conduct regular patrols targeting non-registered fishermen and transboundary incursions–increasing use of night patrols, monitoring of creeks etc.

11. Establish protocol and collaborative agreements with Fisheries Department and Belize National Coast Guard for fast response to reports of transboundary incursions

12. Implement the recommended Informed Management zoning scheme for fishing for this region (**Map 6**)

13. Enforce a total ban on gill netting along the entire Peninsula coast and also in the Placencia Lagoon, as continued netting of creeks threatens snook and tarpon stocks

14. Lower financing costs for fisher folk

15. Improve education in new technologies for fisher folk

16. Integrate tightly the fishing and tourism sectors in terms of culture, tourist activities, and supply chain

17. Support sustainable, low-impact mariculture options for the region, such as seaweed harvesting

18. Protect fishermen's right of access to camping areas. There has been a high degree of uncertainty over the security of fishermen's camps in some areas, and there has been a prolonged campaign to give them a proper legal basis. As the fishermen are, essentially, one the main custodians of the cayes and waters of the region, the protection of their camps is critical to the effective management of the cayes.

6.2 Marine Tourism and Recreation

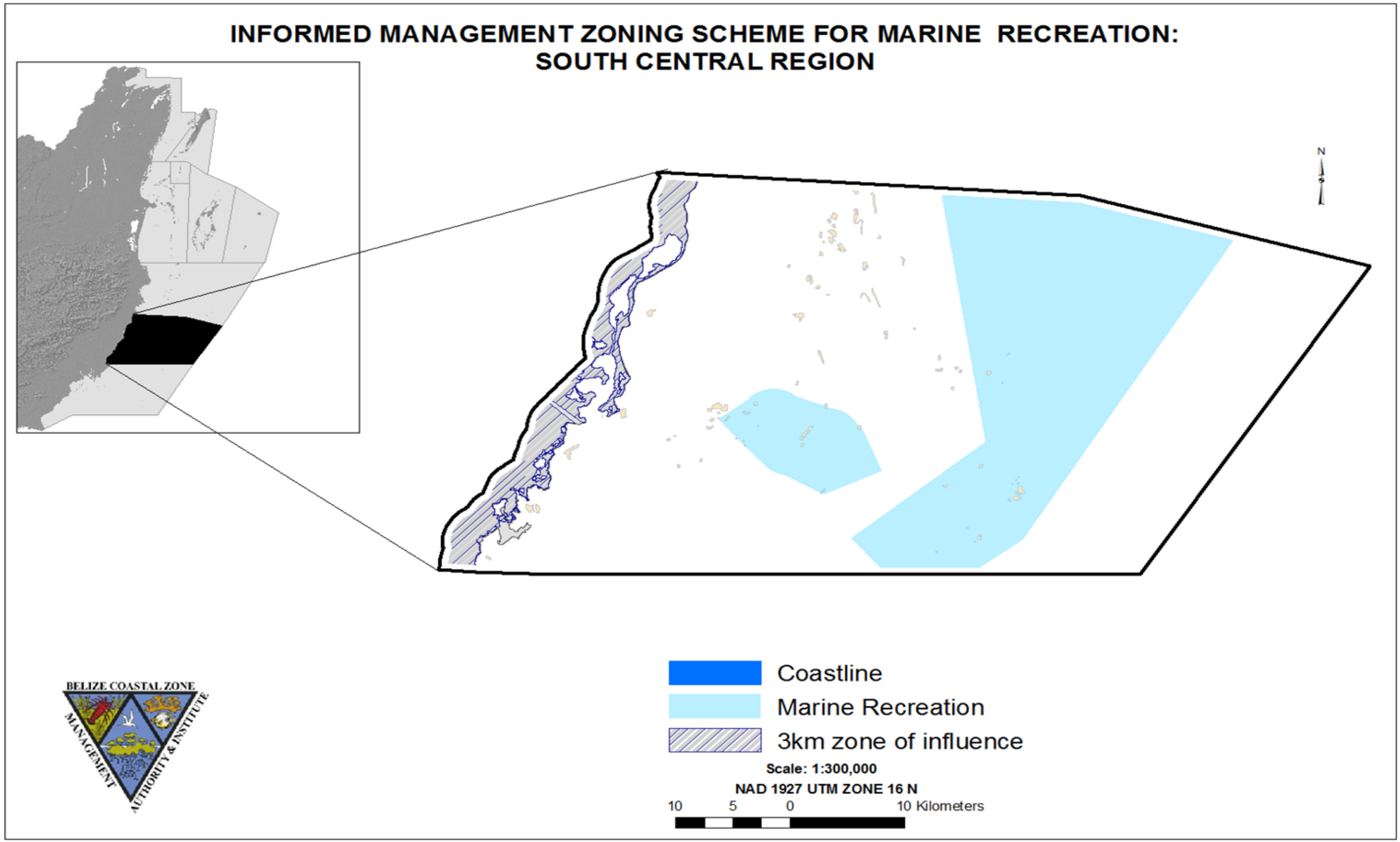
Tourism activities on peninsula and on the cayes in the region are, for the most part, an extension of resort/hotel activities based in Placencia, Maya Beach, Seine Bight and to a lesser extent in Independence. There are numerous tour destinations, whether for diving, snorkeling, kayaking or sport fishing, yet the Gladden Spit area is perhaps the most popular. It is estimated that 75% of all visitors to the region visit Laughing Bird Caye National Park, and the caye can be subject to up to 100 visitors in a day in the height of the season. The deep water of the Victoria Channel allows small pocket cruise ships access into the heart of the region, and several use Laughing Bird Caye as a destination.

InVEST Recreation and Tourism ecosystem service model results suggest this region is projected to experience an increase in its tourist visitation by 2025 (**Fig. 5, Appendix**). In 2010, approximately 290 thousand people visited this region generating revenue of BZ $34 million annually (**Fig. 6, Appendix**). In a Conservation Zoning Scheme, InVEST Recreation model results indicate that there may be an increase in tourist visitation to approximately 372 thousand, generating annual revenue of BZ $41 million. In a Development Zoning Scheme, there would also be an increase in the current tourist visitation to approximately 383 thousand, and generating annual revenue of BZ $42 million. In the proposed Informed Management Zoning Scheme **(Map 7)**, InVEST Recreation model results indicate that there will also be an increase in tourist visitation to approximately 568 thousand and that tourist expenditure would generate an annual revenue of BZ $98 million. The supporting framework for implementing the Informed Management Zoning Scheme for marine recreation and tourism is outlined in **Table 3**.

In discussing the results of the InVEST ecosystem models, and in particular the recreation model, there is the need to consider limitations of the model, which are highlighted below:

- The model assumes that people will respond similarly in the future to the attributes that serve as predictors in the model. In other words, the assumption is that people in the future will continue to be drawn to or repelled by a given attributes to the same degree as currently.
- Some of the attributes that are used as predictors of visitation are representations of areas managed for particular human use (e.g. transportation). The model assumes that future management of the zones and the type of activities that they represent are similar to current.
- Since there are no fine-scale data on the distribution of visitors to Belize, we use photo-person-days as a proxy for the relative density of actual person-days of recreation across the coastal zone.
- Climate change impacts are not directly accounted for in model

Additional information on how this model works can be found in **Appendix B.3** of the Belize Integrated Coastal Zone Management Plan.



Map 7: Informed Management Zoning Scheme for Marine Recreation in the South Central Region

Table 3: Framework for Implementing Informed Marine Recreation in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	**Compatible**	**Regulated**			
Marine Recreation	Marine areas especially suited to swimming, snorkeling, diving, kayaking, surfing, jet skiing, kite boarding, and other water sports	1. Swimming 2. Snorkeling 3. Diving 4.Kayaking 5. Surfing, 6. Jet skiing, 7. Kite boarding 8. Other water sports	Passage/entry of water taxis, tour boats, cruise vessels Research and education within marine protected areas Sport fishing	Research and Education Eco-tourism activities within marine protected areas Sport fishing	1. Commercial fishing 2. Establishment of fish pens/cages, mariculture 3. Oil exploration and extraction 4. Dredging 5. Passage of commercial fishing vessels 6. Shipping and navigation 7. Trawling 8. Dumping of solid and liquid wastes from ships and boats	Belize Tourism Board Act Fisheries Act Coastal Zone Management Act Hotel and Tourist Accommodation Act National Sustainable Tourism Master Plan	Belize Tourism Board Fisheries Department Coastal Zone Management Authority

While the tourism industry generates much needed economic development, on both local and national levels, it has been identified as also leading to reef damage, illegal camping, and litter. It is also noticeable that it has had the effect of generating speculative, though not always well-informed, development. As the region becomes more of an internationally known tourism destination relative land values have risen. The cayes, as well as the mainland, are becoming increasingly subject to spiraling "hope values" that may not reflect their true market value yet often lead to damaging improvements, such as indiscriminate clearance, intended to push their supposed value higher.

The National Sustainable Tourism Master Plan (STP) strongly recommends that tourism growth and development within the region should be contained and consolidated. This recommendation is strongly echoed in the Peninsula 2020 Vision document. Specifically, the STP document articulates that the overwhelming sentiment and collective desire of peninsular residents is that the Placencia Peninsula should not become a mass tourism destination, such as cruise tourism and large all-inclusive resorts. Instead, it is recommended that the focus for this region be on promoting "low-impact" tourism activities that would focus on improving the quality of the tourism product offered by the region. Marketing should focus on the region as an authentic destination where overnight visitors have the opportunity to participate in community life.

Recommendations:

1. Tourism, or tourism related, growth should be from low-scale development, though not necessarily low-investment or low-income

2. New resorts should fall into the "boutique" category. Small locally owned inns or bed and breakfasts should be encouraged in the villages. "Mega" resorts should be prohibited outright.

3. The development of "all inclusive" resorts (those which include all food, drink and entertainment) should be discouraged as they isolate tourists from the surrounding community.

4. Resort rather than condominiums or strictly residential enclaves should be encouraged because resorts promote greater employment and opportunities for advancement as well as wider distribution of tourist expenditure.

5. Placencia **village** should not become a cruise port save for small ships. The definition of small is difficult to agree on but one suggestion is to limit visits to only those ships (not tenders) that could actually berth at the new municipal pier being constructed as part of the National Sustainable Tourism Project. Economic activity from any such ships would

be handled by the Village Council or bodies it designates such as the Placencia Tour Guide Association, with an aim to spread benefits a widely as possible.

6. The determination of acceptable limits of change and capacity restrictions must be established for marine sites that serve as major tourism and recreational areas

7. The recommendations of the National Sustainable Tourism Master Plan for this region are to be supported in order to encourage a long-term sustainable tourism future

8. BTB and/or DOE should not recommend or approve tourism facilities that do not conform to these coastal zone management guidelines.

9. All tourism facilities should meet BTB's minimum standards, including disaster preparedness and evacuation plans; and also meet the *"Tourism and Recreation Best Practices Guidelines for Coastal Areas in Belize"* produced by CZMAI

10. Implement the Recreation informed management zoning scheme for this region (**Map 7**)

6.3 Land-Use

The land use component of these management guidelines for the South Central coastal zone are based on the carrying capacity of the terrestrial and aquatic environment, combined with the existing and projected types of land tenure patterns and use activities. The demand for land for current and future human settlement activities is a critical element of determining the land-use classification. The land use assignment of residential, commercial and conservation must then be based upon the development suitability assessment, the current development trends, existing land use and property rights, socio-economic and other data to facilitate development. It is important that these coastal zone management guidelines maintain some flexibility to enable a response to the ever changing socio-economic and physical environment.

Keeping in mind the high percentage of national lands, protected reserves, existing uses and ecological sensitivity of the region, it is recommended that conservation, commercial and residential use classes with associated performance standards be assigned to guide and regulate the development of the southern mainland in the agreed zones. These use classes are intended to accommodate existing resorts, residential homes, scientific research, ecological tourism and commercial development. For instance, residential land use includes permanent residences and vacation homes, whether to be used by the owner or rented out for certain periods or times of the year, and can be duplexes, semi-detached or detached units, and home industries. On the other hand commercial denotations are for purposes associated with hotels, resorts, motels and guesthouses, which have in addition to residential purposes shops, offices, entertainment facilities, etc.

In the case of privately held undeveloped lands, the development standards presented within these guidelines presents the most sustainable and appropriate future land use. Although the CZMAI recognizes the right of the landowner to develop their land in any matter they see fit there must be measures in place to steer future development in order to ensure sustained ecosystem services. Therefore, in the case of these lands, if there is no development activity within the first five (5) years of the passage of this planning document then all future development activities, after the time period, **MUST** follow development standards as outlined within this coastal development guideline.

6.3.1 <u>Coastal Development Standards</u>

The existing standards for subdivision of land (Land Utilization Act, Chapter 188 of the Substantive Laws of Belize, Revised Edition 2000) did not anticipate the magnitude of urban expansion, tourism and other development that Belize has experienced over the past decade. In 2010, the National Guidelines for Subdivision and Consolidation of Land in Belize was revised to address such issues and provide transparency and equitability to the process of subdividing and developing land. Although revised, the amendments made were general in scope and lacked

the specificity needed for sensitive areas such as the cayes and atolls. Therefore CZMAI recommends the standards contained within the National subdivision guidelines only for developing the 3km **coastline** of the Northern Region. The framework for implementing the zoning scheme for the development of coastal lands is found in **Table 4.**

Table 4: Framework for Implementing Informed Coastal Development in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	**Compatible**	**Regulated**			
Coastal Development	Residential settlements, infrastructure, commercial/economic activities on land above water within 3km buffer of the coastline and offshore cayes	1. Expansion of existing communities 2. Small-medium scale residential development 3.Small-medium scale commercial development 4. Community facilities 5. Supporting infrastructure	Small-scale, light industry Tourism facilities, such as small guest houses Subsistence agriculture production, and landscaping with decorative, native, non-invasive crops	Subdivision of land Establishment of small and medium-scale commercial and light-industrial development Establishment of residential expansion Solid and liquid waste management	1. Large-scale coastal agriculture production 2. Coastal aquaculture 3. Dumping of solid, toxic, hazardous waste and untreated liquid wastes, including grey water and sewage 4. Commercial or light-industrial development within residential zone 5. Residential development within commercial or light industrial development zone 6. Squatting/informal settling 7. Unregulated clearing of mangrove forest, including the conversion of mangrove areas into other uses 8. Oil exploration, extraction and establishment of oil refinery	Belize Building Act Cayes Development Policy Coastal Zone Management Act Environmental Protection Act Forest Act Hotels and Tourist Accommodation Act Housing and Town Planning Act Land Utilization Act Mines and Minerals Act Solid Waste Management Authority Act Water and Sewerage Act	Central Building Authority Coastal Zone Management Authority Coastal Zone Management Authority Department of the Environment Forest Department Belize Tourism Board Ministry of Housing Land Utilization Authority Mining Unit, Ministry of Natural Resources Solid Waste Management Authorit Belize Water Services Limited

The situation of land use on the Peninsula is multi-faceted. Firstly, there is the situation of high land prices, attributable mainly to the rapid rise of tourism. With land prices second only to San Pedro, Ambergris Caye, very few Belizean residents of the Peninsula can afford to buy land in their neighborhoods at current market prices. This is, of course, a double edged sword in that those residents who own property are quite literally sitting on a gold mine. The second issue is that there is little public land left for the Belize government to give out at subsidized prices. Those parcels that have been given to locals have, in many cases, been quickly resold to foreigners at a significant profit.

The National Sustainable Tourism Master Plan for Belize (STP) 2030 recognizes that the South Central Region is facing increased pressure from the real estate sector to develop areas that contain highly sensitive natural ecosystems. As such, it has identified a "sacrifice zone" where to concentrate new future developments while conserving the fragile ecosystems that make this region a place of attraction. Thus, the Plan recommends a model of development for the South Central region that involves the infilling and completion of existing settlements in Riversdale community, Seine Bight Village, Placencia Village and Maya Beach Community. Although mention is not made in the of the tourism master plan specifically about Independence Village, the model of development that seems most appropriate for this village is also the extension of the community's edges. The density proposed is "**very low density**", which includes around 4 units/acre-10 units/hectare.

The tourism master plan also recommends that tourism development occur in two phases; 751 new hotel rooms by 2020, followed by an additional 2,249 from 2021 to 2030. However, the majority of these new hotel rooms will be allocated within the region south of Hopkins Village and north of the Riversdale community. This region is outside of the South Central planning region, and thus this proposed development is addressed in the South Northern Region Coastal Zone Management Guidelines. Residential development standards for are found in **Table 5** below, and these correspond to the recommended Informed Management Zoning Scheme for Coastal Development (**Map 8**).

Residential Development: Land use in which housing predominates, as opposed to industrial and commercial areas.

Table 5: Residential Development Standards for Placencia Peninsula Communities

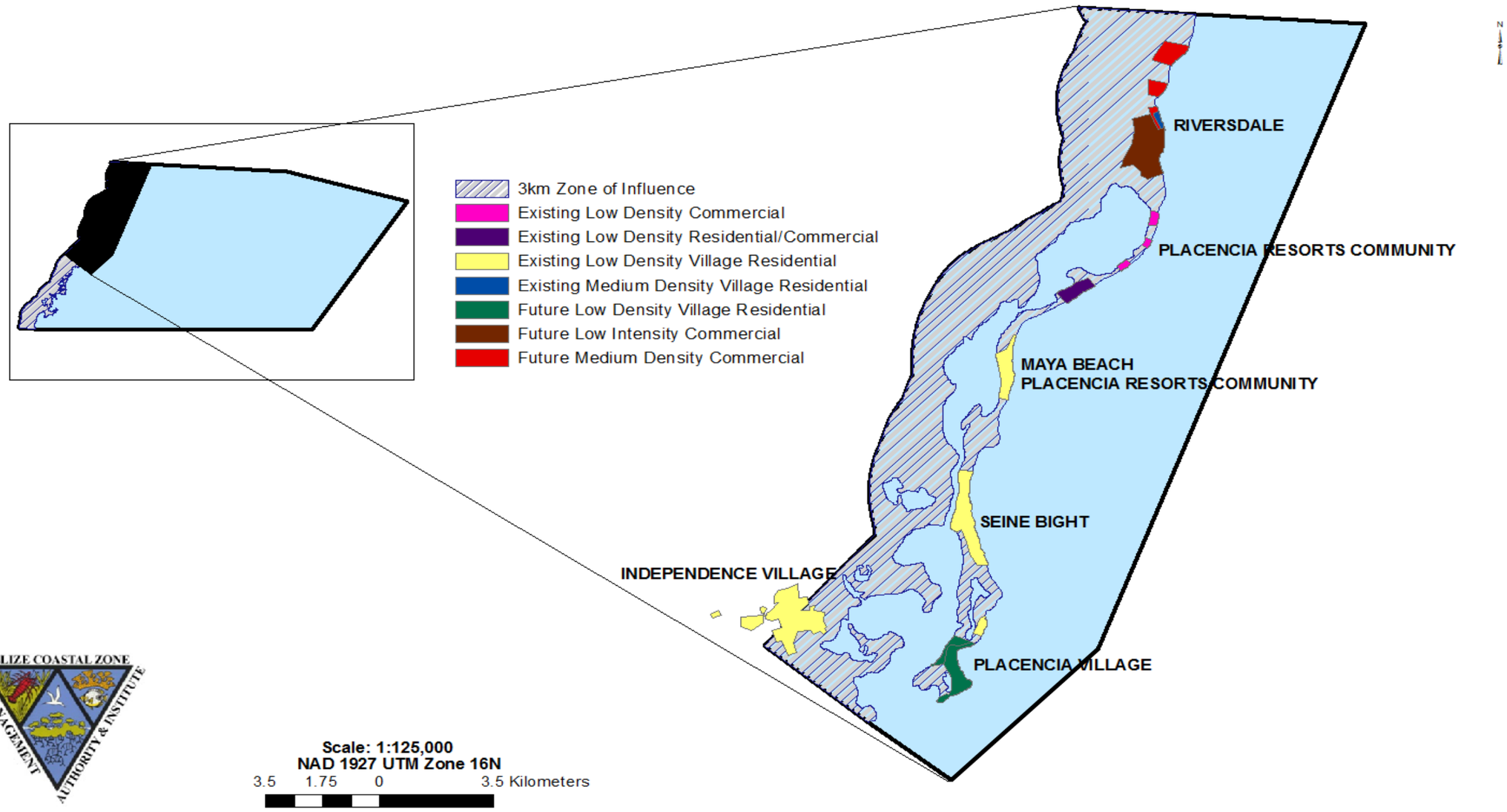
Subdivision Criteria	Residential Development Standard
Primary Permitted Use	Single and Multi-Family Residential
Secondary Use	Commercial Low Density (convenience stores, small service shops, guest houses); Conservation, Parks/Playgrounds, Community Facilities
Maximum Lot Size	0.25 acre (4 lots/acre)
Width/Length Ratio	1:3
Net Density (dwelling units per acre)	4 du/acre
Maximum Site Coverage	33%
Minimum Frontage	65 feet
Minimum Setbacks: Front Side Back	 8 feet 8 feet 15 feet
Car Parking	1 per dwelling unit
Maximum Building Height	As per requirements/standards of the Central Building Authority
Maximum # of floors per building	As per requirements/standards of the Central Building Authority
Services	Water, Electricity, Telecommunications, Sewerage Treatment, Waste Disposal

Institutional Use and Community Facilities: Land use in which public services and social upliftment predominates. Includes schools, community centers, public health clinics, libraries, embassies, police stations, and other public agencies. Also additional for other public purposes including public parking, cemeteries, churches, sporting areas, police stations, etc.

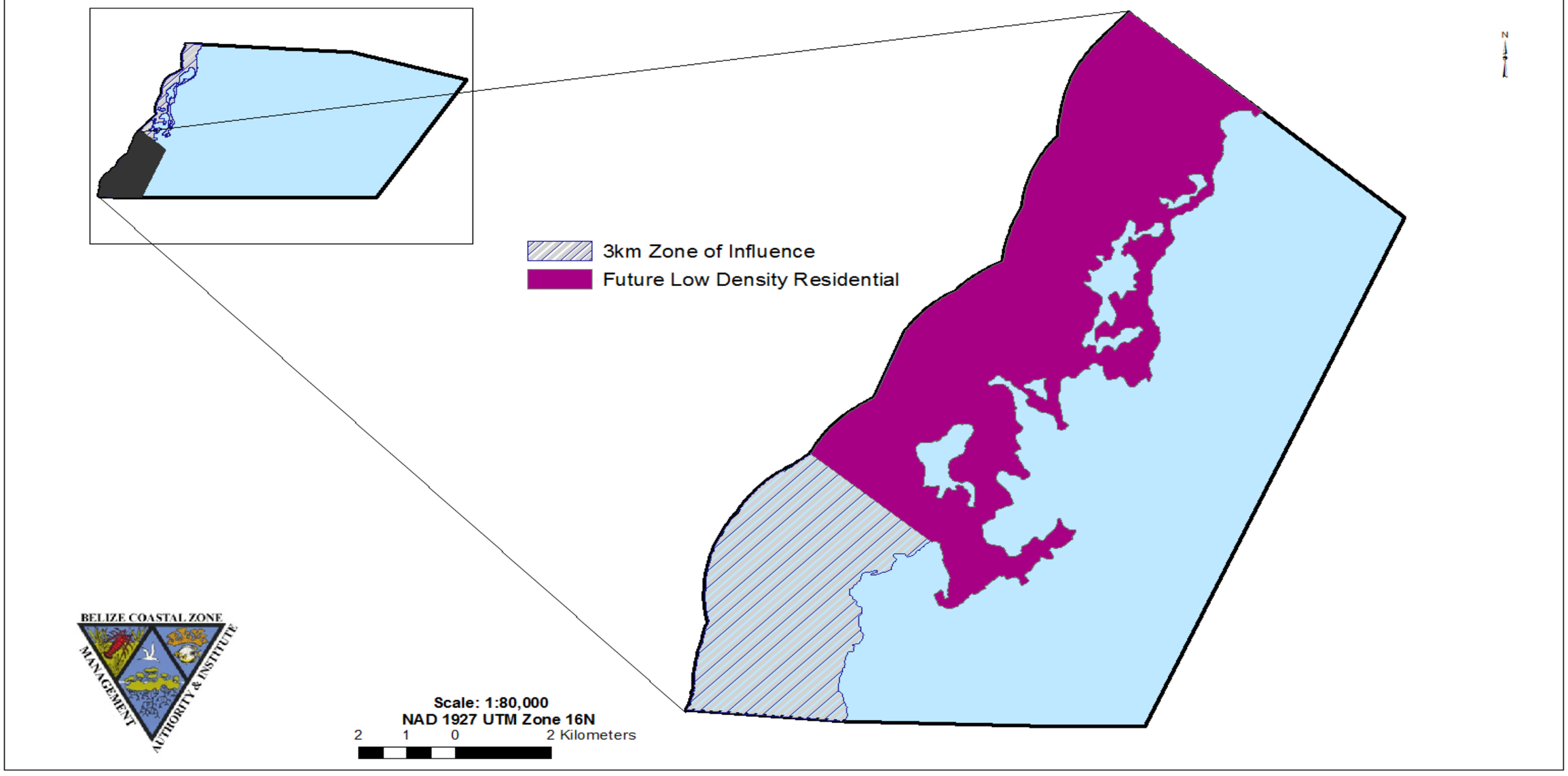
Table 6: Development Standards for Institutional Use and Community Facilities

Subdivision Criteria	Development Standard
Building Setbacks: Front: Side: Back:	 25 feet 12 feet 15 feet
Maximum Site Coverage	40%
Permitted Use	Education, Health, Religious, Community Centre etc.
Secondary Use	Conservation & Parks/Playground
Minimum Frontage	1/6 of Perimeter of Lot
Services	Water & Sewerage or Septic Tank, Electricity

INFORMED MANAGEMENT ZONING SCHEME FOR COASTAL DEVELOPMENT: SOUTH CENTRAL REGION



Map 8: Informed Management Zoning Scheme for Coastal Development in the South Central Region



9: Informed Management Zoning Scheme for Coastal Development in the South Central Region

6.3.2 Cayes Development Standards

Development on cayes and atolls require specific building standards since these areas are in close proximity to important sensitive habitats such as sea grass beds, mangroves and coral reefs. Ad hoc or uncontrolled development in these areas can have severe negative effects on surrounding ecosystems. For example the construction and proliferation of piers can cause destruction of the beach, sea grass bed and seabed and sedimentation, particularly if they are positioned on the windward side. Furthermore, the movement of debris during storms from buildings constructed on piers can be dangerous. Sustainable development is crucial in maintaining our natural resources and the benefits that Belizeans receive from them. Proper planning is required for this to be achieved.

In 2004, CZMAI produced a set of Cayes Development Guidelines for the cayes within each coastal planning region (**Map 1**). These development guidelines were produced in consultation with stakeholders from each planning region along with technical input from government relevant agencies. Within the document land use classes were developed along with accompanying standards for the varying degrees of development that can occur on a caye. Use classes were also assigned to each caye according to suitability. The use class categories developed include residential, commercial and conservation, representing the various degrees of development intensities allows on cayes.

In terms of the cayes in the South Central Region, there has been much speculation about the capability of several of the cayes for relatively large-scale development schemes, such as golf-courses, cruise ship facilities and marinas. Long Coco (north of Mosquito) Caye, Harvest Caye and Lark Caye are particular examples. Such developments may require undertaking dredging and filling, construction of coastal defense structures such as seawalls, and the application of pesticides and heavy fertilizer use. There might also be the need to consider options for the disposal and management or huge volumes of liquid and solid wastes that could potentially be generated from these developments. On the other hand, many of these cayes are in reality very small, ranging between 3-5 acres in area. The lack of naturally occurring high lands on these cayes make them unsuitable for high-impact development.

The original cayes development guidelines for this region identified 83 ‘development sites’ and specified the type of land use, lot size, building density, means of utility supply and other relevant performance standards for each site. Most of these are expressed as minimum or maximum requirements, allowing for flexibility between these margins. It is intended that development should take place only on these sites; the remainder of the land, whether it is high or low, should be kept, at least until further review, in reserve. A presumption against development should be exercised on all areas outside the development sites.

Each development site is given a series of performance standards, ranging from the size of the site to the means of waste disposal. However it should be noticed that the great majority of sites are given two ‘land use’ options: the primary being the most recommended, the secondary being considered as suitable as a development option, but only so long as the primary ‘land use’

is utilized. These standards are found in the development sites table below (**Table 7**) and correspond with the proposed land use maps for the cayes (**Maps 9, 10, 11**).

Table 7: Land Use Development Standards for Cayes Development Sites in the South Central Region

Site Number	**1**
Name / location	**ABIGAIL CAYE**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	4
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	67% (1 acre)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should take place only around the existing camp / resort in the northern part of the caye, with access to the lagoon on the west. The remainder of the caye should be left undisturbed
Natural features	The caye is generally low with low red mangrove. Access is poor from the east side.
Ownership	National

Site Number	**2**
Name / location	**BAKERS RENDEZVOUS CAYE: NORTH CAYE**
Primary land use	Guesthouse
Secondary land use	Fishing camp
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Owing to the generally low lying nature of the caye, its relatively small size, and poor access due to surrounding reefs and shoals the caye should only accommodate one development. This should take place on the marginally high land and have its access to the west. The rest of the caye should remain in its natural state.
Natural features	The caye has a low-lying red mangrove dominated exterior with a ridge of relatively high land running along the centre with some black mangrove and palmetto. Bird nesting has been noted. The cayes is surrounded by reef which extends to the north and south. Access is difficult from the deep water lying on the west side.
Ownership	Property

Site Number	**3**
Name / location	**BAKERS RENDEZVOUS CAYE: SOUTH CAYE**
Primary land use	Guesthouse
Secondary land use	Fishing camp
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye is particularly small yet has some marginally high land it and could accommodate one development. This should take place on the high land and have its access to the northwest. The rest of the caye should remain in its natural state.
Natural features	A generally low-lying mangrove caye though with sufficiently high land to allow for some black mangrove in the interior. The caye is a bird nesting site. As with the northern caye it lies within a north – south reef system which drops off directly on the east.
Ownership	National

Site Number	**4**
Name / location	**BOOBY CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	This is a low mangrove caye with some marginally high land in the center north and on the extreme northeast. Vegetation consists of high red mangrove. The caye has been identified locally as an important bird nesting site.
Ownership	National

Site Number	**5**
Name / location	**BUGLE CAYES: WEST CAYE**
Primary land use	Lighthouse
Secondary land use	Residence
Maximum lot size	2 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	700 sq ft per building
Maximum site clearance	75% (150 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft (except for the lighthouse)
Maximum No of floors	2 (except for the lighthouse)
Water	Roof
Electricity	Generator / solar / wind / connection to Placencia
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Any new development should take place only on the high land and in the vicinity of existing development. The remainder of the caye should be left undisturbed
Natural features	The caye has high land on the west side with coconuts and mixed vegetation. Otherwise it is generally low with high red mangrove. There is shallow water to the north, south and east.
Ownership	National

Site Number	**6**
Name / location	**BUGLE CAYES: EAST CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye could accommodate one low-impact fishing camp should demand arise. Any development should take place on the south or north sides to avoid the shallower water on the east and west. The remainder of the caye should be left undisturbed.
Natural features	A generally low caye with yet with a rocky ridge running along the south side. Vegetation is mainly high red mangrove, yet also some mixed vegetation along the southern shoreline.
Ownership	National

Site Number	**7a**
Name / location	**BUTTONWOOD CAYE: North**
Primary land use	Fishing camp
Secondary land use	Recreation
Maximum lot size	1.46 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	4
Maximum hab-room density	10
Maximum guest capacity	15
Maximum building coverage	700 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	New development should take place around the existing facilities. Access should avoid surrounding reef areas. The natural vegetation on the remainder of the caye should be left undisturbed
Natural features	The caye has generally high land with coconuts and some mixed vegetation. There is a small beach running along the west side. The east and south sides have fringing mangroves. Reef extends to the north, east and south. The surrounding waters are a popular fishing area.
Ownership	Property

Site Number	**7b**
Name / location	**BUTTONWOOD CAYE: South**
Primary land use	Residential
Secondary land use	Guesthouse
Maximum lot size	1.46 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	4
Maximum hab-room density	10
Maximum guest capacity	15
Maximum building coverage	700 sq ft per building
Maximum site clearance	50%
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Any development should take place only on high land. Preferably in the interior where there is a larger area. Current occasional camping use should continue either at the south end or in the vicinity of new development if undertaken. The remainder of the caye should be left undisturbed.
Natural features	The caye has generally high land with coconuts and some mixed vegetation. There is a small beach running along the west side. The east and south sides have fringing mangroves. Reef extends to the north, east and south. The surrounding waters are a popular fishing area.
Ownership	Property

Site Number	**8a**
Name / location	**CARY CAYE: North**
Primary land use	Resort
Secondary land use	Residence and research
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	4
Maximum hab-room density	12
Maximum guest capacity	24
Maximum building coverage	1500 sq ft per building
Maximum site clearance	80% (0.50 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	Any development should take place only on high land. Preferably in the interior where there is a larger area. Current occasional camping use should continue either at the south end or in the vicinity of new development if undertaken. The remainder of the caye should be left undisturbed.
Other	
Natural features	The caye has a generally low shoreline dominated by red mangrove, though further interior is higher and has some coconuts, black mangrove and mixed vegetation. The centre of the caye is swamp. There is a high area at the extreme south end with a beach on the west side. It appears that the small caye to the immediate south, which has a small area of high land, insufficient for development, on its northern side, has been cut off from the main caye within the last ten years or so. The surrounding waters are shallow with reefs extending north, northwest and south.
Ownership	Property

Site Number	**8b**
Name / location	**CARY CAYE: South**
Primary land use	Research
Secondary land use	Fishing camp
Maximum lot size	1 acre
Minimum lot size	
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50%
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	1
Other	Any development should take place only on high land. Preferably in the interior where there is a larger area. Current occasional camping use should continue either at the south end or in the vicinity of new development if undertaken. The remainder of the caye should be left undisturbed.
Natural features	The caye has a generally low shoreline dominated by red mangrove, though further interior is higher and has some coconuts, black mangrove and mixed vegetation. The centre of the caye is swamp. There is a high area at the extreme south end with a beach on the west side. It appears that the small caye to the immediate south, which has a small area of high land, insufficient for development, on its northern side, has been cut off from the main caye within the last ten years or so. The surrounding waters are shallow with reefs extending north, northwest and south.
Ownership	Property

Site Number	**9a**
Name / location	**CHANNEL CAYE: North**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	7
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should only take place at the site of the present camp on the small caye lying to the north of the main. The rest of the caye should remain in its natural state.
Natural features	The caye consists of a main with one small caye to the immediate north and several very small ones to the east and southeast. All are low-lying and dominated by red mangrove. Reef extends slightly on the north and extensively on the south. Access to the lagoon to the direct south is obscured by shoals and small cayes.
Ownership	National

Site Number	**9b**
Name / location	**CHANNEL CAYE: South**
Primary land use	Preservation
Secondary land use	Fishing camp
Maximum lot size	1 acre
Minimum lot size	2 acres
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	7
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should only take place at the site of the present camp on the small caye lying to the north of the main. The rest of the caye should remain in its natural state.
Natural features	The caye consists of a main with one small caye to the immediate north and several very small ones to the east and southeast. All are low-lying and dominated by red mangrove. Reef extends slightly on the north and extensively on the south. Access to the lagoon to the direct south is obscured by shoals and small cayes.
Ownership	National

Site Number	**10**
Name / location	**COLSON CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Any development should take place only around the existing fishing camp on the north west side of the caye. The natural vegetation on the remainder of the caye should be left undisturbed
Natural features	The caye has a high ridge on the northwestern side, and becomes generally lower in the center. Vegetation is mainly red high mangrove with some coconuts on the ridge, which were apparently much more plentiful in the early 1980's. This was a popular bird-nesting site prior to Hurricane Iris. The westward side has deeper water.
Ownership	Property

Site Number	**11**
Name / location	**CRAWL CAYE**
Primary land use	Resort
Secondary land use	Residence
Maximum lot size	5.9 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	5
Maximum hab-room density	12
Maximum guest capacity	24
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (3 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	2
Other	The land is low and will require some filling which should be undertaken with strict attention to avoidance of environmental degradation. All large trees should be retained, as should fringing mangroves. The remainder of the caye should be left in its natural state.
Natural features	This is a generally low-lying caye though it does have some marginally high land especially on the western promontory, where this Site is located. Vegetation consists of a mix of red and black mangrove, with many of the black mangrove trees being exceptionally large and reaching heights of approximately 50 feet. Reef extends to the northwest, southwest and south, and access is difficult. The surrounding waters are noted for lobster.
Ownership	National

Site Number	**12**
Name / location	**DREDGE CAYE**
Primary land use	Resort
Secondary land use	Residence
Maximum lot size	1 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	8
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.25 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye has been identified as requiring preservation yet should any development take place attention should be taken to minimize any impact on the surrounding area. Natural vegetation should be encouraged on the remainder of the caye and should be left undisturbed.
Natural features	The caye was created from the spoil from the dredging of the Big Creek channel. The land is high and stabilized.
Ownership	National

Site Number	**13**
Name / location	**ELBOW (SADDLE) CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Any development should take place only on the marginally high land on the north end of the northern caye, though with access to the lagoon. The natural vegetation on the remainder of the caye should be left undisturbed
Natural features	The caye is split into two parts separated by a deep lagoon; the larger part lying to the south. Both are low-lying and covered by low mangrove except for a marginally high area on the north end of the northern caye. Both cayes are surrounded by the same ring of reef. Access is by the deep lagoon lying between the two. The surrounding waters are noted for lobster.
Ownership	National

Site Number	**14**
Name / location	**FALSE CAYE**
Primary land use	Residence
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	7
Maximum guest capacity	6
Maximum building coverage	700 sq ft
Maximum site clearance	50% (1.15 acres)
Minimum building set backs	66 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	As the caye is generally very low-lying it should only accommodate limited development, and this should take place on the west or south sides, with access from the west or south. The plan of survey includes a 66 feet reserve that, due to the size of the caye, should be complied with. Attention should be taken to avoid damaging the archaeological site. The rest of the caye should remain in its natural state.
Natural features	This is a generally low caye with high mangrove, though with a marginally high ridge fringing the south and west sides. The interior has two areas of swamp. Reef extends to the north east. The surrounding waters are good for lobster diving.
Ownership	Property / National

Site Number	**15**
Name / location	**FUNK CAYES: WESTERN CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	8
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (1.15 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Although there are two leases listed for this caye it is recommended that it can only accommodate one. Any new development should take place only in the vicinity of the existing camp. The natural vegetation on the remainder of the caye should be left undisturbed.
Natural features	The caye has some high land in its center which reaches to both the center west side and center south side. The remainder is generally low dominated by mangrove. The high area has some mixed vegetation. A reef extends to the north to north west. The surrounding waters are a popular fishing area.
Ownership	National

Site Number	**16**
Name / location	**FUNK CAYES: EASTERN CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Any development should take place only on the high land towards the north end of the caye. Attention should be taken to ensure that access avoids surrounding shallow water and reefs. The remainder of the caye should be left undisturbed.
Natural features	The caye is mostly low, though with a small area of high land towards the north end. Mangrove dominates. Reef extends to the north, west and south, though there is a relatively deep lagoon also on the west side.
Ownership	National

Site Number	**17**
Name / location	**GLADDEN CAYES: WESTERN CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Conservation management of this caye is exercised by the Southern Environmental Association (SEA) and Fisheries Department.
Natural features	This is a small low caye dominated by red mangrove in close proximity to the barrier reef. Reef and shoals surround both this and the eastern caye, giving poor access. The surrounding waters are a popular fishing area.
Ownership	National

Site Number	**18**
Name / location	**GLADDEN CAYES: EASTERN CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Although there are two leases listed for the caye, its size and limited developable land make it suitable for only one development which should take place only on the high land in the center of the caye. It is recommended that one of the leases is re-located to another Development Site on another caye. Attention should be taken to maintain shoreline mangroves and access should be by pier / boardwalk, preferably from the eastern side of the caye, and should avoid the surrounding reef and shoals. Dredging should not be permitted. The remainder of the caye should be left undisturbed.
Natural features	The caye has a high area in its centre which does not quite extend to the shoreline. Otherwise the land is low and dominated by mangrove. The high area has coconuts. A reef surrounds both this and the western caye, giving poor access. The surrounding waters are a popular fishing area.
Ownership	National

Site Number	**19**
Name / location	**GREAT MONKEY CAYE (Long Caye)**
Primary land use	Preservation
Secondary land use	Residence
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye has minimal development potential and would be most appropriately left in its natural state, yet should any development take place it should be located on the western side which may have the higher land and better access. The natural vegetation on the remainder of the caye should be left undisturbed. Dredging should be discouraged.
Natural features	The caye has a high rocky ridge on the eastern side, though otherwise it is low. Red mangrove predominates, becoming low to the west. The surrounding waters are shallow.
Ownership	Property

Site Number	**20**
Name / location	**HARVEST CAYE: WEST PART**
Primary land use	Residence
Secondary land use	Resort
Maximum lot size	10 acres
Minimum lot size	5 acres
Maximum No of lots per site	Option A: residence = 10 lots Option B: resort = 1 lot
Net site housing density	Option A: residence = 1per lot Option B: resort = 6 cabanas and / or 1 main building
Maximum hab-room density	40
Maximum guest capacity	18
Maximum building coverage	Residence or resort main building = 1,600 square feet cabanas = 500 square feet
Maximum site clearance	75% (3.75 acres)
Minimum building set backs	50 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / well / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilets / liquid waste management system
Piers per site	3
Other	The western part of the caye has a sizeable extent of developable high land, and could accommodate a medium scale resort, a low-density residential development, or a private residence. A resort could involve one main building, cabanas, or a mix. Any development should take place only on the high land. Attention should be paid to ensuring that access avoids shallow waters. The natural vegetation on the remainder of this part of the caye should be left undisturbed. Any resort development should require environmental screening. Dredging should not be permitted.
Natural features	A ridge of marginally high rocky land extends along most of the east side with a few small beaches, particularly at the centre. High land extends inland especially in this part of the caye where it reaches in the centre into the western promontory. The western side to the south is low. Vegetation consists of a mix of low scrub, mangrove, some coconuts and some palmetto. A small creek cuts across the caye from the east centre to the west south. A surface breaking reef lies off the south east side.
Ownership	Property

Site Number	**21**
Name / location	**HARVEST CAYE: EAST PART**
Primary land use	Residence
Secondary land use	Preservation
Maximum lot size	2 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	8
Maximum guest capacity	n/a
Maximum building coverage	1,000 sq ft per building
Maximum site clearance	75% (1.50 acres)
Minimum building set backs	30 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet / liquid waste management system
Piers per site	1
Other	This part of the caye has far less developable land than the western / southern part and, consequently, is not suitable for large or medium scale development. Any development should take place only on the higher land. Although the plan of survey indicates a 20 feet reserve along the shoreline it is recommended that this should be extended to a minimum of 30 feet as there is high land in the interior, though not so much as in the western part of the caye.. Access should avoid shallow waters. No dredging or filling should be permitted. The remainder of this part of the caye should be left undisturbed.
Natural features	A ridge of marginally high rocky land extends along most of the east side with a few small beaches, particularly at the centre. High land extends inland especially in the centre where it reaches into the western promontory. The western side to the south is low. Vegetation consists of a mix of low scrub, mangrove, some coconuts and some palmetto. A small creek cuts across the caye from the east centre to the west south.
Ownership	Property

Site Number	**22**
Name / location	**HATCHET CAYE**
Primary land use	Residence
Secondary land use	Resort
Maximum lot size	3 acres (approximately)
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	Option A: residence = 3 Option B: resort = 3 houses and 3 cabanas
Maximum hab-room density	12
Maximum guest capacity	8
Maximum building coverage	Residence = one building of 1,500 sq ft per building, all others 1,000 sq ft
Maximum site clearance	75% (3.75 acres)
Minimum building set backs	66 ft
Maximum building height	28 ft (except the existing 3 floor building)
Maximum No of floors	2 (except the existing 3 floor building)
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	2
Other	Any new development should avoid impacting the remaining mangroves and other natural vegetation. No dredging should be permitted. Attention should be taken to avoiding any impact on possible turtle nesting areas.
Natural features	This is a generally high sand caye except for on the west side. Although once densely wooded the caye it is now dominated by coconuts, with some fringing mangroves particularly on the west and east. There is one exceptionally large black mangrove tree in the centre. Reef extends to the north and southwest. Turtles are reported as occasionally nesting.
Ownership	Property

Site Number	**23**
Name / location	**IVAN CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	0.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft per building
Maximum site clearance	90% (0.45 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should take place around the existing camp on the north side of the caye. The natural vegetation on the remainder of the caye should be left undisturbed.
Natural features	This is a low caye with low red mangrove. Access is from the north.
Ownership	National

Site Number	**24**
Name / location	**JACK'S CAYE**
Primary land use	Preservation
Secondary land use	Fishing camp
Maximum lot size	0.75 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	500 sq ft per building
Maximum site clearance	50% (0.375 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Any development should take place only on the marginally high land in the center of the caye, though with access probably to the west. The natural vegetation on the remainder of the caye should be left undisturbed
Natural features	This caye has generally low land covered in red mangrove, though the centre is slightly higher with some high black mangrove. There is a very small over-wash caye to the northwest. The caye appears to be a popular bird nesting site, and a reef extends around the caye though there is a deep lagoon on the west side. The surrounding waters are a popular fishing area.
Ownership	National

Site Number	**25**
Name / location	**LAGOON CAYES: NORTHERN CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management.
Natural features	The caye is low-lying and dominated by mangrove. It is surrounded by a ring of shallow coral though there is access from the southwest into a deep lagoon that gives access to the central parts of the caye. The surrounding waters are noted for lobster.
Ownership	National

Site Number	**26**
Name / location	**LAGOON CAYES: SOUTHERN CAYE: NORTH EAST SIDE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	0.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	7
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	75% (0.375 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should only take place at the site of the present camp on the north east side of the caye. The rest of the caye, apart from Site 27, should remain in its natural state.
Natural features	This caye is generally low-lying though it does have some marginally high land on the north and east sides. It is dominated by mangrove. It is surrounded by shallow coral and has a relatively shallow lagoon on its south side. The surrounding waters are noted for lobster.
Ownership	National

Site Number	**27**
Name / location	**LAGOON CAYES: SOUTHERN CAYE: EAST SIDE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	0.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	7
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	75% (0.375 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should only take place at the site of the present camp on the north east side of the caye. The rest of the caye, apart from Site 26, should remain in its natural state.
Natural features	This caye is generally low-lying though it does have some marginally high land on the north and east sides. It is dominated by mangrove. It is surrounded by shallow coral and has a relatively shallow lagoon on its south side. The surrounding waters are noted for lobster.
Ownership	National

Site Number	**28**
Name / location	**LARK CAYE: NORTH EAST**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	1.18 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	Option A: 3 housing units Option B: 2 houses and 3 cabanas
Maximum hab-room density	10
Maximum guest capacity	10
Maximum building coverage	650 sq ft per building
Maximum site clearance	75% (0.90 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilets
Piers per site	2
Other	Any development should take place in the vicinity of the existing fishing camp and should avoid any need for extensive filling. Access should continue to be via the lagoon. The remainder of the caye should be left undisturbed except for Sites 29 & 30. The 66 feet reserve indicated on the plan of survey would most probably include the most developable land, requiring development to be undertaken on less suitable land that may require filling. It is therefore recommended that the reserve is reduced to 20 feet.
Natural features	The caye is predominantly low though there is an intermittent fringe of soft high land running along the north side. Vegetation consists mainly of red mangrove though with some coconuts around the two currently developed parts, of which this Site is one. The south side of the caye consists of a mix of low mangrove and lagoons in which manatees have been noted. Access is poor on the north side.
Ownership	National

Site Number	**29**
Name / location	**LARK CAYE: NORTH**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	0.88 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft per building
Maximum site clearance	80% (0.70 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilets
Piers per site	2
Other	Development should take place only around the existing camp. Attention should be paid to retaining the mangroves along the lagoon side. The natural vegetation on the remainder of the caye, apart from the Development Sites 28 & 30, should be left undisturbed
Natural features	The caye is predominantly low though there is an intermittent fringe of soft high land running along the north side. Vegetation consists mainly of red mangrove though with some coconuts around the two developed parts one of which is this Site. The south side of the caye consists of a mix of low mangrove and lagoons in which manatees have been noted. Access is poor on the north side.
Ownership	National

Site Number	**30**
Name / location	**LARK CAYE: WEST**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	A fishing camp with low impact guesthouse facilities could be accommodated in the vicinity of this site, which has access from the north and from the lagoon to the south. Any development should maximize the marginally high ridge running along the north side. The remainder of the caye, apart from the Development Sites 28 & 29, should be left undisturbed.
Natural features	The caye is predominantly low though there is an intermittent fringe of soft high land running along the north side. Vegetation consists mainly of red mangrove though with some coconuts. The south side of the caye consists of a mix of low mangrove and lagoons in which manatees have been noted. Access is poor on the north side.
Ownership	National

Site Number	**31**
Name / location	**LARK CAYE RANGE: CAYE LYING DIRECTLY SOUTH OF LARK CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	Any development should seek to avoid any damaging impacts on the surrounding waters and the remainder of the caye. An environmental impact assessment should be required prior to any approval for development.
Natural features	The caye is low-lying and dominated by low red mangrove. There is a small lagoon in the interior. The surrounding waters are deep.
Ownership	National

Site Number	**32**
Name / location	**LARK CAYE RANGE: THREE CAYES LYING WEST OF IVAN CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	These 3 cayes are all low-lying and have minimal land with development potential. As such it is recommended that they are held in reserve.
Natural features	The cayes are low-lying and dominated by low red mangrove. Reef and shoal extend between them and to the east and west.
Ownership	National

Site Number	**33**
Name / location	**LARK CAYE RANGE: TWO CAYES LYING SOUTH WEST OF IVAN AND ABIGAIL CAYES**
Primary land use	Preservation
Secondary land use	Fishing camps
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	n/a
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	One fishing camp could be accommodated on one of these two cayes, should the demand arise. Whichever caye is developed, the remainder of that caye, and the whole of the other, should remain un-developed.
Natural features	Both cayes are low-lying and dominated by low red mangrove. Reef and shoal extend between them and to the west.
Ownership	National

Site Number	**34**
Name / location	**LAUGHING BIRD CAYE**
Primary land use	Preservation
Secondary land use	Recreation
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	Compost toilets
Piers per site	n/a
Other	The caye lies in the center of the Laughing Bird National Park and is managed by the Southern Environmental Association (SEA).
Natural features	A high narrow caye characterized by coral beaches with coconuts. Very picturesque. The extreme north end, separated from the main by a stretch of open land, is dominated by mangrove. Hawksbill turtles occasionally nest here. There are reefs extending north and south and main access is from the west.
Ownership	National Park

Site Number	**35**
Name / location	**LAZY CAYE**
Primary land use	Preservation
Secondary land use	Recreation
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	The caye consists of a small sand bore which has minimal vegetation. It is surrounded by shoals.
Ownership	National

Site Number	**36**
Name / location	**LITTLE HARVEST CAYE**
Primary land use	Fishing camp
Secondary land use	Residence
Maximum lot size	0.047 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	400 sq ft per building
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 10 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	n/a
Natural features	This is a very small caye with either naturally high or artificially filled land. Vegetation consists of only a few coconuts.
Ownership	National

Site Number	**37**
Name / location	**LITTLE MONKEY CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	A low caye with red mangrove. Egrets were in evidence in July 2001. Other birds identified as using the caye are frigates, and hawks.
Ownership	National

Site Number	**38**
Name / location	**LITTLE MORRIS CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management.
Natural features	There is little high land on this caye except for small areas on the north and east sides, and it is dominated by high red mangrove. The surrounding waters are shallow. The caye has been locally recommended for protection as an important bird-nesting site.
Ownership	National

Site Number	**39a**
Name / location	**LITTLE WATER CAYE: EAST**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Natural features	The caye is generally high with coral sand and a beach on the south side. Vegetation consists of coconuts and other trees, with some fringing mangrove. The south side of the caye has been noted in the past for erosion. Reef and shoals extend to the east, north, and northeast. The caye has historically been a source of fresh water for local fishermen.
Ownership	Property

Site Number	**39b**
Name / location	**LITTLE WATER CAYE: WEST**
Primary land use	Resort
Secondary land use	Residence
Maximum lot size	5 acres (approximately)
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	6 (including 4 cabanas)
Maximum hab-room density	12
Maximum guest capacity	10
Maximum building coverage	900 sq ft per building (400 sq ft for cabanas)
Maximum site clearance	80% (4 acres)
Minimum building set backs	30 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	2
Other	Any new development should seek to avoid areas which may be liable to erosion. The use of septic tanks in close proximity to the sea should be discontinued.
Natural features	The caye is generally high with coral sand and a beach on the south side. Vegetation consists of coconuts and other trees, with some fringing mangrove. The south side of the caye has been noted in the past for erosion. Reef and shoals extend to the east, north, and northeast. The caye has historically been a source of fresh water for local fishermen.
Ownership	Property

Site Number	**40**
Name / location	**LOGGERHEAD CAYE: CENTRAL PART OF CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.01 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (0.75 acres)
Minimum building set backs	66 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Any development should take place only on the marginally high land on the north side of the caye.
Natural features	The caye has relative height on the north only, with large black mangrove trees. The remainder is low and under red mangrove. Corals lie on the northwest, east and south.
Ownership	National

Site Number	**41**
Name / location	**LOGGERHEAD CAYE: EASTERN AND WESTERN PARTS**
Primary land use	Preservation
Secondary land use	Fishing post
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland or Site 40 (central part of caye)
Liquid waste	n/a
Piers per site	n/a
Other	Following the Guidelines' policy of one development on small cayes, the eastern and western parts of this caye are recommended for preservation. Management could be exercised by Site 40 or by a local NGO.
Natural features	The caye has relative height on the north only, with large black mangrove trees. The remainder is low and under red mangrove. Corals lie on the north west, east and south.
Ownership	National

Site Number	**42**
Name / location	**LONG COCO CAYE**
Primary land use	Residence
Secondary land use	Resort
Maximum lot size	4 acres
Minimum lot size	2 acres
Maximum No of lots per site	Option A: residence = 4 lots Option B: resort = 1 lot
Net site housing density	Option A: residence = 1 / lot Option B: resort = 4 cabanas and / or one main building
Maximum hab-room density	Option A: residence = 6 / acre Option B: resort = 6
Maximum guest capacity	12
Maximum building coverage	Option A: residence = 1,200 sq ft per building Option B: resort = 750 sq ft per building
Maximum site clearance	80% (4 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	3
Other	The caye has developable land along its eastern side and around the lagoon at the south. Two options are recommended; (A) residential use, or (B) resort use. Any development should take place on the high land so that dredging and filling can be avoided. Main access should be via the lagoon at the south, though some may be possible from the western side conditional on maximized maintenance of fringing mangroves. Attention should be paid to avoiding the shallow reef and shoals to the north and east. The natural vegetation on the remainder of the caye should be left undisturbed
Natural features	This long narrow caye has a rocky high ridge running along its eastern side, though the interior and the west sides are low. Vegetation along the ridge is a mix of coconut, palmetto and scrub, with low mangrove dominating the center and west. The high land extends to the west side near, but not at, the south end. A small caye lies to the immediate south of the main with some high land with coconuts on its north side, though the remainder is low and dominated by red mangrove. The surrounding waters are shallow, though the lagoon lying between the main and the small caye to the south is deep (accessible only from the west) and gives the main access to the caye.
Ownership	Property

Site Number	**43**
Name / location	**LONG COCO (LONG) CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Any development should take place only on the high land on the north or south ends of the caye. The remainder of the caye should be left undisturbed.
Natural features	The caye is mainly low with red mangrove, though the north and south points have some higher land with some coconuts. The interior is low. Reefs extend to the north, north east and the south.
Ownership	National

Site Number	**44**
Name / location	**MOHO (TRAPP'S) CAYE**
Primary land use	Residence
Secondary land use	Guest house
Maximum lot size	2 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (1.50 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilets / liquid waste management system
Piers per site	2
Other	Development should only be undertaken on the high land on the north, west or south sides of the caye. The natural vegetation on the remainder of the caye should be left undisturbed.
Natural features	The caye is generally high on the north, west and south sides with coconuts, mixed vegetation and some fringing red mangrove. There is a marginal beach on the north side though the interior is low. Pelicans use the caye for nesting. The immediate surrounding waters are shallow (and good for bone fish), with a reef extending to the north east, though the caye is located in the deep water Victoria Channel.
Ownership	Property

Site Number	**45**
Name / location	**MORRIS (OWEN) CAYE**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	5
Maximum hab-room density	8
Maximum guest capacity	10
Maximum building coverage	600 sq ft per building
Maximum site clearance	75% (1.15 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	1
Other	Any new development should take place only around the existing resort area. The remainder of the caye should be left undisturbed except for the trimming of the mangroves.
Natural features	The caye is generally low though it has some high sand and shingle land in the center and has been partially filled. Vegetation consists of fringing mangroves with some coconuts in the center. Surrounding waters are generally shallow.
Ownership	National

Site Number	**46**
Name / location	**MOSQUITO CAYE**
Primary land use	Residence
Secondary land use	n/a
Maximum lot size	5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	12
Maximum guest capacity	n/a
Maximum building coverage	1,000 sq ft per building
Maximum site clearance	90% (4.50 acres)
Minimum building set backs	40 ft
Maximum building height	30 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	5
Other	The caye is already substantially developed. Any further development should seek to complement existing development. There is minimal natural vegetation left on the caye, though the planting of fringing mangroves is recommended in areas susceptible to erosion. Further dredging should be avoided.
Natural features	There are few, if any, natural features on the caye as it has been extensively developed. There is a reef extending to the north east.
Ownership	Property

Site Number	**47**
Name / location	**NORVAL (BREAD AND BUTTER) CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye could support one fishing camp should the demand arise. The natural vegetation on the north and south of the caye should be left undisturbed
Natural features	This is a small low mangrove-dominated caye. Reef and shoal extend to the north and south. The surrounding waters are good for lobster diving
Ownership	National

Site Number	**48**
Name / location	**PALMETTO CAYE: WESTERN CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is considered as forming a part of the natural shoreline barrier of mangrove cayes. It is also likely that it is valuable as a fish breeding area. It should not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	There are two Palmetto cayes and both are generally low though they have a rocky ridge fronting their east sides. This western one has less developable land than the eastern. Vegetation is predominantly mangrove with some small coconuts and mixed scrub, including palmetto, along the eastern ridges. A surface breaking reef fronts the cayes on the east.
Ownership	National

Site Number	**49**
Name / location	**PALMETTO CAYE: EASTERN CAYE**
Primary land use	Fishing camp
Secondary land use	Residence
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.50 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye has limited developable land running along its eastern side that could support one low-density fishing camp or residence. Any development should take place only on the marginally high land on the east side, and attention should be paid to ensuring that access avoids the shallow waters. Dredging should not be permitted. The remainder of the caye should be left undisturbed.
Natural features	The two cayes are generally low though with a rocky ridge fronting their east side, though this eastern one appears to have more developable land than the western.. Vegetation is predominantly mangrove with some small coconuts and mixed scrub, including palmetto, along the eastern ridges. A surface breaking reef fronts the cayes on the east.
Ownership	National

Site Number	**50**
Name / location	**PELICAN (CAT) CAYES: NORTHEAST CAYE: NORTH EAST PART**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	3.2 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	8
Maximum hab-room density	13
Maximum guest capacity	10
Maximum building coverage	900 sq.ft per building
Maximum site clearance	80% (2.5 acres)
Minimum building set backs	20ft
Maximum building height	28ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	generator / solar / wind
Solid waste	removal to mainland / incineration of non-hazardous waste at least 30ft from water
Liquid waste	Compost
Piers per site	2
Other	Attention should be paid to maintaining mangroves beside the sea and especially alongside the lagoon. The remainder of the caye, apart from Development Sites 51 & 52, should be left in its natural state.
Natural features	This site on the north east of the caye is generally low with low mangrove; however it has been partially cleared and filled. The surrounding waters are shallow on the north side and deep on the lagoon side, and are noted for sport fishing.
Ownership	Property

Site Number	**51**
Name / location	**PELICAN (CAT) CAYES: NORTHEAST CAYE: NORTH WEST PART**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	3
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should take place only on the small area of marginally high land lying on the north west side of the caye. Attention should be paid to ensuring that development does not disturb possible turtle nesting sites along the shore. The remainder of the caye, apart from Development Sites 50 & 52, should be left in its natural state.
Natural features	This is a generally low caye with low mangrove. There is, however, some marginally high land fringing the north side of the caye, where this site is located, with low land behind. The surrounding waters are shallow.
Ownership	National

Site Number	**52**
Name / location	**PELICAN (CAT) CAYES: NORTHEAST CAYE: SOUTH WEST POINT**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Any development should take place only on the marginally high land on the western part of the caye though with access to the west side of the caye and to the lagoon. Attention should be paid to avoiding any disturbance to possible turtle nesting sites on the small beaches. Mangroves should be maintained especially on the lagoon side. The remainder of the caye, apart from Development Sites 50 & 51, should be left in its natural state.
Natural features	This is a generally low caye with low mangrove although there is some relatively high land towards the west with small beaches on both the north and south sides. There is evidence of turtle nesting on the western beaches. The surrounding waters are shallow on the north side and deep on the southwestern lagoon side.
Ownership	National

Site Number	**53**
Name / location	**PELICAN (CAT) NORTHWEST CAYE (GODFREY CAYE): SOUTHERN PART OF CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	Development should take place only around the existing camp with the rest of the caye remaining in its natural state
Natural features	A low-lying mangrove caye with a marginally high ridge running intermittently along the western side. Reef and shoals run along the west side and extend southwest. There is deep water access on the east / lagoon side
Ownership	National

Site Number	**54**
Name / location	**PELICAN (CAT) CAYES: TWO CAYES LYING WITHIN THE NORTHERN PART OF THE LAGOON**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	n/a
Liquid waste	n/a
Piers per site	n/a
Other	Neither caye should be developed, and both should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	These are low-lying mangrove cayes. They have little reef around them and are surrounded by generally deep water. They are identified as important bird habitats.
Ownership	National

Site Number	**55**
Name / location	**PELICAN (CAT) LITTLE EAST CAYE: WEST PART OF CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye could accommodate a low impact fishing camp should there be the demand. Development should take place only the south west point of the caye to avoid the shallow waters on the east side. The rest of the caye should remain in its natural state
Natural features	This is a low-lying mangrove caye. Reef extends to the north and south. Deep-water access lies on the west / lagoon side.
Ownership	National

Site Number	**56**
Name / location	**PELICAN / CAT CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1.5 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	8
Maximum guest capacity	6
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should only take place on the relatively high land in the north of the caye. The remainder of the caye should be left in its natural state
Natural features	The caye is generally low though it has relatively high land near the northern end and running along a ridge extending south. Two small beaches lie on the east and west sides near the north end. The interior in the north is low. Vegetation is predominantly mangrove though there were many coconuts reported in the early 1980's. Reef extends to the north, south and northeast. Deep water lies on the west and (partially) east sides.
Ownership	National

Site Number	**57**
Name / location	**PELICAN (CAT) BIG EAST CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is considered as forming a part of the natural shoreline barrier of mangrove cayes. It is also likely that it is valuable as a fish breeding area. It should not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	The caye is low lying and is covered by mangrove. Reef and shoal extend on the north, northwest and south sides. Deep water lies to the east though access is found on the southwest.
Ownership	National

Site Number	**58**
Name / location	**PELICAN (CAT) SOUTHERN CENTRAL CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	n/a
Liquid waste	n/a
Piers per site	n/a
Other	The caye should be not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	The caye is low-lying and dominated by mangrove. It has reef or shoal extending to the southeast. The caye, being located within the lagoon yet facing a break in the east side of the Pelican Cayes faro which gives access to the deep waters of the channel lying between the Pelican Cayes and Channel / Tarpon cayes, is considered as having the potential of making a critical contribution to the conservation of the marine and terrestrial wildlife values of the Pelican Cayes group.
Ownership	National

Site Number	**59**
Name / location	**PELICAN (CAT) UN-NAMED CAYE LYING TO THE EAST OF SOUTHERN CENTRAL CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is considered as forming a part of the natural shoreline barrier of mangrove cayes. It is also likely that it is valuable as a fish breeding area. It should not be developed and should be left undisturbed. Management should be exercised by a local or national NGO with the capacity for conservation management
Natural features	The caye consists of low land with generally low mangrove. A narrow ring of reef or shoal surrounds the caye.
Ownership	National

Site Number	**60**
Name / location	**PELICAN (CAT) FAUX CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	0.20 acres (approximately)
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	2
Maximum building coverage	450 sq ft
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland
Liquid waste	Compost toilet
Piers per site	1
Other	There is a fishing camp at this site built over the water.
Ownership	National

Site Number	**61**
Name / location	**PELICAN (CAT) SOUTHEAST CAYE: WEST SIDE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Should the demand arise this caye could accommodate one fishing camp. Development could take place only on the west side to avoid the shallow waters on the east, north and south sides. Apart from the one camp the remainder of the caye should be left in its natural state.
Natural features	The caye is low lying and dominated by low to medium mangrove. Shoals lie in patches to the west and reef lies along the east and north sides and extends to the south.
Ownership	National

Site Number	**62**
Name / location	**PELICAN (CAT) SOUTHWEST CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	One fishing camp could be accommodated on this caye on the east to northeast side, where there is more immediate access to deep waters. The rest of the caye should remain in its natural state.
Natural features	The caye is low lying and dominated by low mangrove. Reef and shoals extend to the north, west and south.
Ownership	National

Site Number	**63**
Name / location	**PETER DOUGLAS (OLD RENDEZVOUS) CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft per building
Maximum site clearance	50% (0.50 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	2
Other	The caye could support one fishing camp. The natural vegetation on the north and south of the caye should be left undisturbed
Natural features	A small low mangrove caye with two smaller cayes lying to the immediate south which appear to be bird nesting sites. Reef and shoal extend to the north, south and south west. The surrounding waters are good for lobster diving.
Ownership	National

Site Number	**64**
Name / location	**PLACENCIA CAYE**
Primary land use	Residence
Secondary land use	n/a
Maximum lot size	1,500 square metres
Minimum lot size	1000 square metres
Maximum No of lots per site	40
Net site housing density	1per lot
Maximum hab-room density	5 per lot
Maximum guest capacity	n/a
Maximum building coverage	800 sq ft
Maximum site clearance	90 % per lot
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / connection to Placencia
Electricity	Generator / solar / wind / connection to Placencia
Solid waste	removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	n/a (use of canal)
Other	Any development should take place only on the surveyed lots. No more than twenty-one other lots are recommended, the remainder of the caye should be left in its natural state.
Natural features	The caye consists of mangrove on the north, east and south sides, with some coconuts and low non-mangrove vegetation on the filled area on the west. The mangrove becomes high on the north west point.
Ownership	Property

Site Number	**65**
Name / location	POMPION CAYE (Pumpkin Caye)
Primary land use	Residence
Secondary land use	Research
Maximum lot size	1.5 acres (approximately)
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	80% (1.20 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	1
Other	The rocky and / or sandy bores in the vicinity of the caye should not be developed.
Natural features	This is a high coral sand caye with coconuts, some mixed vegetation and little mangrove. It has an encircling reef around a shallow lagoon on the south side. Loggerhead and Hawksbill turtles are reported as nesting here. A rocky bar lies to the west ('White rock') that has been built up by Hurricane Mitch.
Ownership	Property

Site Number	**66**
Name / location	**QUAMINO CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	As the caye consists entirely of low land only one of the two claims on the caye should be accommodated. Development should only take place at the site of the abandoned camp on the west side. The rest of the caye should remain in its natural state.
Natural features	The caye is generally low-lying with red mangrove. Reef extends to northeast.
Ownership	National

Site Number	**67**
Name / location	**RENDEZVOUS CAYE**
Primary land use	Residence
Secondary land use	Resort
Maximum lot size	n/a
Minimum lot size	2 acres
Maximum No of lots per site	1
Net site housing density	3
Maximum hab-room density	10
Maximum guest capacity	8
Maximum building coverage	1,000 sq ft
Maximum site clearance	50% (1.5 acres)
Minimum building set backs	30 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	2
Other	New development should take place only in the vicinity of the existing buildings and cleared land. The western portion of the caye should remain in its natural state. Any dredging should not be permitted.
Natural features	The western part of the caye is generally low and the eastern part high, though areas have been filled. The low parts are dominated by mangrove, with the higher lands having coconuts and mixed vegetation. There are small beaches on the east and south. Reefs extend to the northeast and northwest, though there is deep-water access at the center north and center south.
Ownership	Property

Site Number	**68**
Name / location	**ROCKY POINT CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development prospects that would not entail filling and related infrastructure; moreover it acts as a natural barrier between the sea and the shrimp farm located around Indian Hill Lagoon. It is recommended that it should be not be developed and should be left undisturbed. This, however, should be reviewed within 3 to 4 years. Management should be exercised by a local or national NGO with the capacity for conservation management.
Natural features	The caye has a high rocky ridge fronting most of the east side, though with occasional low areas intervening. The southern tip is high though it has lagoons behind. Most, if not all, the western side is low. A channel passing through a mix of open water and mangrove clumps separates the caye from the mainland. Vegetation is predominantly low mangrove with some mixed scrub, palmetto and coconuts along the eastern ridge. The sea is shallow all along the eastern side.
Ownership	National

Site Number	**69**
Name / location	**ROSANNA CAYE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft
Maximum site clearance	75% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Development should take place around the existing fishing camp and on the higher land. The remainder of the caye should be left undisturbed.
Natural features	There was a small area of high land on the south end of the caye, otherwise the caye is low and dominated by low red mangrove.
Ownership	National

Site Number	**70**
Name / location	**ROUND CAYE** (east of Tarpon)
Primary land use	Residence
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft
Maximum site clearance	75% (0.75 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilet
Piers per site	1
Other	Any development should take place only on the high land. The remainder of the caye should remain in its natural state.
Natural features	This caye is generally low with red mangrove though there is a higher area at the base of the northern promontory with reaches to both the east and west sides of the caye. The higher area has some coconuts. The surrounding waters are shallow, though less so on the west side. Frigates and pelicans are known to nest on this caye.
Ownership	Property

Site Number	**71**
Name / location	**ROUND CAYE (north of Pompion)**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	This is a very small caye with minimal development potential and located in a very sensitive area near the barrier reef and the Gladden Spit / Silk Cayes Marine Reserve. Moreover the owners apparently have proposals for its use in marine research. It is therefore recommended for preservation with management by the owners
Natural features	This is a small high coral sand caye with coral rubble, with a few coconuts. Loggerhead turtles have been reported as nesting here. Reef and shoal extend to the northwest and southeast.
Ownership	Property

Site Number	**72**
Name / location	**ROUND (FRENCH LOUIS'S) CAYE**
Primary land use	Guesthouse
Secondary land use	Residence
Maximum lot size	1.964 acres
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	4
Maximum guest capacity	10 (including campers)
Maximum building coverage	650 sq ft
Maximum site clearance	75% (1.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	Any new development should avoid impacting the fringing mangroves.
Natural features	The caye has been filled and has coconuts, though it has fringing mangroves on the north, east and west sides.
Ownership	National

Site Number	**73**
Name / location	**SADDLE CAYE (south west of Loggerhead): WESTERN SIDE**
Primary land use	Fishing camp
Secondary land use	Guest house
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	4
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	One fishing camp with low impact guesthouse facilities could be accommodated on this part of the caye on or around the existing camp on the western point of the caye. The area of the caye lying between this Site and Site 74 should not be developed and should remain in its natural state.
Natural features	The caye has two small areas of marginally high land on the extreme west, with a small beach, at which this Site is located, and extreme east, separated by generally low land. Red mangrove predominates. There is relative deep water on the south side.
Ownership	Property

Site Number	**74**
Name / location	**SADDLE CAYE (south west of Loggerhead): EASTERN SIDE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	4
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	One fishing camp could be accommodated on this eastern part of the caye on the small area of marginally high land. The area between this Site and Site 73 on the western side should not be developed and should remain in its natural state.
Natural features	The caye has two small areas of marginally high land on the extreme west, with a small beach, and extreme east, where this Site is located, separated by generally low land. Red mangrove predominates. There is relative deep water on the south side.
Ownership	National

Site Number	**75**
Name / location	SAMPHIRE CAYE
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	n/a
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	n/a
Liquid waste	n/a
Piers per site	n/a
Other	Should the caye arise again from the waters it should be managed on a preservation basis by local or national NGO with the capacity for conservation management.
Natural features	The caye currently exists only as a sand bar just south of Silk (Queen) Cayes. It was last identified as a caye in 1913. The caye is being used as a camp by Hondurans.
Ownership	National

Site Number	**76**
Name / location	**SCIPIO CAYE**
Primary land use	Residence
Secondary land use	Fishing camp
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	600 sq ft
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Generator / solar / wind
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	One residence or fishing camp could be accommodated on this caye on the east to north east side, where there is more immediate access to deep waters. The rest of the caye should remain in its natural state.
Natural features	There is a relatively high ridge on the northwestern side, yet the remainder of the caye is generally low with red mangrove predominating. There are some coconuts on the high ridge, though there were many more in the early 1980's. There are shallow waters to the north and south.
Ownership	Property

Site Number	**77**
Name / location	**SILK CAYES: NORTH CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	850 square metres
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is recommended for preservation to compliment the 'conservation zone' of the Gladden Spit and Silk Cayes Marine Reserve in which it is located.
Natural features	The caye has been significantly altered in size and vegetation through recent hurricanes and currently exists as little more than a high sand bar with coral rubble and scrub vegetation. The caye is entirely surrounded by reef and has poor access except on the south side. Hawksbill and loggerhead turtles occasionally nest here.
Ownership	National

Site Number	**78**
Name / location	**SILK CAYES: MIDDLE CAYE**
Primary land use	Preservation
Secondary land use	Research / picnicking
Maximum lot size	1,813 square metres
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is recommended for preservation to compliment the 'conservation zone' of the Gladden Spit and Silk Cayes Marine Reserve in which it is located. Low-impact picnicking by no more than 10 persons should be permitted only under supervision.
Natural features	This is a small yet high sand caye with much coral rubble and a several coconuts. Hawksbill and Loggerhead turtles are reported to occasionally nest here. Reefs extend to the west and southeast.
Ownership	National

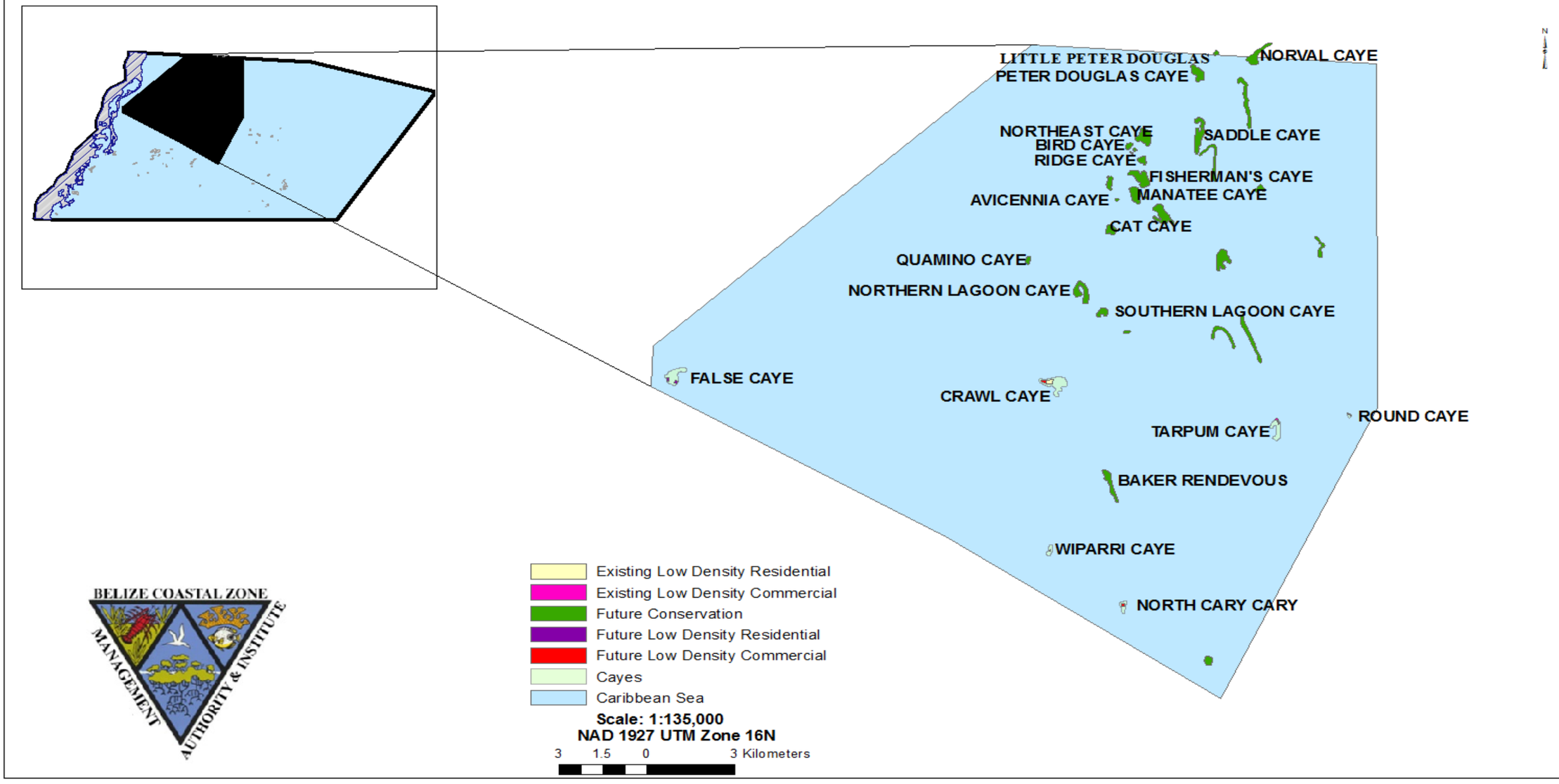
Site Number	**79**
Name / location	**SILK CAYES: SOUTH CAYE**
Primary land use	Preservation
Secondary land use	Research
Maximum lot size	784 square metres
Minimum lot size	n/a
Maximum No of lots per site	n/a
Net site housing density	n/a
Maximum hab-room density	n/a
Maximum guest capacity	n/a
Maximum building coverage	n/a
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	n/a
Maximum No of floors	n/a
Water	n/a
Electricity	n/a
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	The caye has minimal development potential and is recommended for preservation to compliment the 'conservation zone' of the Gladden Spit and Silk Cayes Marine Reserve in which it is located. Low-impact picnicking and over-night camping by no more than 10 persons should be permitted only under supervision.
Natural features	The largest of the Silk Cayes, this consists of high sand, coral rubble and coconuts. Hawksbill and Loggerhead turtles are reported as occasionally nesting. Reef extends to the east, north and west.
Ownership	National

Site Number	**80**
Name / location	**ROBERT'S CAYE**
Primary land use	Preservation
Secondary land use	Touring camp
Maximum lot size	225 square feet
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	1
Maximum hab-room density	1
Maximum guest capacity	4
Maximum building coverage	225 square feet
Maximum site clearance	n/a
Minimum building set backs	n/a
Maximum building height	12 ft
Maximum No of floors	1
Water	Roof
Electricity	Solar / wind
Solid waste	Removal to mainland
Liquid waste	n/a
Piers per site	n/a
Other	This site has minimal development potential and has been identified as requiring preservation as a nesting site. However one very low-impact touring camp development may be possible conditional on the following: construction should consist only of wood and should be elevated, occupation should consist only of over-night camping, all solid and liquid waste should be removed from the caye, fires and external lights should be prohibited. The remainder of the caye should remain undisturbed.
Natural features	This is a small sand bar that has been severely damaged through sand extraction. It has no vegetation and may be subject to inundation or alteration through current changes.
Ownership	Property

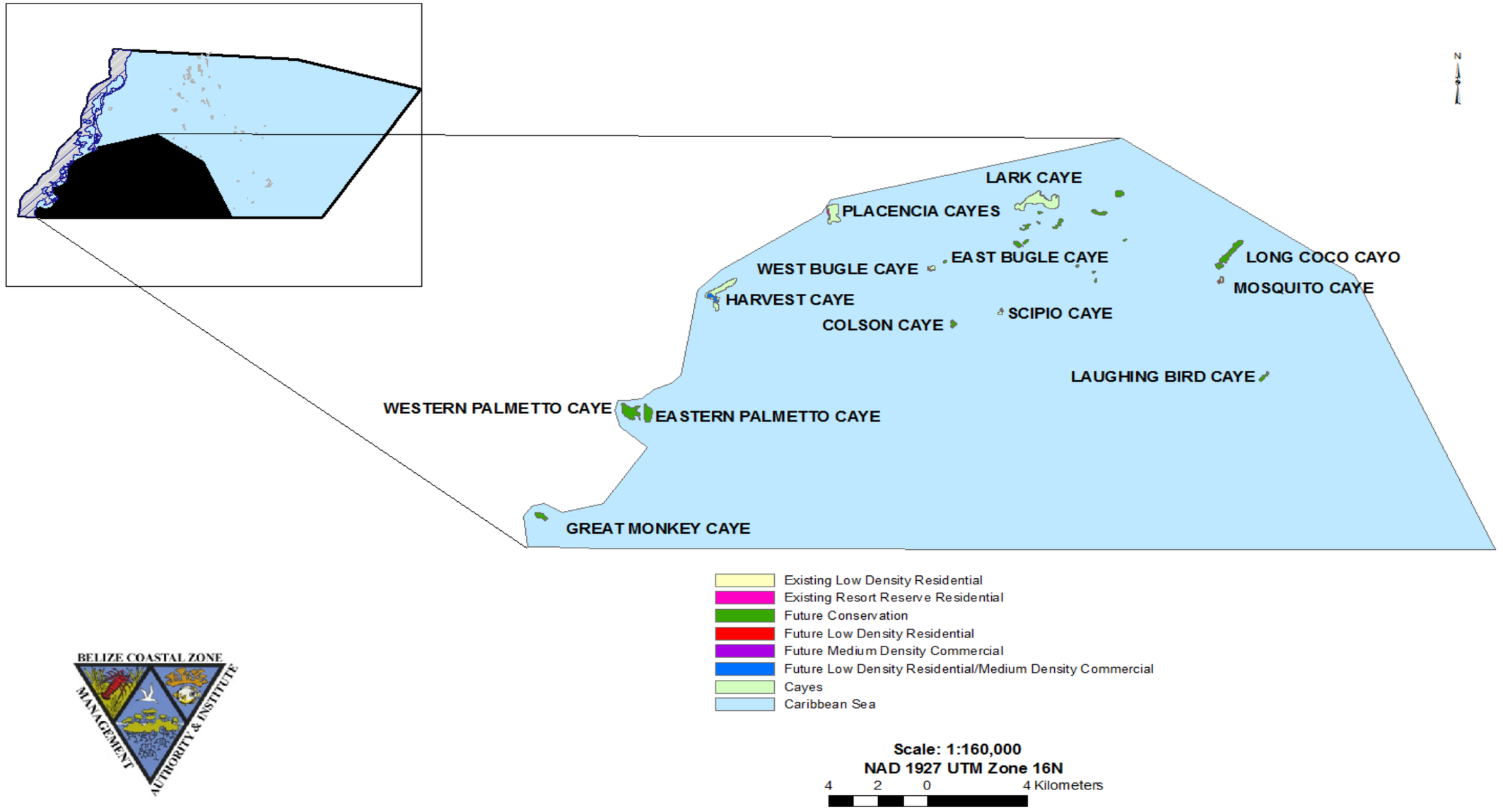
Site Number	**81**
Name / location	**SPIDER CAYE**
Primary land use	Fishing camp
Secondary land use	n/a
Maximum lot size	1 acre
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	2
Maximum hab-room density	6
Maximum guest capacity	n/a
Maximum building coverage	400 square feet
Maximum site clearance	50% (0.5 acres)
Minimum building set backs	20 ft
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof
Electricity	Solar / wind/ generator
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Compost toilet
Piers per site	1
Other	The caye could accommodate one fishing camp at the site of the current abandoned one. The remainder of the caye should be left in its natural state.
Natural features	The caye is mostly low though has a mix of red and black mangrove. The surrounding waters are shallow on the north and east, with a sand bar lying to the north.
Ownership	National

Site Number	**82**
Name / location	**TARPON (TARPUM) CAYE**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	1.25 acre**s**
Minimum lot size	n/a
Maximum No of lots per site	1
Net site housing density	5
Maximum hab-room density	10
Maximum guest capacity	8
Maximum building coverage	600 square feet
Maximum site clearance	50 % (0.65 acres)
Minimum building set backs	20 ft (excluding current building situated on water's edge)
Maximum building height	28 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Solar / wind / generator
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	1
Other	New development should take place only around the existing resort area. The remainder of the caye should be left in its natural state, including the smaller cayes to the immediate west of the north part of the caye.
Natural features	This is a generally low caye with medium to high mangrove. Reef extends to the south and deep-water access is by the lagoon on the west side.
Ownership	National

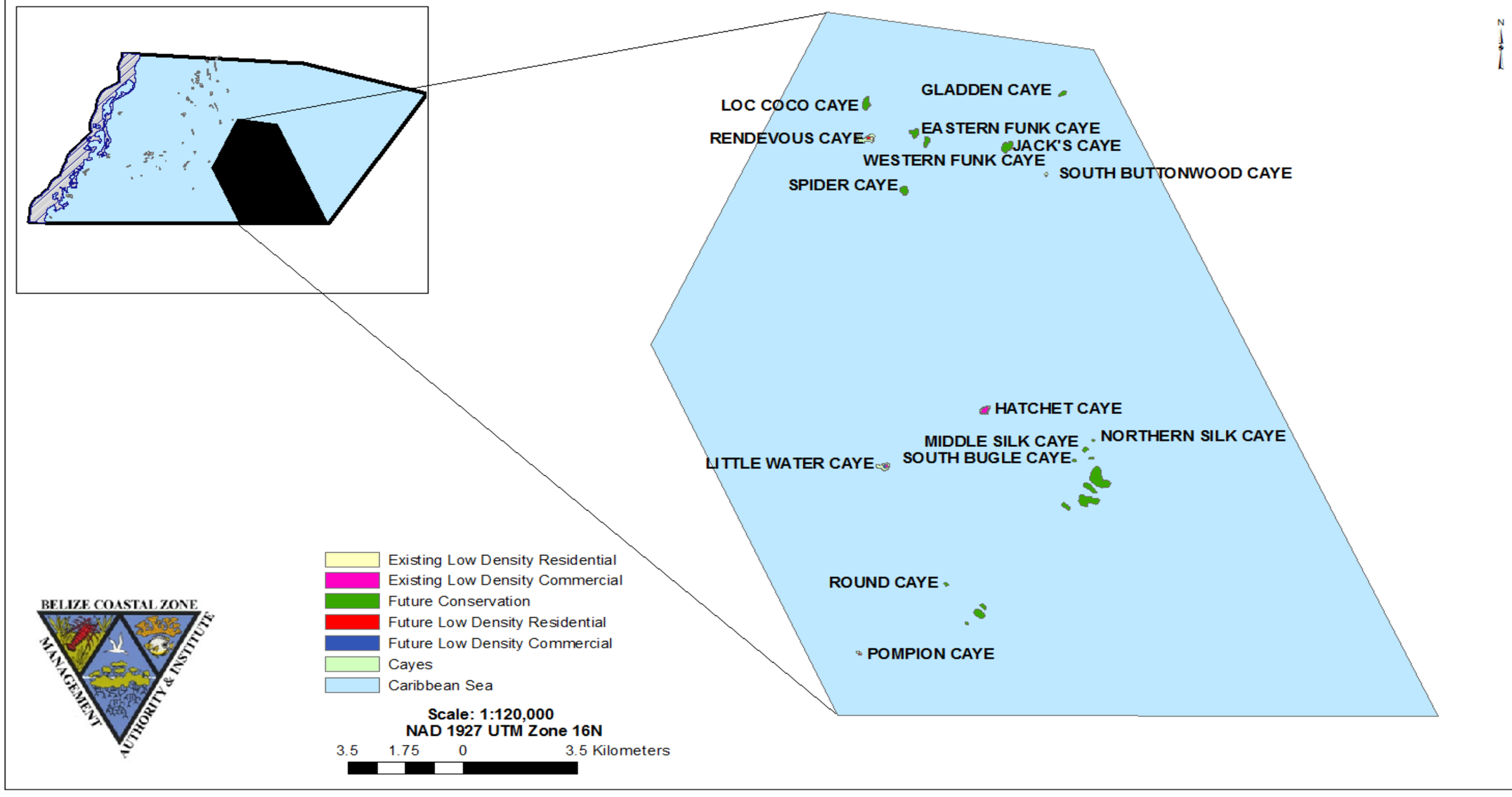
Site Number	**83**
Name / location	**WIPPARI CAYE**
Primary land use	Resort
Secondary land use	Fishing camp
Maximum lot size	1.5 acres
Maximum No of lots per site	1
Net site housing density	7
Maximum hab-room density	12
Maximum guest capacity	12
Maximum building coverage	700 square feet
Maximum site clearance	78 % (1.15 acres)
Minimum building set backs	20 ft
Maximum building height	12 ft
Maximum No of floors	2
Water	Roof / reverse osmosis under approval from the relevant authorities
Electricity	Solar / wind / generator
Solid waste	Removal to mainland / incineration of non-hazardous waste at least 30 ft from water
Liquid waste	Liquid waste management system / Compost toilets
Piers per site	2
Other	The remainder of the caye should be left in its natural state
Natural features	The caye has high land in the center, but is low-lying on the north and south ends. The low land is dominated by mangrove and the high land has mixed vegetation including coconuts and Caribbean pine. Reef extends to the northwest, northeast and southwest. Deep-water access is from the east and west.
Ownership	Property



Map 10: Informed Management Scheme for Development of Cayes in the Northern Sub-region



Map 11: Informed Management Zoning Scheme for Development of Cayes in the Western Sub-region



Map 12: Informed Management Zoning Scheme for Development of Cayes in the Eastern Sub-region

As indicated in **Table 7:** Land Use Development Standards for Cayes Development Sites in the South Central Region, land tenure of the cayes within the South Central region is a combination of private and state ownership. Out of the 75 of the cayes in the region, 84% are identified as National Lands and 16% identified as property. 41% are nationally-owned cayes have with leases, while the remaining 43% have no identifiable leases on them (this includes Laughing Bird Caye, North and South Silk Cayes, and Little Monkey Caye). Those lands which are nationally owned should remain as such as this state of affairs provides the opportunity for decision-makers to have greater input in land management concerns. Where land is private property, the right to alienate and develop must be recognized, but regulated to ensure that the subdivision of land subscribes to guidelines which ensure that the resulting parcels can sustain the type of permitted development activity. The seabed is national land and thus any proposals to develop the seabed or to construct piers within this region need to receive clearance from the Lands Department and Department of Environment.

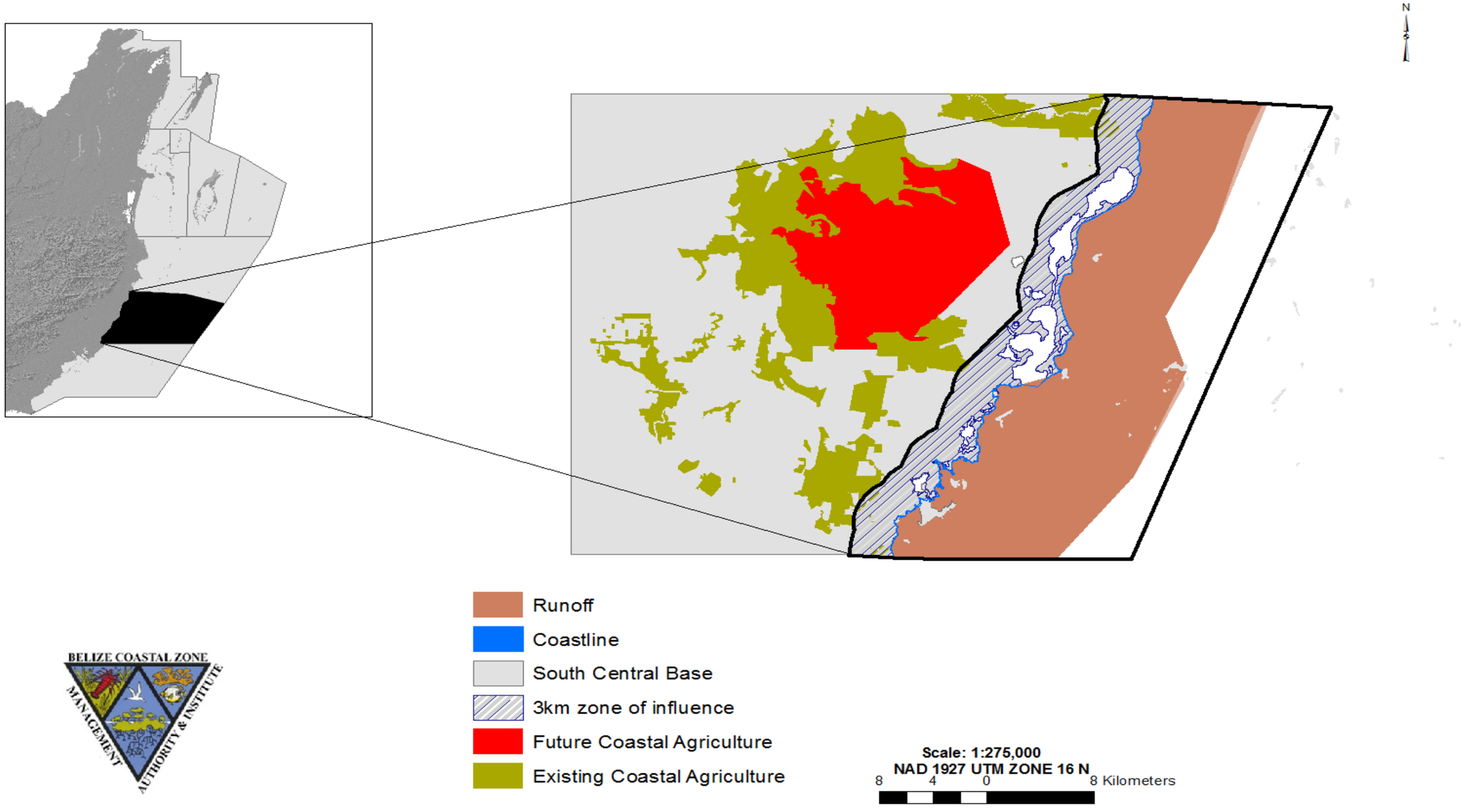
6.3.3 Coastal Agriculture Development

Even though the lands that have been identified as having potential use for coastal agriculture falls just outside of the 3km coastline of the South Central region, it is important to integrate this human use activity in these management guidelines (**Map 12**). This type of development includes land use in which the production of food, feed, livestock and poultry, fruits and vegetables, and horticultural crops are raised, grown, or produced for commercial purposes. Development standards for coastal agriculture are found in **Table 8.** The framework for implementing the zoning scheme for the development of coastal lands for agriculture production can be found below in **Table 9.**

Table 8: Development Standards for Coastal Agriculture

Subdivision Criteria	Development Standards	
Density	Low Density	Medium Density
Minimum Size	25 acres	6-24 acres
Permitted Use	Crop Growing and Harvesting	Crop Growing and Harvesting
Secondary Use	Light Industry, Conservation, Parks/Playground, R1, C1, Institution	Light Industry, Conservation, Parks/Playground, R1, C1, Institution
Width/Length Ratio	1:8	1:6
Services	Water & Sewerage or Septic Tank, Electricity	Water & Sewerage or Septic Tank, Electricity

INFORMED MANAGEMENT ZONING SCHEME FOR COASTAL AGRICULTURE: SOUTH CENTRAL REGION



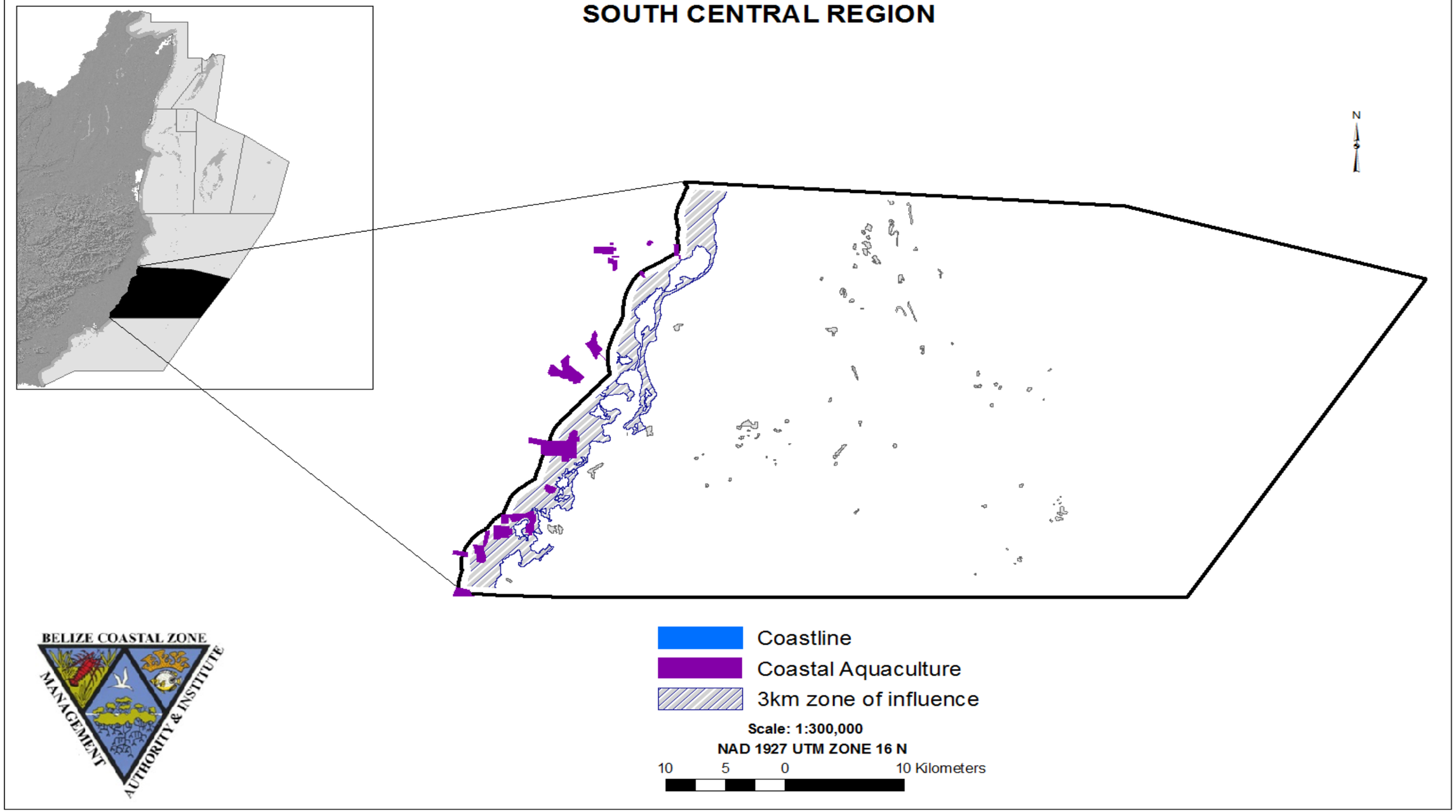
Map 13: Informed Management Zoning Scheme for Coastal Agriculture in the South Central Region

Table 9: Framework for Implementing Informed Coastal Agriculture in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	**Compatible**	**Regulated**			
Coastal Agriculture	Coastal lands with fertile, irrigable soil especially suited for agricultural production of crops, and rearing of livestock for local consumption and export revenue	1. Production of crops such as banana, citrus, papaya, sugar cane, etc 2. Production of meat and livestock	Living quarters for employees and/or owners of agricultural company Research and education	Subdivision of land for agricultural purposes Application of agrochemicals	1. Use of unregistered agrochemicals (pesticides and fertilizers) 2. Use of registered agrochemicals (pesticides and fertilizers) outside of the legally prescribed limit 3. Oil exploration, extraction and establishment of oil refinery 4. Mining and dredging 5. Disposal of hazardous and toxic chemicals, solid wastes, untreated liquid wastes 6. Squatting/informal settling 7. Unregulated land clearing, 8. Fish farming, coastal aquaculture	Banana Industry Act Belize Agricultural Health Authority Act Citrus (Processing and Production) Act Environmental Protection Act Land Utilization Act Meat and Livestock Act Papaya Growers Association Act Pesticides Control Bard Act Sugar Cane Industry (Control) Act	Banana Control Board Ministry of Agriculture Belize Agricultural Health Authority Citrus Control Board Ministry of Agriculture Department of the Environment Land Utilization Authority Ministry of Agriculture Ministry of Agriculture Pesticides Control Board Ministry of Agriculture

6.3.4 Coastal Aquaculture Development

The coastal lands within the South Central coastal zone that have been zoned for land-based aquaculture (**Map 13**) fall within Zone 3 of the National Aquaculture Policy (2005). Zone 3 areas represent inland areas available for aquaculture development that are classified as "moderately suited" to food production by aquaculture by virtue of having "mixed-quality fresh and marine water resources suited to land-based systems". The Informed Management zoning scheme for coastal aquaculture represents a reduction in the current area of land under aquaculture production in the region. The aquaculture policy recommends small to medium scale freshwater-based aquaculture production facilities in this region. These guidelines recommend a **maximum** cultivation of 75 hectares of land, equivalent to an annual production of less than 400 tons per annum. Surface water requirement is between 0.4-400 cubic meters per minute. The framework for implementing the zoning scheme for the development of coastal lands for aquaculture production can be found below in **Table 10.**



Map 14: Informed Management Zoning Scheme for Coastal Aquaculture in the South Central Region

Table 10: Framework for Implementing Informed Coastal Aquaculture in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	Compatible	Regulated			
Coastal Aquaculture	Coastal lands especially suited for the culture of farm-raised fish via land-based pond systems	1. Construction of land-based pond systems for farming of non-invasive species	1. Office spaces, living quarters for employees and/or owners of aquaculture farms 2. Supporting facilities for culturing of species, such as hatcheries and nurseries 3. Mangrove planting	Subdivision of land for aquaculture purposes Fishpond operations	1. Use of unregistered chemicals and biological materials, such as antibiotics 2. Use of registered chemicals and antibiotics outside of the legally prescribed limit 3. Oil exploration, extraction and establishment of oil refinery 4. Mining and dredging 5. Disposal of hazardous and biological wastes 6. Release of untreated liquid wastes 7. Squatting/informal settling 8. Unregulated land clearing, and alteration of mangrove forests	Environmental Protection Act Fisheries Act National Aquaculture Policy (Draft)	Department of the Environment Fisheries Department Aquaculture Unit, Ministry of Agriculture

Recommended Actions:

1. Establish mechanisms to encourage the retention of local ownership of Peninsula land. While it is difficult to fight market forces or interfere with rights of private ownership, one such mechanisms could include technical advice on how to create unique income producing businesses on property as an alternative to outright sale.

2. Identify remaining areas for potential subsidized residential development with lots made available on a non-political basis by central government and representative lot committees. Restrictions should be placed on titles that prevent sale to non-Belizeans for a given time period.

3. Where subsidized lots on the Peninsula are not available or remain unaffordable, residents should be given early preference on lots available in Santa Cruz or Independence Villages.

4. Encourage "soft" and permeable coastal defense structures such as the planting of mangrove to avoid related erosion, the acceleration of off-shore currents, and impediments to wildlife

5. Discourage heavy and unregulated use of herbicides, pesticides and fertilizers

6. Maintain the 66 feet reserve, and ensure that minimum setbacks from property lines and beaches, and minimum distances between buildings are enforced

7. Implement landscape design awareness that would facilitate the preservation of mangroves for shoreline protection

8. Identify and zoning priority areas for the development of parks and other recreational facilities

9. Support the institution of a system of restrictive code of covenants between land owners and developers that favor integrated development planning

10. Educate developers, contractors and real estate agents on the existence of all applicable legislation, processes and procedures pertaining to land development

11. Ensure the standards and engineering approval process established by the Central Building Authority for building construction are adhered to

12. Provide for low-density development with the least possible site clearance to maintain the characteristics of the natural environment as much as possible

13. Preserve remaining crown or government-owned lands in the region

14. Require that developers who remove habitats must finance their restoration

6.4 Marine Dredging and Minerals Extraction

Dredging and sand mining can have disastrous effects on the habitats of particular species and on other economic and recreational use of the region. Erosion of the coastline in this region is an occurrence that has resulted from human disturbance, including mining and abstraction of huge volumes of water, in nearby watersheds. Most instances of dredging and/or sand mining activity observed in the region was to increase land mass or land rehabilitation, particularly post-storm disruption. Considering the planning objective of these management guidelines to minimize the impact of over-development in the region, limited marine dredging activity has been recommended for this region (**Map 14**). These guidelines recognize that some sites may require a certain amount of filling in order to allow meaningful occupation. Through these guidelines, unsuitable development sites are avoided, including sensitive areas, and areas of poor access. The conversion of swamp, wetlands, mangrove forests or sea for resort and/or residential use would only be detrimental to the environment, create land unsuitable for effective liquid waste disposal, distort land/swamp values, and set a harmful precedent for future development. In addition to the recommended actions below, implementation of the framework for enforcing low-impact marine dredging activities in the region (**Table 11**) is strongly recommended.

Recommended Actions:

1. Discourage dredging activity that falls outside of the Informed Management zoning scheme for marine dredging (**Map 14**)

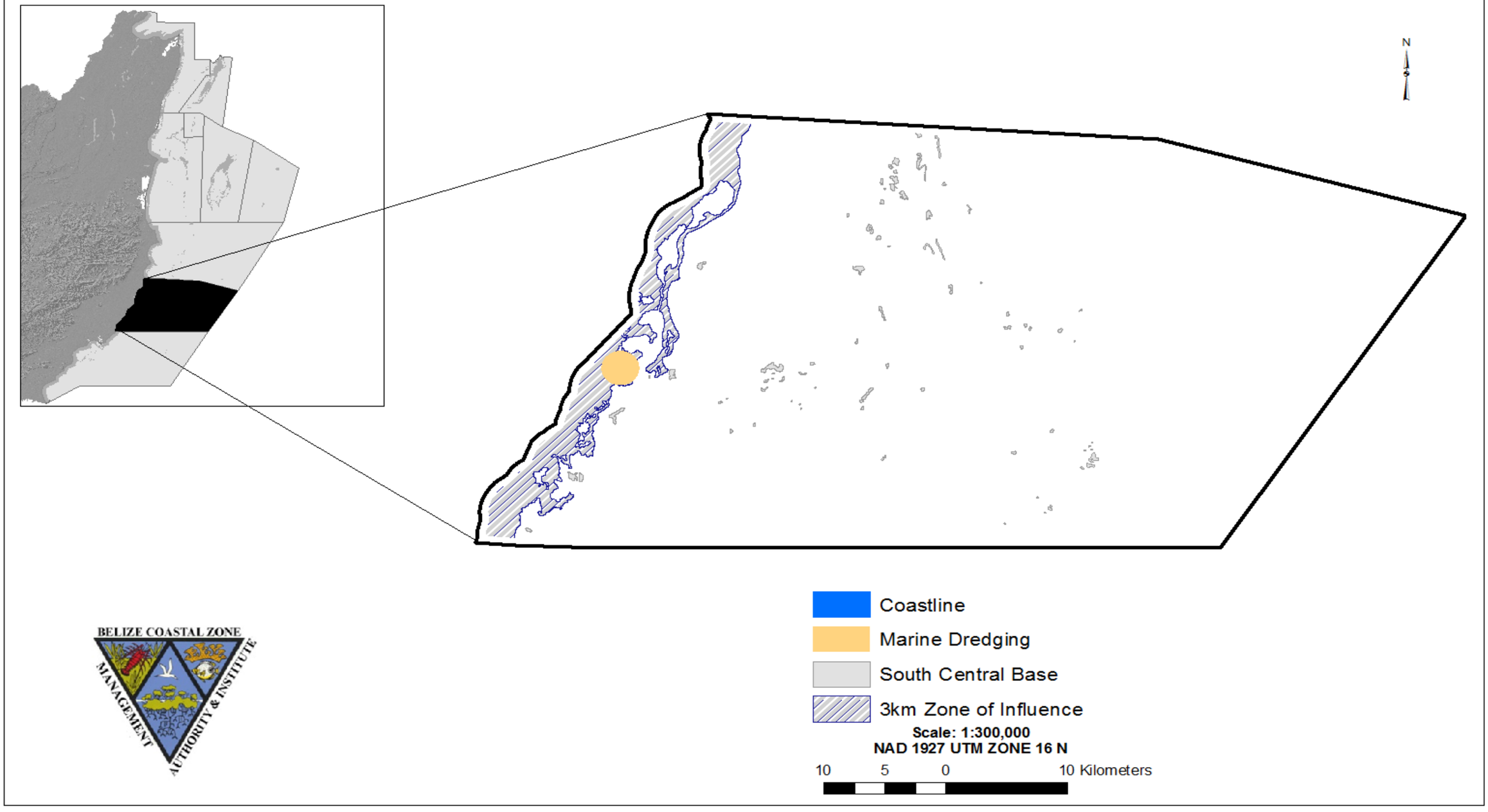
2. Require developers to finance and undertake replanting of seagrass and mangroves in areas that have been dredged

3. Encourage the use of sufficiently high land for resort and/or residential use to reduce the need for dredging and filling activity

4. Discourage the creation of "beaches" and new cayes by depositing sand. This activity obviously requires dredging for boat access (barging often being too costly), which disrupts the sea flow, causes accelerated erosion or accretion, adversely affects the local wildlife, and gives a false impression of the area's natural character.

5. Address beach erosion through the implementation of a watershed use policy and scientific research

INFORMED MANAGEMENT ZONING SCHEME FOR MARINE DREDGING: SOUTH CENTRAL REGION



Map 15: Informed Management Zoning Scheme for Marine Dredging in the South Central Region

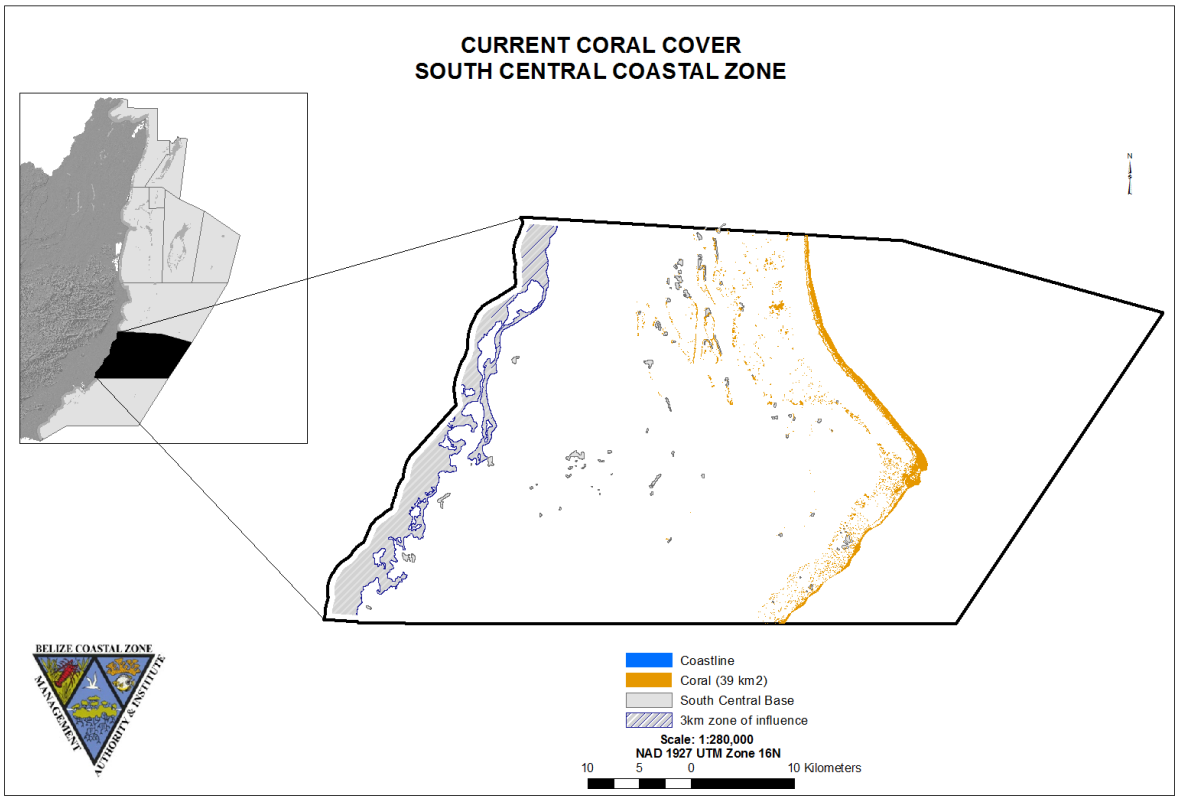
Table 11: Framework for Implementing Informed Marine Dredging in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	Compatible	Regulated			
Marine Dredging	Areas for the excavation of bottom sediments for the maintenance of navigable waterways and ports of entry	1. Excavation of bottom sediments for the maintenance of navigational lanes and ports of entry	1. Shipping and navigation; passage/entry of commercial vessels	Sediment extraction	1. Aquaculture 2. Disposal of solid and liquid wastes 3. Disturbance and destruction marine ecosystems, including but not limited to, coral reef system, seagrass beds, etc 4. Marine recreation 5. Fishing 6. Extraction of petroleum 7. Extraction of water from natural saltpans	Environmental Protection Act Mines and Minerals Act Marine Dredging Policy (Draft) Land Utilization Act	Department of the Environment Mining Unit, Ministry of Natural Resources Land Utilization Authority

6.5 Sensitive Habitats

6.5.1 Corals

Coral cover in this region is about 39 square kilometers (**Map 15**).



Map 16: Coral Cover in the South Central Coastal Zone

Results of the InVEST Habitat Risk Assessment (HRA) model suggest that currently 0.4% of the region's mangroves are at low risk, 98% at medium risk, and 1.6% at high risk (**Fig. 1**).

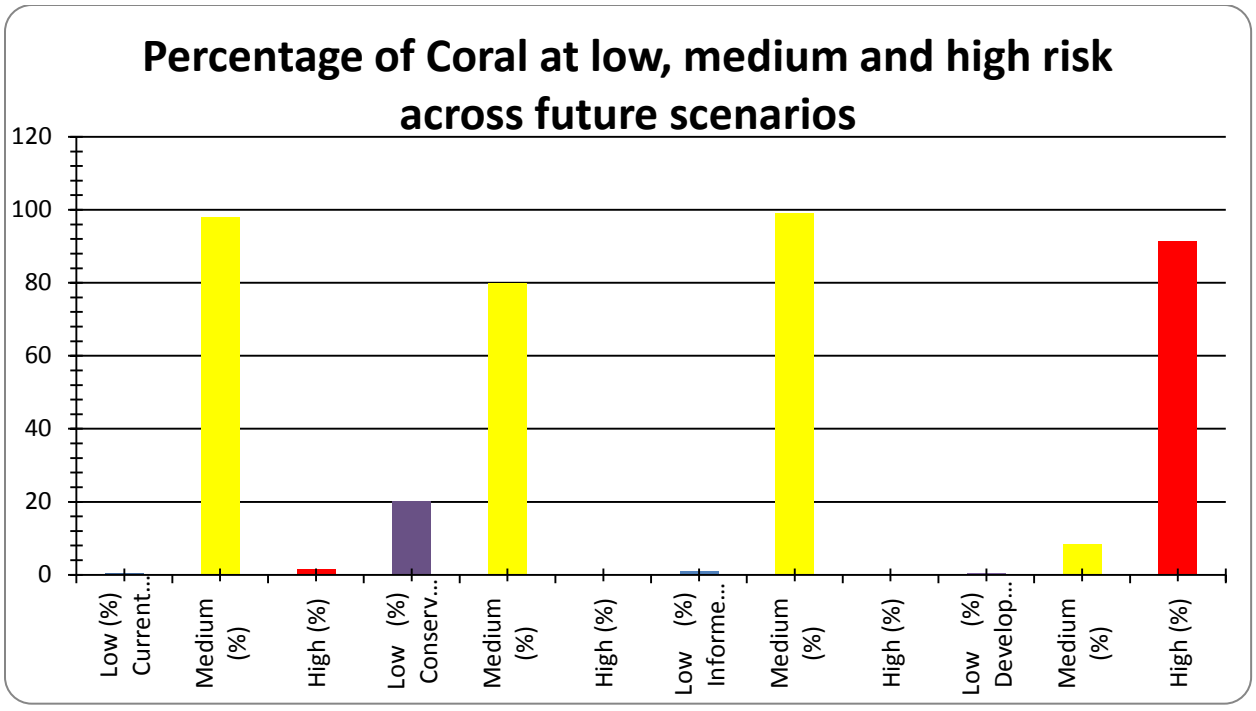
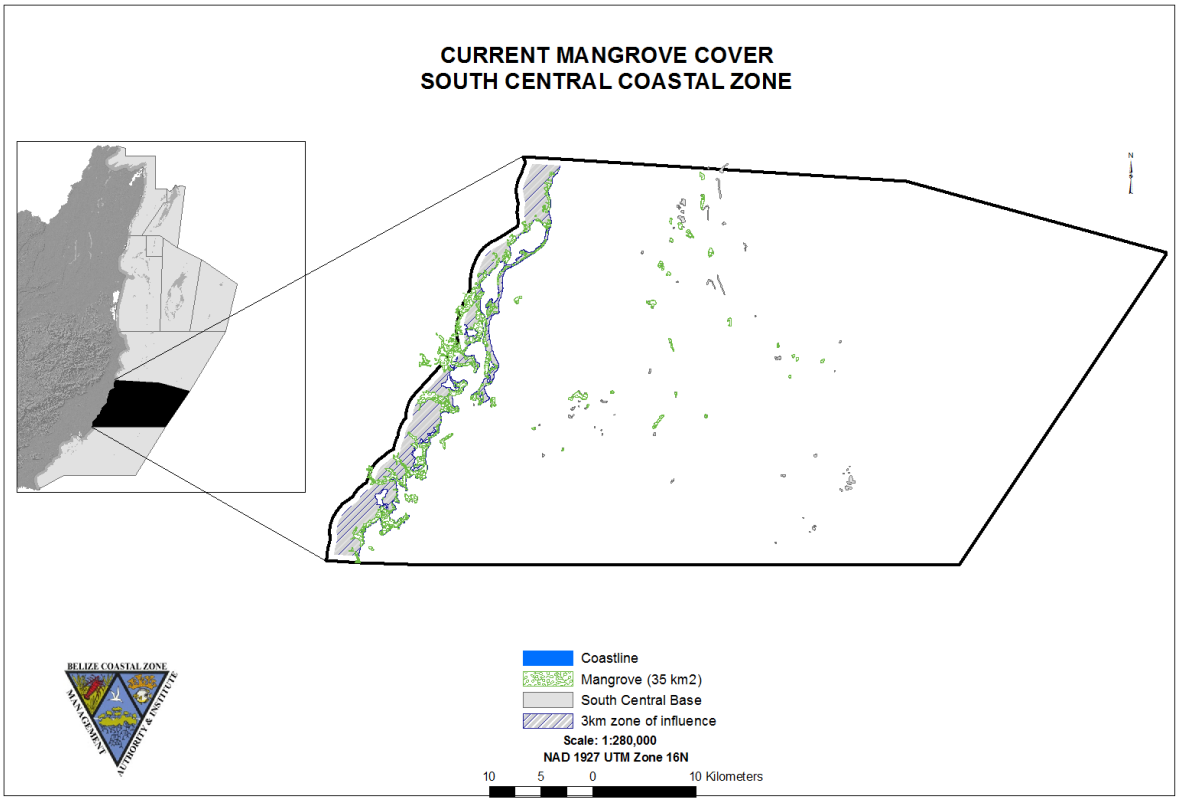


Figure 1: Risk to Corals in the South Central Region by Scenario

The results also suggest that in a Conservation Zoning Scheme no corals would be at high risk. There would also be proportionately less corals at medium risk than in the current. According to HRA model results, 18% of corals that were formerly at medium risk in the current scenario would be at low risk in a future Conservation Zoning Scheme, making the total percentage of corals at low risk in this scenario 20%, and at medium risk 80% (**Fig. 1**). In a Development Zoning Scheme, HRA model results suggest that the threat to corals would become increasingly higher. Only 0.4% of corals would be at low risk whereas 8.3% and 91.3% of present corals would be at medium and high risk, respectively (**Fig. 1**). In the proposed Informed Management Zoning Scheme, HRA results are indicating that no corals would be at high risk, 1% of present corals would be at low risk, and 99% at medium risk (**Fig. 1**).

6.5.2 Mangroves

Mangroves are important in this region as they support a diverse range of coastal birds, mammals, fish and crustaceans. Their role is multi-functional in maintaining the integrity of coastal and marine ecosystems; they form the basis of a complex marine food web, create breading habitat, stabilize bottom sediments and protect the shoreline from erosion. However, with the high market value of waterfront properties, mangroves are being cleared at a rapid rate, despite a moratorium on mangrove clearance. In this region, the total mangrove cover is approximately 31 square kilometers (**Map 16**).



Map 17: Mangrove Cover in the South Central Coastal Zone

Results of the InVEST Habitat Risk Assessment (HRA) model suggest that currently 4% of the region's mangroves are at low risk, 82% at medium risk, and 14% at high risk (**Fig. 2**).

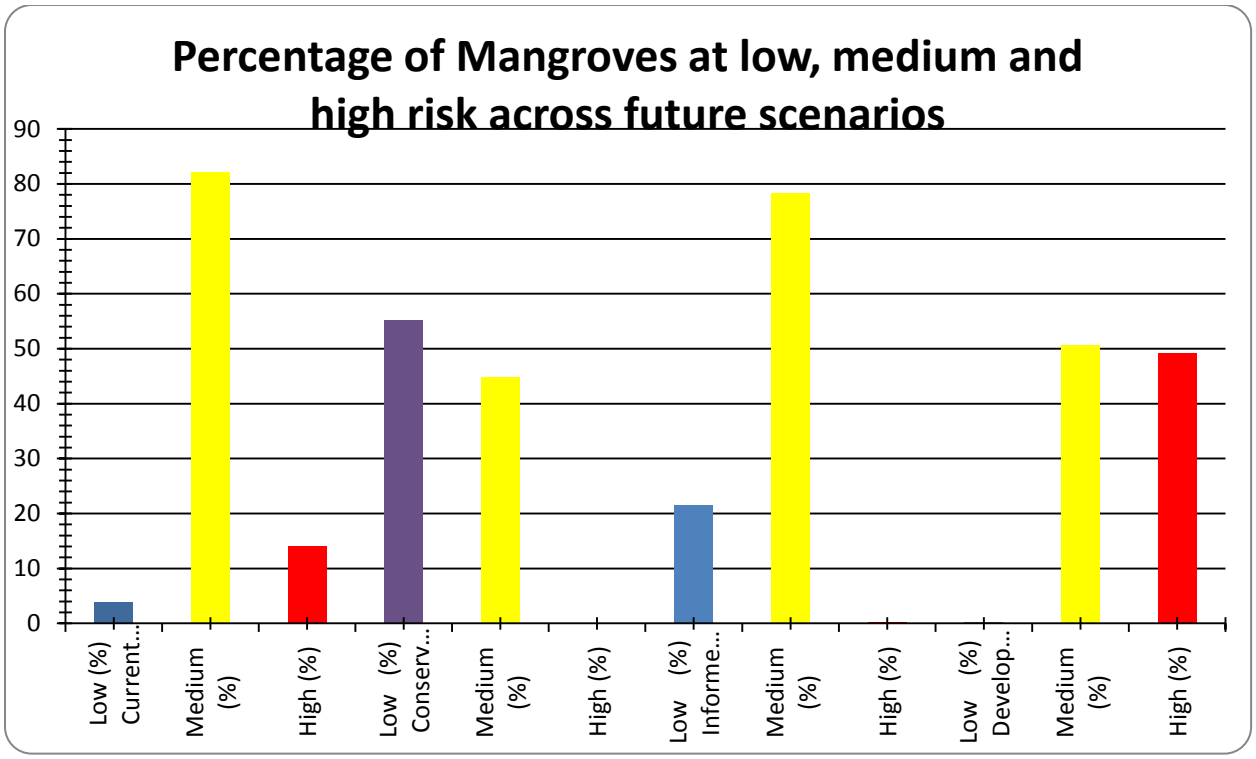
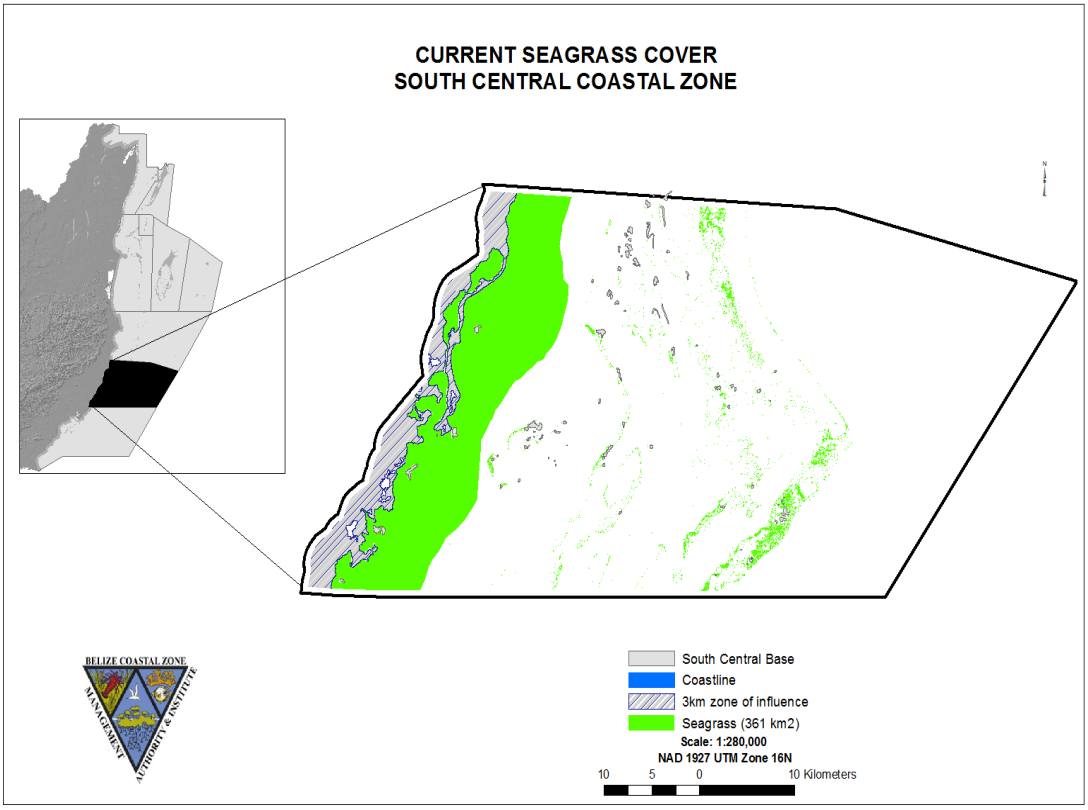


Figure 2: Risk to Mangroves in the South Central Region by Scenario

The results also suggest that in a Conservation Zoning Scheme no mangroves would be at high risk. There would also be proportionately less mangrove at medium risk than in the current. According to HRA model results, 37% of mangroves that were formerly at medium risk in the current would be at low risk in a future Conservation Zoning Scheme, making the total percentage of mangroves at low risk in this scenario 55%, and at medium risk 45% (**Fig. 2**). In a Development Zoning Scheme, HRA model results suggest that the threat to mangroves would become increasingly higher. Only 0.1% of mangroves would be at low risk whereas 50.7% and 49.2% of present mangrove would be at medium and high risk, respectively (**Fig. 2**). In the proposed Informed Management Zoning Scheme, HRA results are indicating that only 0.2% of mangroves would be at high risk, 21.4% of present mangroves would be at low risk, and 78.4% of medium risk (**Fig.2**).

6.5.3 Seagrass

The total seagrass cover for the South Central region is approximately 359 square kilometers (**Map 17**).



Map 18: Seagrass Cover in the South Central Coastal Zone

Based on the Habitat Risk Assessment (HRA) conducted for this region, approximately 0.1% of the region's seagrass are currently at low risk, 44.9% at medium risk, and 54.9% at high risk (**Fig. 3**).

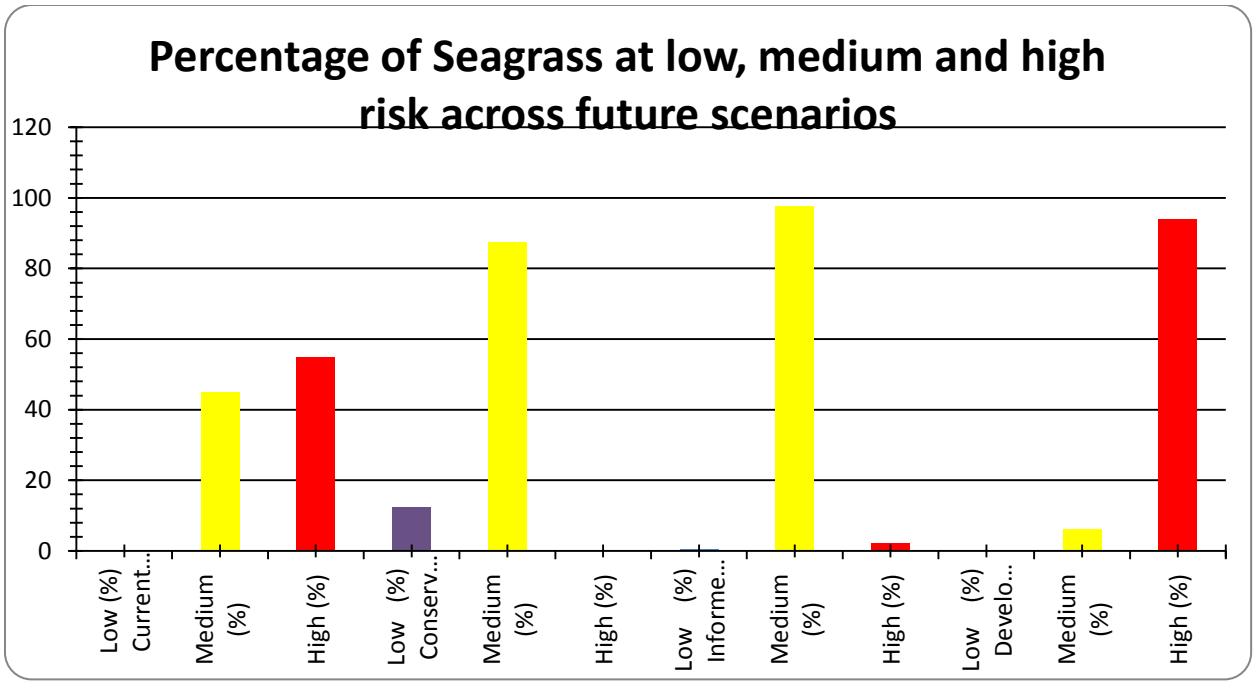


Figure 3: Risk to Seagrass in the South Central Region by Scenarios

In a Conservation Zoning Scheme, HRA model results suggest a dramatic reversal of the level of risk to current seagrass in this region whereby only 0.3% of seagrass would be at high risk, 12.2% of seagrass would be at low risk and 87.5% at medium risk in 2025 (**Fig. 3**). In a Development Zoning Scheme, model results suggest that 93.8% of present seagrass would be at high risk. This zoning scheme also represents the only scenario in which seagrass are at high risk. The results also suggest that in the Development Zoning Scheme, 6% of seagrass would be at medium risk and 0.2% at low risk in 2025 respectively (**Fig. 3**). In the proposed Informed Management Zoning Scheme, the HRA model results suggest an improvement in the amount of seagrass that are currently at risk. Under this zoning scheme, 97.5% of present seagrass would be at medium risk. Additionally, the model results reveal that under this zoning scheme, 0.5% of present seagrass would be at low risk and 2% at high risk in 2025 (**Fig. 3**).

In discussing the results of the InVEST ecosystem models, and in particular the habitat risk assessment model, there is the need to consider limitations of the model, which are highlighted below:

- Results are should be interpreted on a relative scale within a study region and across habitats and stressors, but not to results from separate analyses.
- Results do not reflect the effects of past human activities.
- Results are based on equal weighting of criteria unless the user weights the criteria by importance or data quality.
- Cumulative risk is additive (rather than synergistic or antagonistic)
- Climate change impacts are not directly accounted for in model

Additional information on how this model works can be found in **Appendix B.1** of the Belize Integrated Coastal Zone Management Plan

Recommended Actions:

1. Implement the Informed Management Zoning Scheme that will support multiple human activities in the region while limiting activities in specific areas in order to reduce impacts to critical and sensitive habitats and to maintaining their integrity

2. Analyze current human impacts on habitats in order to prioritize areas requiring immediate management intervention

3. Enhance collaboration among management and permitting agencies to ensure impacts to critical habitats are reduced and controlled

4. Raise awareness and outreach in community stakeholders about the importance of reducing impacts to habitats

6.6 Utilities

This section of the guidelines addresses the issue of electricity and water supply (potable and otherwise). The matter of the level of requirement and the means of supply falls, in many ways, into two categories: the fishing camps and the resort / residential / guesthouse sites on the Peninsula and the cayes. It is not anticipated that fishing camps, as they are presently used, will consider it necessary to invest in expensive power generating equipment; however those that may become more developed might find it convenient to up-grade their facilities. Generators subtracts from the undeveloped unspoiled character of the area.

6.6.1 Energy

Energy supply for the most part is dependent upon the type, intensity and area of development activity. Specifically, the requirements for fishing camps and guesthouses on the cayes development sites would differ for residential development on the Placencia peninsula. The only source of energy supply that may potentially threaten the environment is the use of gasoline and/or diesel generators because of the noise and air pollution, the transportation and improper disposal of used lubrication oil, and the transportation and handling of fuel, which can result in spills. The latter two can be mitigated against by proper handling and storage, and subsequent transportation of used oils back to the mainland. Solar and wind energy are environmentally friendly and are recommended for use by residences, eco-resorts and research stations. Cost effectiveness of this option may be a factor. However, this can be combined with the use of the generator as a constant source.

6.6.2 Water

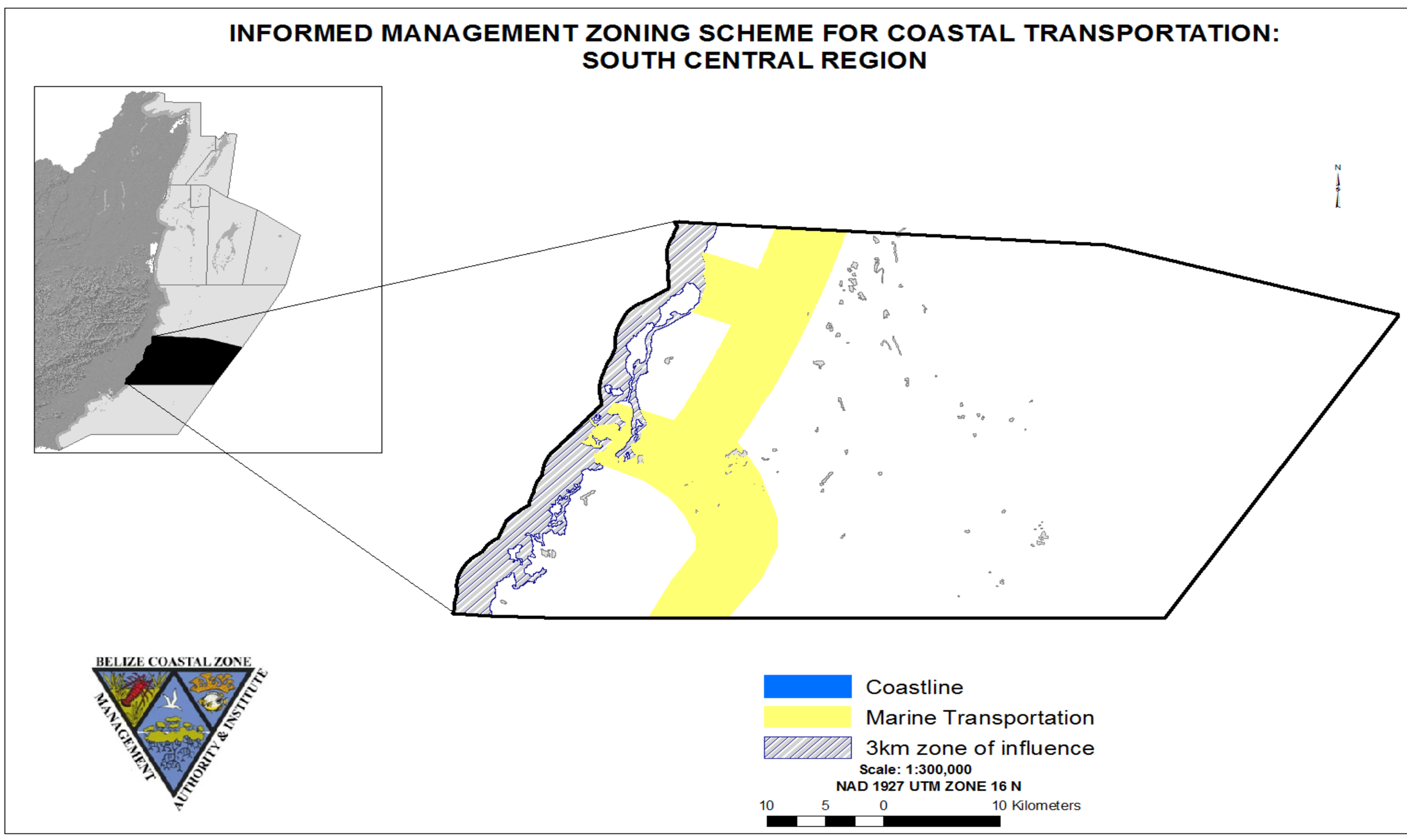
Water is essential to life and the supply of water for various human purposes cannot be understated. Where water is demanded in large quantities, this can be particularly problematic and impact on the development capability of the region, especially in the case of large developments. Dependence on the public water supply system and reverse osmosis could be an alternative. However, reverse osmosis requires a consistent energy source, and will require a waste disposal plan for waste products produced, such as brine.

6.6.3 Transportation

With one of the newest and finest paved road in the country, Peninsula residents can no longer complain of the punishment they endured for so many years at the hands of mud, dust, and potholes. But a road is not the same as a transportation system. The single largest transport problem the area faces is the lack of regularly scheduled public transport from one end of the Peninsula to the other. This absence affects the movement of tourists from their hotels to shops, restaurants and nightlife, but, perhaps more importantly, the ability of residents to move up and down the Peninsula from home to places of employment. This lack of local labor mobility makes it more difficult and expensive for residents to find, and keep, employment. Traffic and

parking in Placencia Village is also a growing problem that will no doubt become worse due to a lack of available land and the Village's position at the tip of the Peninsula. Consideration should be given for Aerodrome development in this area in order to support anticipated tourism activities in this area.

The Port of Big Creek is a deep water sea port facility. It is situated 2.5 kilometers inland from the entrance of Big Creek, which is to the immediate west of the South Central region. The Inner Channel, one of Belize's main shipping routes, passes through the region from north to south. The port deals mainly in the import and export of a number of items and other forms of cargo, such as bananas, citrus concentrate, fertilizers, etc. The port requires maritime infrastructure along its shipping routes, principally marker buoys. Ancillary infrastructure, such as, buoys and markers should be placed in the sea to direct vessels and humans away from fragile and sensitive ecosystems. These guidelines recognize existing marine transportation routes in the region, which have been captured in the Informed Management spatial zoning scheme (**Map 18**). In addition to the recommended zoning scheme for marine transportation, the framework for implanting the recommended transportation routes for this region is found in **Table 12**.



Map 19: Informed Management Zoning Scheme for Marine Transportation in the South Central Region

Table 12: Framework for Implementing Informed Marine Transportation in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	**Compatible**	**Regulated**			
Marine Transportation	Marine area delineated for the use of watercraft, such as water taxis, cruise ships, etc, to transport people, goods and cargo between multiple destinations	1.Shipping operation activities 2. Port development and operation 3. Vessel traffic use	Dredging for the maintenance of navigational lanes and ports of entry	Passage/entry of vessels Operation and construction of ports	1. Fishing 2. Marine recreational activities 3. Anchoring that leads to disturbance and destruction marine habitats, including but not limited to, coral reef system, seagrass beds, etc 4. Exploration and extraction of petroleum 5. Construction of any illegal structure that would obstruct shipping and navigation 6. Disposal of solid and liquid wastes from boats and ships 7. Transportation of illegal goods, such as drugs and weapons, and human trafficking	Belize Port Authority Act Belize National Coast Guard Service Act Customs Regulation Act Defence Act Environmental Protection Act Harbours and Merchant Shipping Act Immigration Act Maritime Areas Act Marine Dredging Policy (Draft) Mines and Minerals Act	Belize Port Authority Belize National Coast Guard Customs Department Belize Defence Force Department of the Environment Belize Port Authority Immigration Department Ministry of Foreign Affairs Mining Unit, Ministry of Natural Resources Geology and Petroleum Department

Recommended Actions:

1. Develop proper handling, transportation, storage and waste disposal practices of spent oils used for energy generation

2. Close collaboration with relevant agencies to ensure that water and energy supply, and infrastructure in the region are provided though environmentally friendly and cost effective means

3. Close collaboration with relevant agencies in the placement and maintenance of buoys, lighthouses and protected area boundary markers in the sea

4. Upgrade existing power network to accommodate certain increased energy needs as the area develops and expands

5. Extend and upgrade existing water supplies in order to meet future demand

6. Encourage the use of solar and wind power in the case of resorts and any residential development, as they are unlikely to cause the environmental problems (spillage, fumes, noise) associated with diesel generators

7. Allow the use of generators as a secondary power source only during daylight hours for the recharging of solar or wind-driven power sources

8. Take all precautions to avoidance of pollution and noise generation in accordance with the Pollution Regulations, 1996 of the Department of the Environment

9. Store and dispose of batteries at the appropriate sites on the mainland

10. Import potable water for the cayes from sources on the mainland

11. The government should license and provide fiscal incentives for a shuttle service for intra-Peninsula transport.

12. The private sector should be encouraged to support such a service through direct investment or the generous purchase of advertising on the shuttle vehicles.

13. A study should be carried out to explore ways to reduce the flow of vehicular traffic into Placencia Village or better ways to deal with the increased flow.

6.7 Pollution Control

Degrading water quality and pollution associated with urbanization is one of the greatest threats in the South Central region. Pollution from sewage, aquaculture farms, agricultural land wastes, and increased boat traffic have also been identified as having a high impact on the health of the biodiversity and coastal and marine environment in the region. When wastewater is disposed of directly into the sea with little or no treatment, the bacteria present immediately begin to work to decompose the solids using oxygen in the process. The higher the quantity and quality of waste, the more oxygen is required for its decomposition. The oxygen demand by the bacteria usually creates depletion for use by other species if it is not replenished quickly. Prolonged oxygen deprivation usually results in the demise of aquatic leads to their demise. One way of preventing oxygen depletion is to ensure that sufficient oxygen is present in the water at all times for the species to strive. It can be done by two methods:- ensuring wastewater is pre-treated, and by reducing the strength of wastewater so that its impacts will not be detrimental when disposed of into receiving waters.

Improper solid waste disposal also contributes towards significant environmental and ecological degradation that can lead to serious public health problems. For example, solid waste that is indiscriminately disposed of can pollute the air when waste is inadequately incinerated, and smoke and odor can become a problem. In addition, the leaching of liquid from the garbage contaminates soil, surface and ground water. This increase in bacterial action may significantly deplete the oxygen present, which could be detrimental to other life forms present in the soil. Furthermore, from a public health standpoint, uncontrolled and inadequate disposal of solid waste attracts flies, insects and rodents. These may act as vectors of infectious diseases that affect humans. Solid waste that is improperly disposed of is also an eyesore.

Soak-a-ways and Septic Tanks on Coastal Developments

The Central Building Authority (CBA) is the agency mandated by the Belize Building Act 2003 to control building operations in the interest of public safety and health. In 2010, CBA produced detailed specifications for the construction of soak-aways and septic tanks for residential and other low impact buildings. Detailed diagrams can be found in the **Figure 10** of the Appendix of this document. A summary of required specifications for septic tanks servicing residential and other low impact buildings can be seen in **Table 13**. The CZMAI recommends that these standards be used for construction of septic tanks and soak-aways on the **coastal mainland**.

Table 13: Specifications for Residential and Low-Impact Septic Tanks and Soakaways

Max # of persons served	Liquid capacity of tank		Internal dimensions							
			Length (l)		Width (w)		Liquid depth (ld)		Total depth (h)	
	Gallons (approx.)	Cubic ft.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
4	500	67	6	0	3	0	4	0	5	2
6	600	81	7	0	3	0	4	0	5	2
8	750	101	7	0	3	6	4	0	5	2
10	900	121	7	6	3	6	4	6	5	8
12	1100	148	8	6	4	0	4	6	5	8
14	1300	174	10	0	4	0	4	6	5	8
16	1500	201	10	0	4	6	4	6	5	8

Treatment of Wastes on Cayes

Due to the fragile nature of the cayes and atolls septic tanks and soakaways are not recommended as a means of handling household waste. Also, since there are no established solid waste management guidelines for the cayes, CZMAI recommends the following based on the Long Caye Eco-Guidelines produced by Pleasure Island Limited for the handling of waste on Long Caye, Lighthouse Reef Atoll**:**

- Human waste must be treated with composting toilets. Septic tanks, cesspools and sewers should be prohibited.
- Gray water must be treated, and all dwellings and buildings must have a gray water treatment system approved by DOE before construction.
- Organic wastes must be collected and disposed of in composting bins.
- Recycling and garbage separation is encouraged.
- Frequent removal of solid waste from the cayes for treatment and proper disposal on the mainland

Recommended Actions:

1. With respect to resort and residential developments, solid wastes on the cayes should be removed and transported to the mainland (which is recognized as having its own solid waste disposal problems)

2. In the case of fishing camps, solid wastes may be incinerated on site given adequate precautions such as being done at least 30 feet from open water or water courses

3. Should a fishing camp be upgraded to its secondary use of guesthouse facilities, Recommendation (1) will apply

4. In developments that are likely to generate a relatively high volume of waste, the relevant authorities (the Public Health Bureau, Department of the Environment, Solid Waste Management Authority) should be consulted

5. Ensure that new and existing development applications include a Solid Waste Management Plan that is closely guided by the management recommendations from the National Solid Waste Management Plan. Opportunities for recycling of solid wastes should be explored

6. Although the use of composting toilets is recommended for the entire region, an alternative for resort facilities is the use of cleaner technologies, for instance, Upflow Sludge Blanket Filtration (USBF) and Aquarius Systems for the purpose of liquid/sewage waste disposal. The system of choice must have the approval of the DOE.

7. Septic tanks will not be utilized for resort facilities. Small residential developments shall utilize closed septic tanks with grey-water gardens while guesthouse facilities shall utilize lined grey water gardens or composting toilets.

8. Collaborate with small scale farmers and the aquaculture industry to reduce the waste load that enters the watersheds in the region

6.8 Social Amenities and Recreation

Much of the social situation on the Peninsula mirrors that of the country as a whole. Concerns over health care, education, crime, and other issues are debated daily on a national scale and the Placencia Peninsula is no exception. There are some specifically local concerns, however, largely arising from the area's rapid growth and the feeling that social services are lagging behind that growth. These concerns are documented below, and excerpted verbatim from the Peninsula 2020 Vision document.

Preservation of Culture

Two cultural trends occurring globally come into play on the Placencia Peninsula: one, traditional cultures are disappearing rapidly, and two, cultural tourism is a fast growing segment of the tourism industry. What this means for the Peninsula is that the growing demand for local cultural experiences by the tourism industry can help revive and enhance traditional cultural practices, particularly in Seine Bight and Placencia Villages, with their respective Garifuna and Creole cultural traditions. It is potentially a win-win situation in that cultural strengthening as well as increased economic benefits accrue when tourism and culture join forces.

Recommended Actions:

1. Community cultural leaders should be assisted in tapping into national/regional/global initiatives designed to promote cultural preservation

2. Local and national marketing campaigns should promote cultural tourism and set aside funding for initiatives that enhance the quality of cultural presentations.

3. The three communities on the Peninsula must work more closely together to promote cultural tourism as a Peninsula-wide product instead of belonging to solely one village or the other.

Health

Peninsula residents generally agree that current arrangements for medical care on the Peninsula are inadequate to serve the present needs of residents or visitors. The health center in Seine Bight is irregularly staffed by a single nurse and Placencia Village has a single doctor with nursing staff but in less than ideal surroundings. Most residents use the government polyclinic in Independence, Southern Regional Hospital in Dangriga, or private doctors off the Peninsula. The lack of nearby emergency medical care (particularly at night) is concerning to residents as

well as those potential retirees from abroad (including the Belizean diaspora) who would seek to settle here.

Recommended Actions:

1. Establish an emergency medical clinic on the site earmarked near the Placencia airstrip.

2. Encourage the establishment of a private medical clinic on the Peninsula to provide care options for both residents and visitors.

Crime

Crime on the Peninsula, while periodically raising concerns, has not yet reached the crisis proportions experienced elsewhere in the country. However, residents, particularly those in the tourism industry, acknowledge that the threat of increased criminal activity is ever present and many further believe that the current level of policing on the Peninsula is and will continue to be inadequate. This is particularly true outside of Placencia Village, where a single corporal in Seine Bight, with no vehicle, is responsible for law enforcement on the entire northern two-thirds of the Peninsula. Recognizing that increased crime hurts residents directly and has the potential to destroy tourism, the Placencia branch of the Belize Tourism Industry Association (BTIA) formally submitted a set of recommendations to the Commissioner of Police, which have yet to be addressed by the Belize government.

Recommendations:

1. Upgrade the position of the Placencia station's commander from Sergeant to Inspector.

2. Upgrade the Seine Bight station position from Corporal to Sergeant and increase staffing.

3. Institute a permanent mobile checkpoint on the Placencia Road as a way of deterring and foiling crime caused by criminals who reside outside the Peninsula.

4. Initiate a crime reporting system in which the BTIA and Village Councils receive reports of crimes on a daily basis so they may follow up on all cases and be aware of the level of criminal activity on the Peninsula.

5. Encourage more community policing and neighborhood crime watches as well as improve liaison between police and private security operations.

6.9 Conservation

Currently there are only four areas in the region that have statutory protection: Laughing Bird Caye (and its surrounding waters) as a National Park, Little Monkey Caye as a Bird Sanctuary under the old Crown Lands Act (now replaced by the National Lands Act); and the South Water Caye Marine Reserve and the Gladden Spit and Silk Cayes Marine Reserve. There are, however, several cayes and related marine areas that warrant immediate protection and preservation. The Placencia Lagoon is one such area. The Lagoon serves as a nursery for much of the marine life in the area, including lobster, bonefish, permit, Jewfish/Goliath grouper, rays and the endangered Antillean manatee. It is also an integral part of the regions coastal environment as are the cayes and reef. Much of the marine life that the area residents depend on for fisheries and tourism services will be adversely affected by the continued degradation of the Lagoon through uncontrolled degradation and mangrove removal. A concerted effort is underway to obtain protected status for the Lagoon-an effort endorsed by the Fisheries and Forest Departments, as well as 95% of the area residents surveyed during the Peninsula 2020 effort.

The Pelican Cayes, in particular, have been identified as requiring special attention several times over the preceding years, and the South Water Caye Marine Reserve was extended south especially to include them. The cayes and the lagoon constitute one of the several extensive faros surrounded by deep channels that characterize the inner reef cayes, Laughing Bird Caye, and its faro, being another. Some of the rationale for conservation is based on the objective of avoiding over-development of marginal lands and its accompanying need for dredging, filling, vegetation and habitat destruction, and increased potential for erosion. Several other cayes in the region have been identified as noteworthy bird habitats. It appears that there has been some variability in these sites in the past; some cayes that used to support large bird populations no longer do, and others have been effectively vacated due to clearance or other forms of interference.

In an effort to support continued national efforts to conserve biological diversity and reduce the pressures impacting them to ensure their long-term ecological integrity, the CZMAI has recommended areas that could benefit from conservation (**Map 19**) on the basis of the sensitivity of habitats and future threats from human activities. The framework for implementing the Informed Management Zoning Scheme for Conservation in the South Central Region is found in **Table 14.**

Recommended Actions:

1. Maintain existing coastal and marine protected areas, and extend protection to sites with ecosystems of conservation importance in Informed Management Zoning Scheme for protected areas

2. Seek protected status for the Placencia Lagoon in order to protect its important coastal resources while also safeguarding the usufruct fishing rights for traditional (non-gill net) fishers of the area

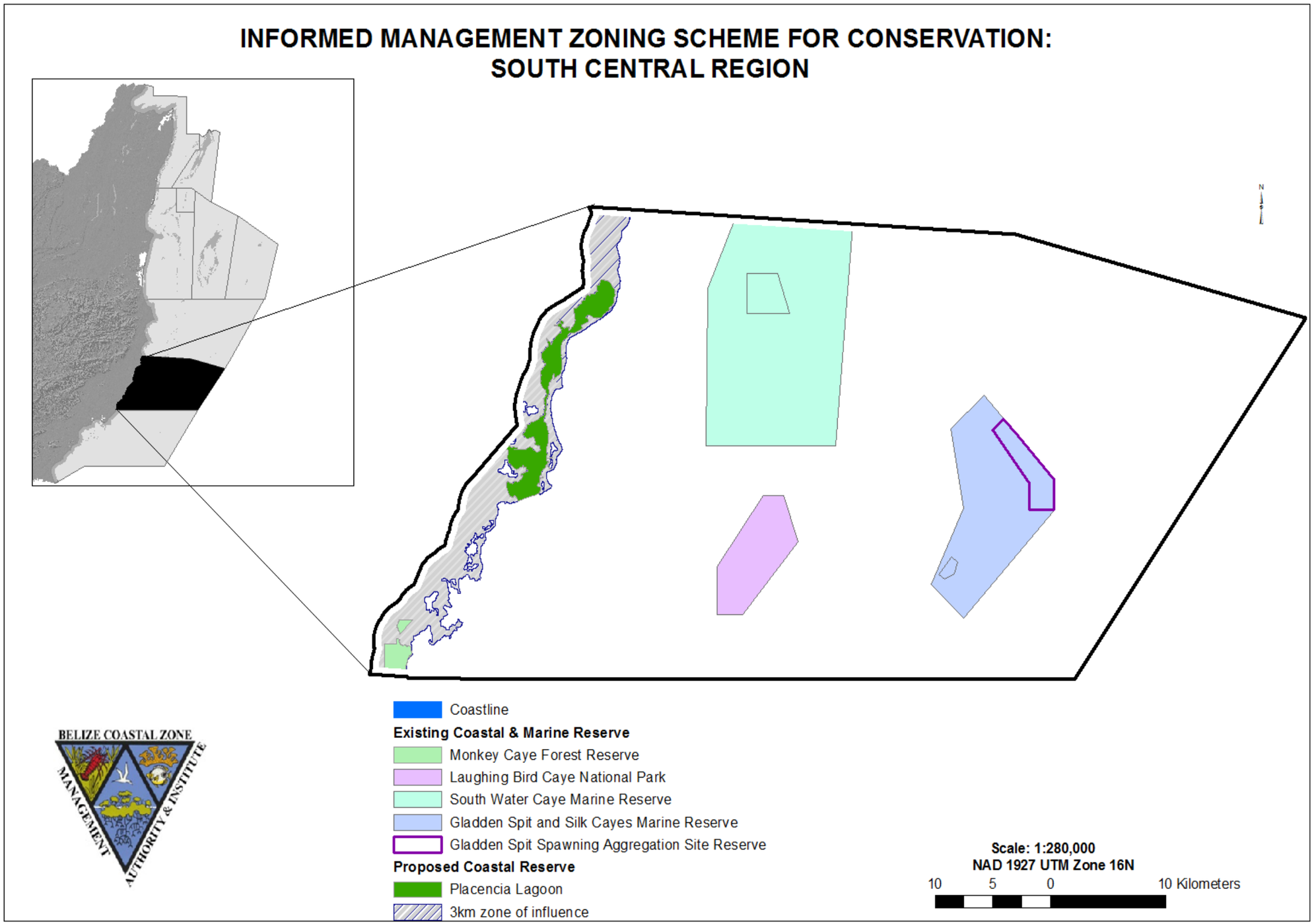
3. Strengthen management effectiveness for the four existing protected areas in the region

4. Several sites that no longer support healthy mangrove populations for nesting sites for shore birds and are undeveloped are recommended for preservation

5. Other undeveloped nationally owned cayes that are considered as being especially sensitive, either terrestrially or in relation to their marine environment, are also proposed for preservation, mostly also with research as a secondary use

6. Concerned NGOs and other institutions such as colleges should be made aware that the cayes' integrity as "preserved areas" is dependent on effective management and are encouraged to take interest. These measures are designed to ensure that, despite the constraints on resources of the Forest and Fisheries Departments, all areas are afforded on-site management with a high degree of local participation.

7. Implement management recommendations of these guidelines in coordination with the management plans for Laughing Bird Caye National Park (2011-2016), Gladden Spit and Silk Cayes Marine Reserve (2011-2016) and South Water Caye Marine Reserve (2010-2015)



Map 20: Informed Management Zoning Scheme for Conservation in the South Central Region

Table 14: Framework for Implementing Informed Conservation in the South Central Region

ZONE	CHARACTERISTICS OF ZONE	SCHEDULE OF PERMITTED USES			SCHEDULE OF RESTRICTED USES	SUPPORTING NATIONAL POLICIES	IMPLEMENTING AGENCY
		Dominant	Compatible	Regulated			
Marine Conservation	Coastal and marine areas delineated for the retention of critical habitats and ecosystems for a diversity of marine life, fish spawning aggregation sites, replenishment zones, biodiversity areas	1. Coastal and marine reserves 2. Breeding, spawning, feeding area for marine life 3. Replenishment zones 4. Seagrass rehabilitation 5. Mangrove planting 6. Foraging area for manatees, dolphins, crocodiles 7. Nesting beaches for sea turtles	1.Research and education 2. Marine Recreation and Tourism	Tourism and recreation (snorkeling and diving) Research and education Establishment of new reserves	1. Fishing within "no-take"/replenishment zones, and spawning aggregation sites 2. Development of shoals 3. Anchoring that leads to disturbance and destruction marine habitats, including but not limited to, coral reef system, seagrass beds, mangrove forests, etc 4. Exploration and extraction of petroleum 6. Disposal of solid and liquid wastes from boats and ships 7. Shipping	Belize Port Authority Act Belize National Coast Guard Service Act Customs Regulation Act Defence Act Environmental Protection Act Harbours and Merchant Shipping Act Immigration Act Maritime Areas Act Marine Dredging Policy (Draft) Mines and Minerals Act	Belize Port Authority Belize National Coast Guard Customs Department Belize Defence Force Department of the Environment Belize Port Authority Immigration Department Ministry of Foreign Affairs Mining Unit, Ministry of Natural Resources Geology and Petroleum Department

6.10 Scientific Research and Education

The management plans for Laughing Bird Caye National Park, South Water Caye Marine Reserve and Gladden Spit and Silk Cayes Marine Reserve all call for an integrated research and monitoring programme for the region as a strategy to maintain the long-term ecological integrity of biological diversity and sustainable resource use by dependent communities. These management plans also outline a framework for effective integrated research and monitoring of conservation targets, the development of a data management facility and the incorporation of community involvement from the buffer communities. .

Recommended Actions:

1. Implement the recommended research and educational activities for the region as outlined in the management plans for Laughing Bird Caye National Park, South Water Caye Marine Reserve and Gladden Spit and Silk Cayes Marine Reserve

7.0 IMPLEMENTATION STRATEGY

The South Central Region Coastal Zone Management Guidelines form a part of the Belize Integrated Coastal Zone Management Plan being developed by the CZMAI. After approval of the Plan by CZMAI's Board of Directors, it will be offered to the House of Representatives for endorsement. Implementation of these coastal management guidelines will be undertaken through two mechanisms: (a) centralized statutory control through the various Government departments, and (b) localized community and stakeholder participation. Following the mechanism of centralized statutory control, the regulatory and permitting agencies with management mandates for the coastal zone will implement the specific policy actions and informed management spatial zoning scheme that are recommended in the Plan.

While the government agencies have the authority of the law to back up its procedures, it is constrained by limited resources. In several instances, however, local NGOs and community-based stakeholder organizations have greater access to, and knowledge of, local conditions and activities, though they have no statutory powers to either assist or control development beyond those available through the Village Councils and Towns Councils Acts. For this reason, it is recommended that localized community and stakeholder participation complement the management efforts of centralized government and statutory agencies in implementing integrated coastal zone management.

The formation of the South Central Region Coastal Advisory Committee (SCRCAC) for this region is recommended subsequent to Cabinet's adoption of the Belize Integrated Coastal Zone Management Plan. The South Central Region CAC would be locally based and largely constituted of voluntary organizations charged with the role of monitoring the state of the coast and development of the region, making reports and recommendations on issues they identify. This region's CAC will work closely with the Coastal Zone Advisory Council (CZAC) to monitor the implementation of the guidelines. The proposed membership of the reformed South Central Region CAC is to be drawn from, but not limited to, the following sources:

- Village councils of Independence, Placencia, Seine Bight;
- Placencia Fishermen's Cooperative Association;
- Placencia Tour Guide Association;
- Northern Fishermen Cooperative Society;
- National Fishermen Cooperative Association;
- National Garifuna Council;
- Independence High School;
- Southern Environmental Association;
- Fisheries Department;
- Lands and Surveys Department;
- Geology and Petroleum Department;

- Forest Department ; and
- Placencia Chapter, Belize Tourism Industry Association

Objectives of the South Central Region CAC include, *inter alia*, contributing to the drafting of the coastal zone management guidelines for their coastal region, supporting their initial approval, and monitoring and reporting to the Coastal Zone Advisory Council (CZAC) on the implementation of the guidelines. This means that the Committee will be expected to undertake the following tasks:

1. Develop, assess and approve the draft guidelines;
2. Forward the approved draft guidelines to CZMAI for approval;
3. Monitor the implementation and effectiveness of the guidelines;
4. Identify the appropriate time for a review of all or part of the guidelines;
5. Review and update the guidelines.

Planning is a continual process of recommendation, participation, implementation and review. These guidelines shall be monitored on a continual basis in order to establish its strengths and weaknesses. Through a management planning mechanism, the SCRCAC, along with CZMAI, will regularly update the guidelines, which will hopefully set a good example of representative, cooperative and adaptive management that is environmentally sound, rational and equitable.

Additional studies are needed in liaison with the relevant authorities and region's stakeholders. Such studies should reveal information which may help to further support sustainable development and to address the social, cultural and economic human use of the region and its resources.

8.0 CONCLUSIONS

The coastal zone management guidelines recommended for the South Central Region are not intended to be rigid, as changing socio-economic, cultural and environmental conditions may necessitate modifications. Noteworthy, however, these guidelines and Informed Management spatial zoning scheme have identified sites for specific human uses of the coastal zone, and the disqualification of sites for not conducive to sustainable development. It is hopeful that the objectives outlined at the beginning can be realized through the recommended sector policies guidelines and spatially-explicit zoning scheme as they will ensure the sustainable use and development of the South Central Region.

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10.0 APPENDICES

10.1 Background

The coastal zone is one of Belize's greatest assets and its magnificent Barrier Reef Reserve System is a renowned World Heritage Site. It is the longest barrier reef in the Western Hemisphere, extending approximately 280 km from the northern to southern borders of the country (Cooper et al. 2009). Belize's coastal zone has complex and dynamic marine ecosystems that support innumerable ecological processes and a vast array of marine life and habitats. In addition to its important ecosystem functions, the coastal zone is vital to the Belizean way of life. The highly productive coastal zone is the resource base for a broad range of economic activities. In fact, approximately thirty-percent of the country's gross domestic product is directly linked to these commercial activities that take place within the coastal zone (Cho 2005). The coastal zone also has important social and cultural values to the Belizean people, especially to approximately 40% of the population that reside on the coast and in offshore areas (SIB 2010).

Over the past decades, rapid economic development and population growth have taken place in the coastal zone and inland areas of Belize. World-renowned snorkeling and diving draw over 800,000 tourists to the region annually, driving the construction of new development (BTB 2008). These occurrences have led to increasing pressures on coastal and marine resources, with implications to the livelihoods of those that depend upon them. These anthropogenic threats stem from various developmental activities associated with tourism and recreational facilities, population growth and expansion, utility supply, dredging and mineral extraction, land clearance, pollution, waste disposal, fisheries and aquaculture. These threats are compounded by natural hazards, global warming, rising sea levels, and the vulnerability of sensitive ecological systems to climate change. Thus, it is imperative now more than ever to ensure that the coastal zone is utilized in a manner that will continue to support important ecological functions, as well as social, cultural and economic prosperity for current and future generations.

For many years, and even today, management of the Belizean coastal zone has been under the regime of sectoral planning. However, The need for an integrated approach to optimally manage Belize's coastal resources was made resoundingly clear at a historic meeting in 1989 when a wide cross-section of stakeholders from various sectors, including scientists, marine managers, private sector, and coastal communities converged in San Pedro, Ambergris Caye (Gibson 1989). Integrated coastal zone management (ICZM) brings together all decision-making agencies to ensure integration among their policies and management plans, to ultimately improve and maintain the quality of coastal and marine ecosystems. A defining feature of Belize's ICZM plan is balancing national economic development needs with conservation priorities within a spatially defined area over a specified timeframe. The development of site-specific coastal zone management guidelines, as a component of the Belize ICZM Plan, serves as a means to guide management decisions and to form the basis on which decisions are made to regulate the development and use of coastal and marine resources within the coastal zone.

10.2 Summary Of Enabling Legislation And Implementing Agencies For Enforcement Of The Informed Management Zoning Scheme

The various governmental organizations and agencies with management mandates for the coastal zone that are needed to implement these guidelines, to synchronize the efforts of the CZMAI via the Belize Integrated Coastal Zone Management Plan, and to strengthen inter-agency coordination for integrated coastal zone management include:

Banana Control Board – The Banana Industry Act requires applications for the cultivation of designated areas for banana production for the region. The South Central Region CAC should be included in any discussion on policy formulation on banana production as it affects the region.

Belize Agricultural Health Authority – The Belize Agricultural Health Authority Act requires applications for licenses, permits or certificates to import and export animal products, animal feed, and plant products into and out of Belize following inspection as it affects the region. The South Central Region CAC should be included in any discussion on policy formulation on agricultural import and export as it affects the region.

Belize Port Authority – The Belize Port Authority Act requires applications for boat and captain licenses and for the construction and operation of private ports for the region. Also, The Harbors and Merchant Shipping Act requires the Authority to regulate the passage of vessels in and out of Belizean waters as well as the maintenance and delineation of vessel routes, lighthouses and wharfs. The South Central Region CAC should be included in any discussion on policy formulation on vessel licencing and shipping as it affects the region

Belize Tourist Board – The Belize Tourist Board Act requires applications for hotel licenses for the region. The South Central Region CAC should be included in any discussion on policy formulation on hotel development as it affects the region.

Belize Trade and Investment Development Service (BELTRAIDE) – The Belize Trade and Investment Development Service Act requires that foreign trade and investment be liaised through the BELTRAIDE organization. The South Central Region CAC should be included in any discussion on policy formulation on major developments as it affects the region.

Central Building Authority – The Housing and Town Planning Act provides for the regulation of the use and development of land through qualitative measures that is, building densities, land use class assignments etc. However, it does not address the structural integrity of buildings, a component of the development. The Central Building Authority, by way of the Belize Building Act, is legislated specifically to address this, and provides for the appointment of Local Building Authorities to administrate the Act. Thus, the South Central Region CAC can be appointed as the Local Building Authority for the Northern Region. However, this may require strengthening the Northern Region CAC with technical expertise to do this. The alternative is to coordinate this function with the Village Councils of Independence, Placencia and Seine Bight.

Department of Environment – The Environmental Protection Act requires applications for environmental clearance for the region. The South Central Region CAC should be included in any discussion on policy formulation on environmental protection as it affects the region.

Fisheries Department – The Fisheries Act requires applications for fishing license for the region. The South Central Region CAC should be included in any discussion on policy formulation on fisheries as it affects the region.

Forest Department – The Forest Act requires applications for the removal of mangroves in coastal areas for the region. The National Parks System Act requires the establishment of National Parks, Nature Reserves, Wildlife Sanctuaries, and Natural Monuments to preserve ecologically important and sensitive areas. The Wildlife Protection Act empowers the Forest Department to determine species to be prohibited from hunting practices as it sees fit. The South Central Region CAC should be included in any discussion on policy formulation on mangrove removal and designation of protective status to sensitive areas and species as it affects the region.

Geology & Petroleum Department, Ministry of Energy, Science & Technology, and Public Utilities – The Petroleum Act requires applications for oil exploration and issuing of parcel contracts for the region. The South Central Region CAC should be included in any discussion on policy formulation on petroleum activities as it affects the region.

Hydrology Unit, Ministry of Natural Resources and Agriculture - The Water Industry Act requires all entities to apply for a Water Abstraction License where the water source is limited to a natural water body: surface or groundwater. The South Central Region CAC should be included in any discussion on policy formulation on water use as it affects the region.

Lands and Surveys Department - The Land Utilization Act requires applications for subdivisions for the region, any demarcation of special development areas, and any allocation of land in the coastal region, this includes any construction on seabed. The South Central Region CAC should be included in any discussion on policy formulation on land as it affects the region.

Meat and Livestock Commission – The Meat and Livestock Act requires applications for the rearing, breeding, sale and exportation of meat and livestock for the region. The South Central Region CAC should be included in any discussion on policy formulation on the sale of meat and livestock as it affects the region.

Mining Unit, Ministry of Natural Resources & Agriculture – The Mines and Minerals Act requires applications for dredging, oil exploration and sand mining permits for the region. The South Central Region CAC should be included in any discussion on policy formulation on dredging and oil exploration as it affects the region.

Ministry of Health – The Public Health Act requires the Director of Health to make arrangements for health inspectors to enforce building and health standards for the region. The South Central Region CAC should be included in any discussion on policy formulation on public safety as it affects the region.

Ministry of Housing and Urban Development – The Ministry of Housing & Urban Development formulates policy for housing and human settlements. Its added function is to assist with the alleviation of poverty due to urban growth. The Ministry coordinates planning and development control functions through municipal bodies. The Ministry also provides the services of Planners, Building inspectors and Engineers to provide the required necessary assistance. In accordance with Section 6 of the Act, the South Central Region CAC can be delegated the powers and duties of the Central Housing and Planning Authority (CHPA) with regard to approving, with or without conditions, and prohibiting further development in the region as well as powers to serve prohibition notices. This delegation should be supported by the Solicitor General's Office or an Attorney at Law for the enforcement of the provisions of the Act.

National Emergency Management Organization – The National Emergency Management Act requires that sites be declared as vulnerable areas for the region and policy formulation on disaster management be effectuated. The South Central Region CAC should be included in any discussion on policy formulation on issues of national preparedness as it affects the region.

Pesticide Control Board – The Pesticide Control Act requires applications for the importation, manufacturing, sale and storage of restricted pesticides for the region. The South Central Region CAC should be included in any discussion on policy formulation on pesticide use as it affects the region.

Solid Waste Management Authority – The Solid Waste Management Act requires the Solid Waste Management Authority to make arrangements for garbage collection or the engagement of contractors for the region. The South Central Region CAC should be included in any discussion on policy formulation on garbage collection as it affects the region.

10.3 Checklist For Human Use/Development Of The Coastal Zone

DEVELOPMENT ACTIVITY/HUMAN USE	PONSIBLE AGENCIES
1. Coastal Agriculture **Governing Legislation/Policy:**	
Banana Industry Act	○ Banana Control Board ○ Banana Growers Association ○ Ministry of Agriculture
Belize Agricultural Health Authority Act	○ Belize Agricultural Health Authority
Citrus (Processing and Production) Act	○ Citrus Control Board ○ Citrus Growers Association ○ Ministry of Agriculture
Environmental Protection Act	○ Department of the Environment
Land Utilization Act	○ Land Utilization Authority ○ Ministry of Natural Resources
Meat and Livestock Act	○ Belize Livestock Producers Association ○ Belize Agricultural Health Authority ○ Ministry of Agriculture
Papaya Growers Association Act	○ Papaya Growers Association ○ Ministry of Agriculture
Pesticide Control Act	○ Pesticide Control Board ○ Ministry of Agriculture
Sugar Cane Industry (Control) Act	○ Belize Sugar Cane Board

DEVELOPMENT ACTIVITY/HUMAN USE	RESPONSIBLE AGENCIES
2. Coastal Aquaculture **Governing Legislation/Policy:**	
Fisheries Act National Aquaculture Policy (Draft)	○ Fisheries Department ○ Aquaculture Unit, Ministry of Agriculture
Environmental Protection Act	○ Department of the Environment
Belize Trade and Investment Promotion Service Act	○ Belize Trade and Investment

DEVELOPMENT ACTIVITY/HUMAN USE	RESPONSIBLE AGENCIES
3. Coastal Development **Governing Legislation/Policy:**	
Belize Building Act	○ Central Building Authority
Belize City Council Act	○ Belize City Council
Belize Trade and Investment Promotion Service Act	○ Belize Trade and Investment Development Services
Cayes Development Policy Coastal Zone Management Act	○ Coastal Zone Management Authority
Disaster Preparedness and Response Act	○ National Emergency Management Organization
Electricity Act	○ Belize Electricity Limited
Environmental Protection Act	○ Department of the Environment
Forest Subsidiary Act	○ Forest Department
Hotels and Tourist Accommodation Act	○ Belize Tourism Board
Housing and Town Planning Act	○ Ministry of Housing
Land Utilization Act	○ Land Utilization Authority
Mines and Minerals Act	○ Mining Unit, Ministry of Natural Resources
Private Works Construction Act	○ Ministry of Works and Transport

Public Health Act	○ Ministry of Health
Public Utilities Commission Act	○ Public Utilities Commission
Solid Waste Management Authority Act	○ Solid Waste Management Authority
Telecommunications Act	○ Belize Telemedia Limited
Town Councils Act	○ Town Councils
Trade Licensing Act	○ City/Town Councils
Water and Sewerage Act	○ Belize Water Services Limited
Water Industry Act	○ Hydrology Unit, Ministry of Natural Resources & Agriculture

DEVELOPMENT ACTIVITY/HUMAN USE	RESPONSIBLE AGENCIES
4. Conservation **Governing Legislation/Policy:**	
Fisheries Act	○ Fisheries Department
Forest Act	○ Forest Department
Private Forests (Conservation) Act	○ Forest Department
National Parks System Act	○ Ministry of Agriculture, Fisheries, Forestry, the Environemnt and Sustainable Development
National Protected Areas Policy and System Plan	○ National Protected Areas Secretariat
Wildlife Protection Act	○ Forest Department
Coastal Zone Management Act	○ Coastal Zone Management Authority

DEVELOPMENT ACTIVITY/HUMAN USE	RESPONSIBLE AGENCIES
5. Marine Dredging **Governing Legislation/Policy:**	
Mines and Minerals Act	○ Mining Unit, Ministry of Natural Resources
Dredging Policy	○ Mining Unit

Environmental Protection Act	○ Department of the Environment
DEVELOPMENT ACTIVITY/HUMAN USE	**RESPONSIBLE AGENCIES**
6. Fishing **Governing Legislation/Policy:** Fisheries Act	○ Fisheries Department
Coastal Zone Management Act	○ Coastal Zone Management Authority
DEVELOPMENT ACTIVITY/HUMAN USE	**RESPONSIBLE AGENCIES**
7. Marine Transportation **Governing Legislation/Policy:** Belize Port Authority Act Harbours and Merchant Shipping Act	○ Belize Port Authority
Private Works Construction Act	○ Ministry of Works and Transport
Customs Regulation Act	○ Belize Customs Department
Maritime Areas Act	○ Ministry of Foreign Affairs
Defence Act	○ Belize Defence Force
Immigration Act	○ Immigration Department
Dredging Policy	○ Mining Unit, Ministry of Natural Resources
Environmental Protection Act	○ Department of the Environment
DEVELOPMENT ACTIVITY/HUMAN USE	**RESPONSIBLE AGENCIES**
8. Marine Recreation **Governing Legislation/Policy:** Fisheries Act	○ Fisheries Department
Ancient Monuments and Antiquities Act	○ Archaeology Department
National Institute of Culture and History Act	○ National Institute of Culture and History
Belize Tourism Board Act	○ Belize Tourism Board
Public Health Act	○ Ministry of Health
DEVELOPMENT ACTIVITY/HUMAN USE	**RESPONSIBLE AGENCIES**
9. Oil Exploration **Governing Legislation/Policy:** Environmental Protection Act	○ Department of the Environment
Petroleum Act	○ Geology and Petroleum Department

10.4 Figures

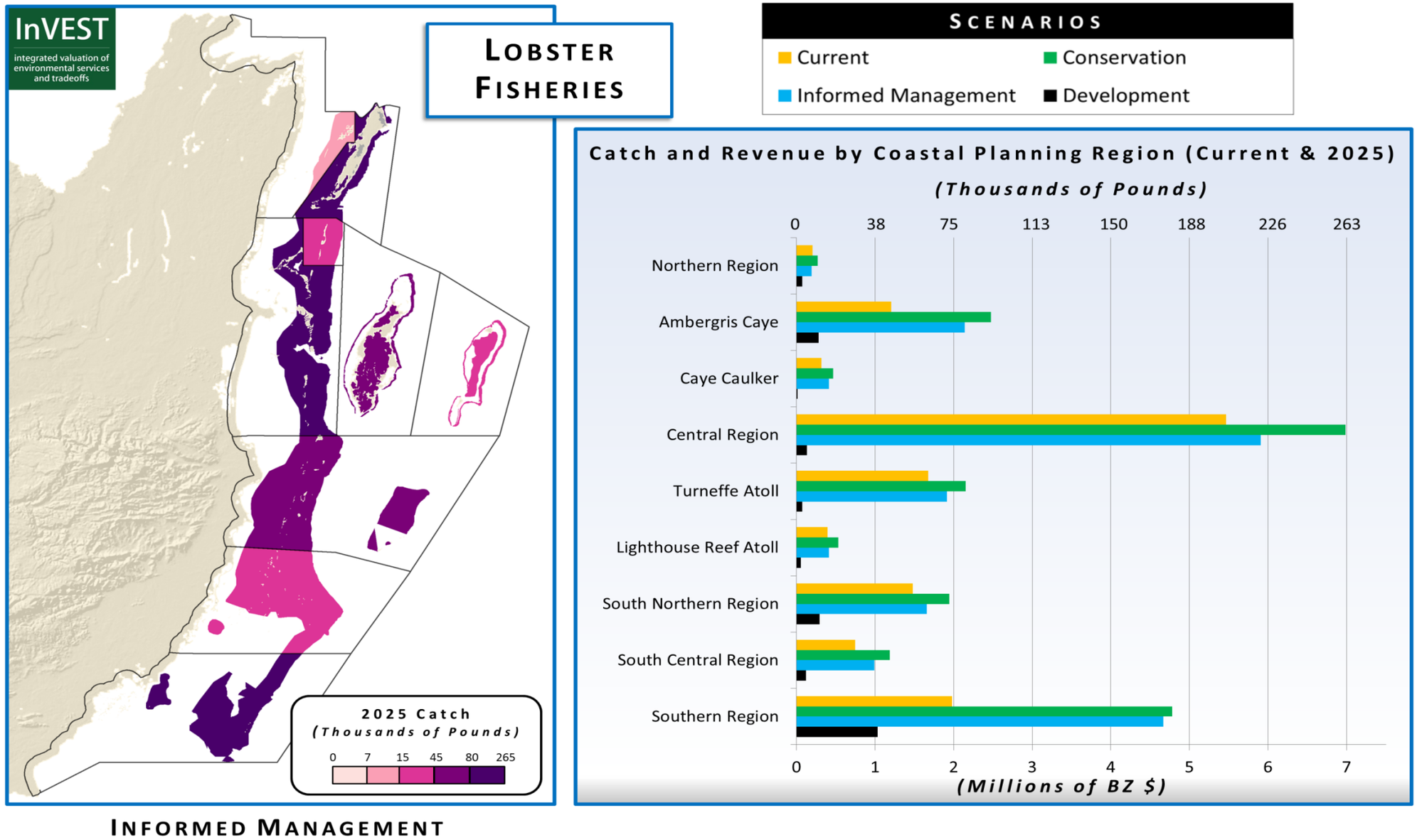


Figure 4: Lobster Fisheries Catch and Revenue by Scenario

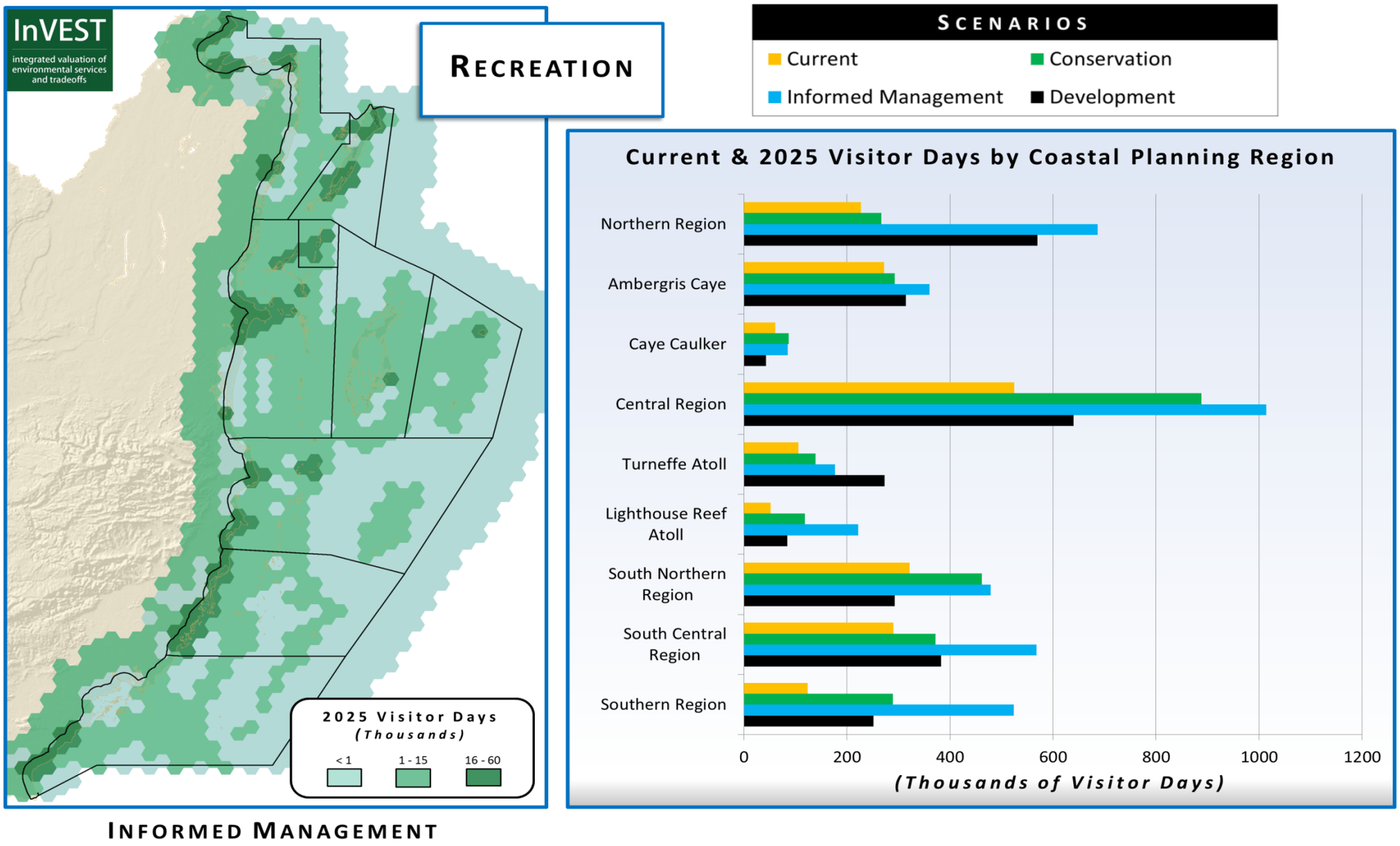


Figure 5: Annual Visitation for Marine Tourism and Recreation by Scenario

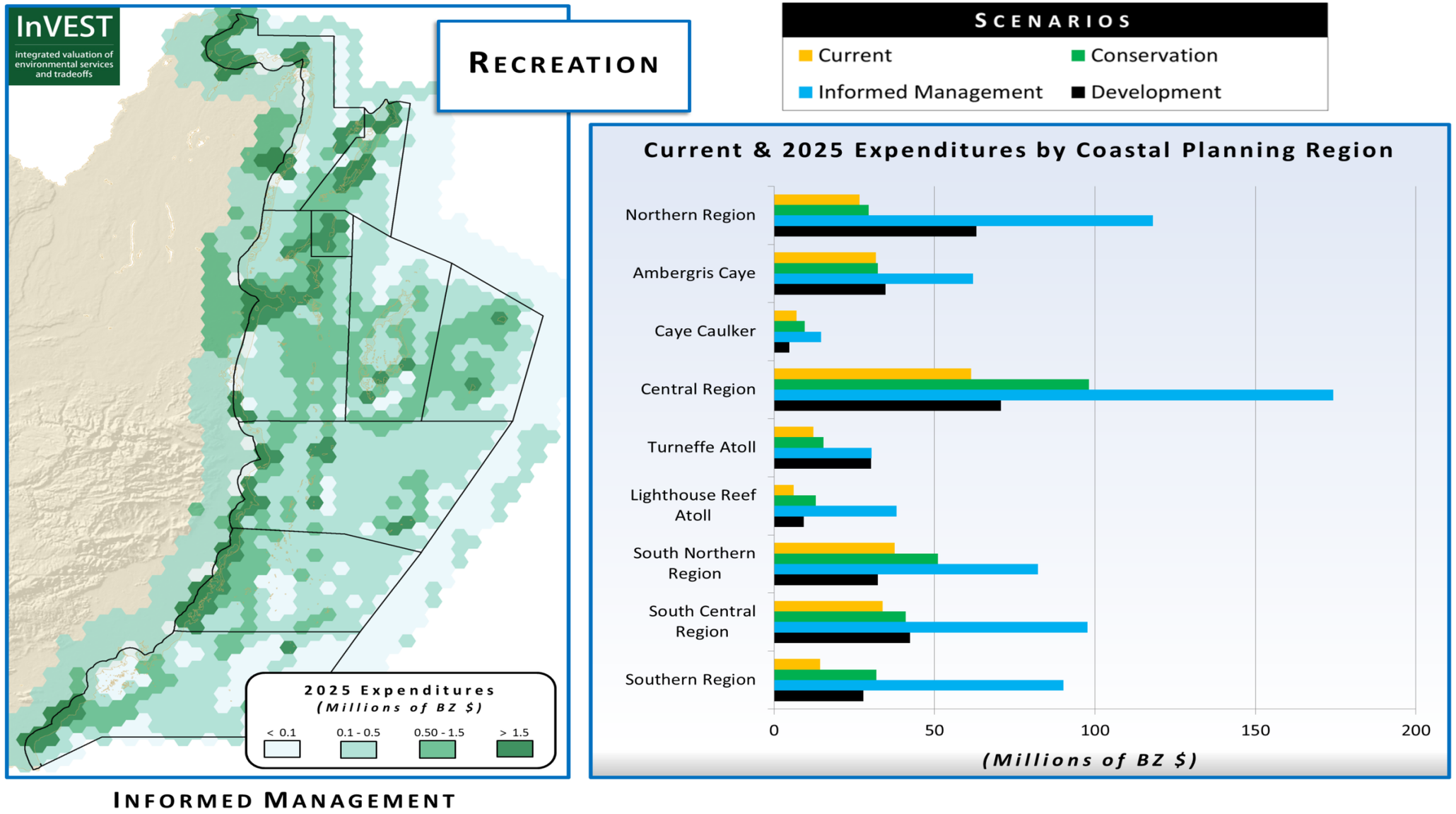


Figure 6: Annual Expenditures for Marine Tourism and Recreation by Scenario

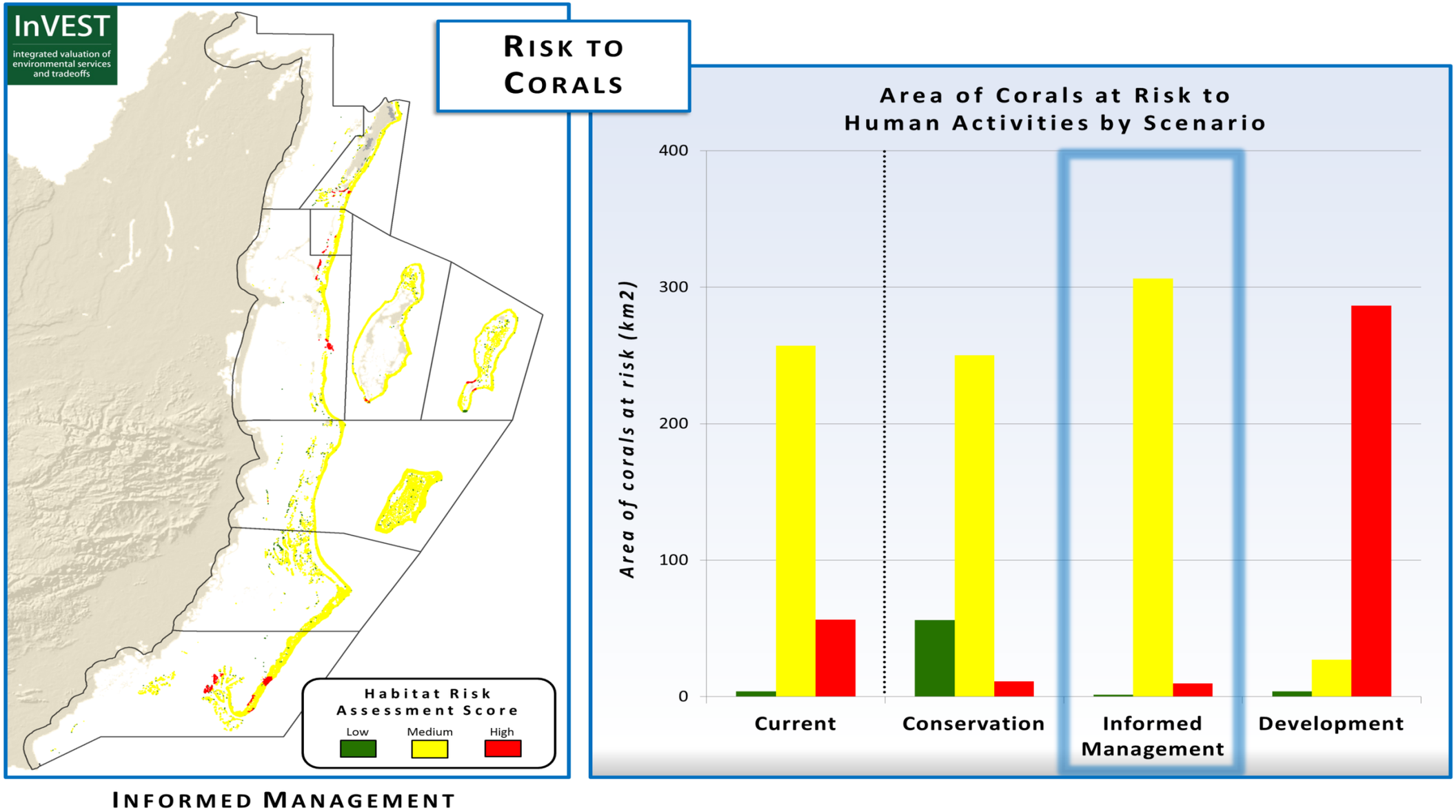


Figure 7: Area of Corals at Risk from Human Activities by Scenario

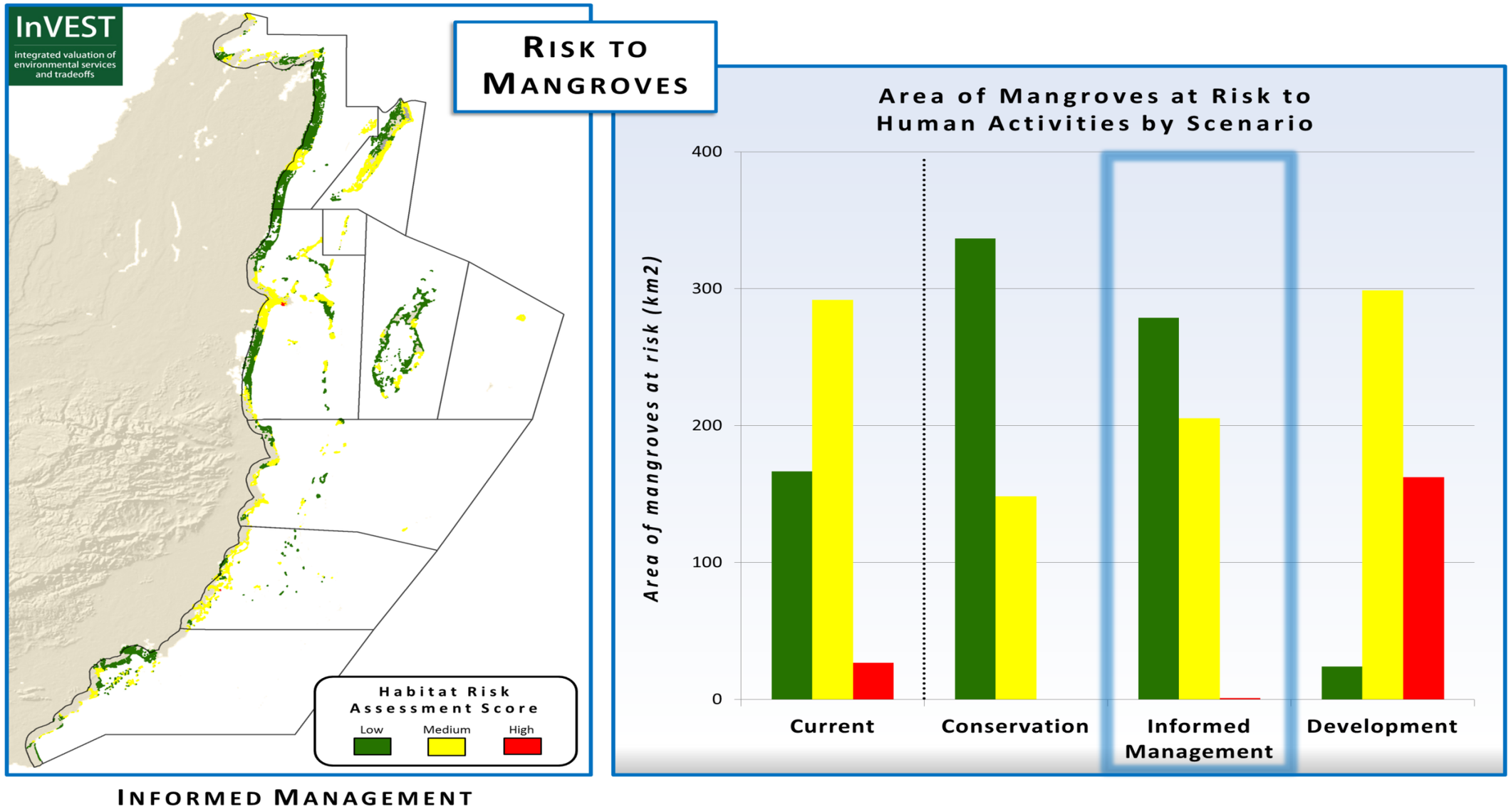


Figure 8: Area of Mangroves at Risk from Human Activities by Scenario

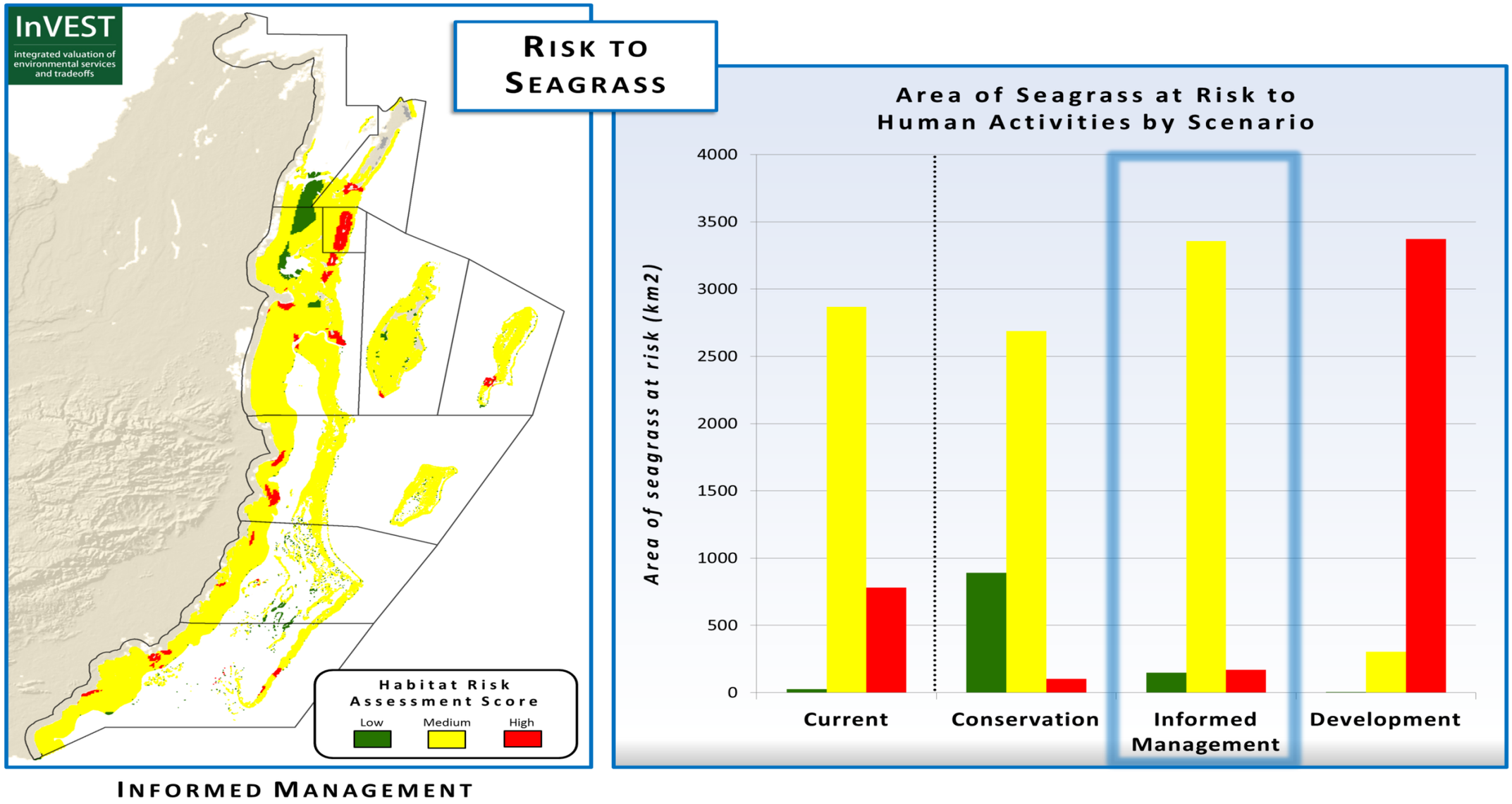
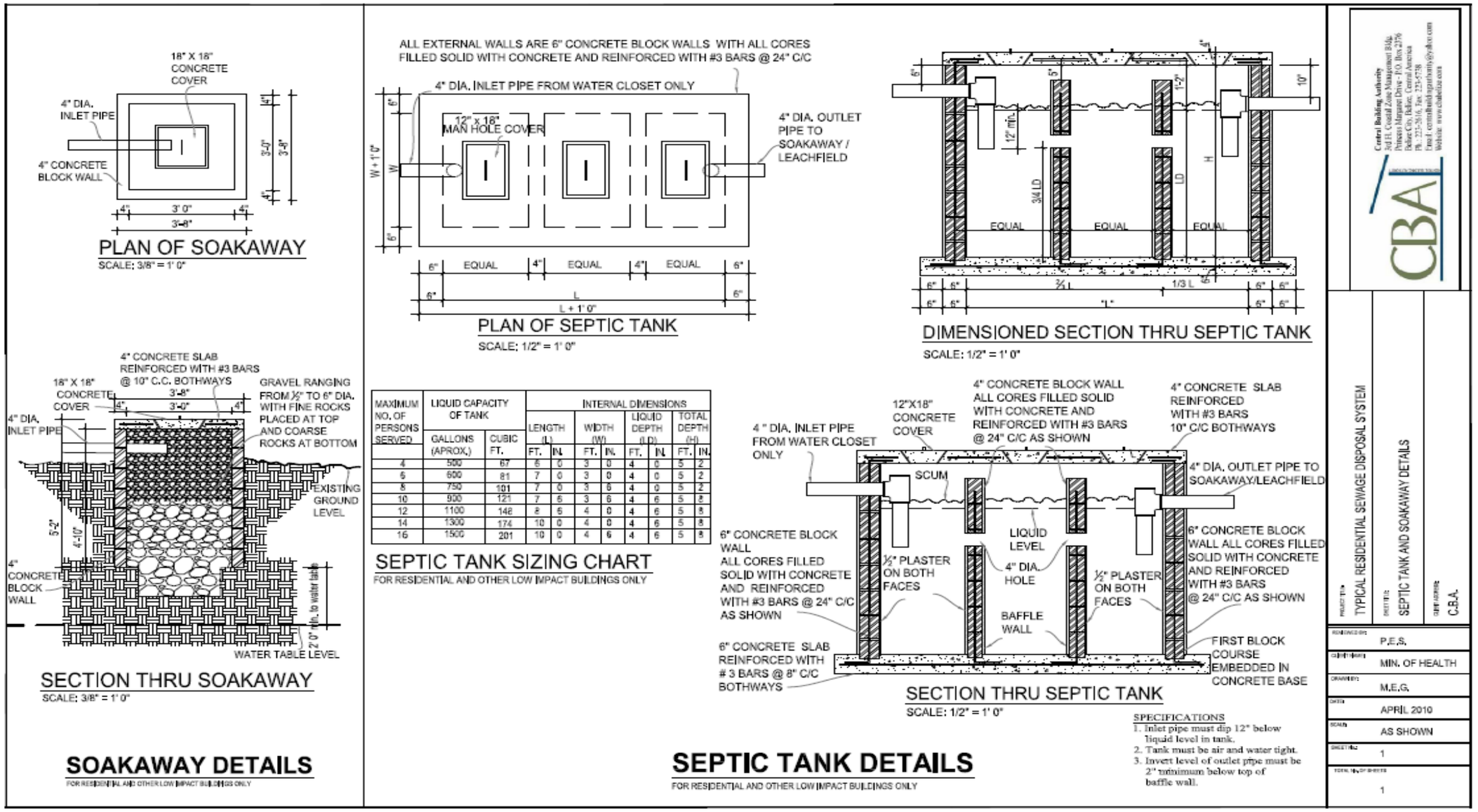


Figure 9: Area of Seagrass at Risk from Human Activities by Scenario



MAXIMUM NO. OF PERSONS SERVED	LIQUID CAPACITY OF TANK		INTERNAL DIMENSIONS							
			LENGTH (L)		WIDTH (W)		LIQUID DEPTH (LD)		TOTAL DEPTH (H)	
	GALLONS (APROX.)	CUBIC FT.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
4	500	67	5	0	3	0	4	0	5	2
6	600	81	7	0	3	0	4	0	5	2
8	750	101	7	0	3	6	4	0	5	2
10	900	121	7	6	3	6	4	6	5	8
12	1100	148	8	6	4	0	4	6	5	8
14	1300	174	10	0	4	0	4	6	5	8
16	1500	201	10	0	4	6	4	6	5	8

Figure 10: Septic Tank and Soakaway Details for Residential and Low-Impact Buildings