

TURNEFFE ATOLL DEVELOPER'S GUIDE



Turneffe Atoll Trust

November 2017

Table of Contents

Acronyms -----	3
Disclaimer -----	4
Introduction-----	5
Land Ownership at Turneffe Atoll-----	5
Why Manage Development?-----	6
A. Protecting the Tourism Value of Turneffe-----	6
B. Protecting Valuable Ecosystem Services-----	7
C. Improper Development is Avoidable-----	7
Principles of Sustainability-----	7
A. Principle of Sustainable Use -----	8
B. Integration Principle-----	8
C. Precautionary Principle-----	9
D. Inter-Generational Equity and Intra-Generational Equity -----	9
E. Conservation of Biological Diversity and Ecological Integrity-----	9
F. Internalization of External Environmental Costs-----	9
G. An Example of a Green Standard for Tourism-----	10
Entities Managing and Regulating Development at Turneffe-----	12
A. Fisheries Department -----	12
B. Turneffe Atoll Sustainability Association -----	12
C. Turneffe Atoll Trust-----	13
D. Department of Environment-----	14
E. Forest Department -----	15
F. Lands Department -----	15
G. Geology and Petroleum Department-----	15
H. Central Building Authority -----	16
Development Recommendations for Turneffe Atoll-----	16
Legal Framework-----	19
Environmental Regulations for Turneffe Atoll -----	23

A. Planning & Design	23
B. Construction	29
C. Operational Phase	33
National Plans and Policies	36
A. Growth and Sustainable Development Strategy.....	36
B. National Sustainable Tourism Master Plan	37
C. National Biodiversity Strategy and Action Plan	40

Figures, Charts and Tables:

Figure 1: The Green Globe Standard Criteria & Indicators.....	11
Figure 2: Typical Stages of Development and Relevant Laws.....	23
Chart 1: Green Globe Sustainability Indicators.....	11
Table 1: Legal Framework for TAMR.....	20

Acronyms

BTB	Belize Tourism Board
CAP	Chapter
CBA	Central Building Authority
CZMAI	Coastal Zone Management Authority and Institute
DOE	Department of the Environment
ECP	Environmental Compliance Plan
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act
ESD	Ecologically Sustainable Development
GSDS	Growth and Sustainable Development Strategy
INCAE	Instituto Centroamericano de Administración de Empresas
MTCA	Ministry of Tourism and Civil Aviation
NBSAP	National Biodiversity Strategy and Action Plan
NSTMP	National Sustainable Master Plan 2030
ODS	Ozone Depleting Substances
SI	Statutory Instrument
SWOT	Strengths, Weaknesses, Opportunities and Threats
TAMR	Turneffe Atoll Marine Reserve
TASA	Turneffe Atoll Sustainability Association
TAT	Turneffe Atoll Trust
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHS	World Heritage Site

Disclaimer

This document is intended to serve as a guide for developers and as such all efforts have been made to reflect accurately all relevant legislation in force in Belize in regards to development and environmental protection. Nonetheless, readers and users should consult the actual legislation for further details and guidance. The laws and regulations, guidelines and policies referred to in this document may be amended by the relevant authorities from time to time. As with all laws, they are subject to the interpretation of the Courts. Developers and other users of this guide should consult directly with each relevant government agency to ensure proper compliance with current rules and procedures.

Introduction

Development principles and guidelines for Turneffe Atoll have been evaluated repeatedly over the past three decades with comprehensive analyses done in 1996, 2003, and 2011; and most recently through the establishment of the Turneffe Atoll Marine Reserve (TAMR) in 2012 and the passage of the Integrated Coastal Zone Management Plan in 2016. These principles and guidelines have been developed through broad-based input from all Turneffe Atoll stakeholders, Belize's conservation community and all pertinent governmental agencies. There is considerable agreement and similarity in recommendations from these efforts.

Development at Turneffe Atoll is overseen and impacted by a number of governmental agencies, laws and regulations. Pertinent laws and regulations are scattered over a number of regulatory agencies, making it difficult for developers to be aware of all of them. This contributes to the challenges of full compliance. Of course developers have a responsibility to undertake their own due process but the institutional challenges are herein recognized.

This document is intended to serve as a concise resource that summarizes and organizes pertinent information to simplify the compliance process for developers. It is also intended to guide development activities at Turneffe Atoll to assist developers in fully complying with the law, carrying out their plans with appropriate regard for the integrity of the sensitive marine ecosystems and conducting their business in adherence to the principles of long-term sustainability.

Land Ownership at Turneffe Atoll

While the Turneffe Atoll is a matrix of national (publicly owned) and private lands, the entire area is a protected area and as such there are strict regulations that must be followed for all development regardless of property ownership. The seabed, for instance, is national land, and any construction including piers, marinas, and seawalls needs to be licensed by the Lands Department. Further, any mining, including beach sand mining or dredging, requires a license from the Geology and Petroleum Department.

Although there has been relatively little development at Turneffe Atoll to date, there are at least 190 private parcels, including several small cayes, at Turneffe with at least 19 additional properties surveyed but not yet recorded. Plots range from 0.12 to 285 ha (0.3 to 700 acres), with over 65% under 20 ha, and 53% under 5 ha.

The majority of owned and leased properties lie on the eastern sea-ward side of the Atoll. Large portions of Northern Caye, Blackbird Caye, Calabash Caye, Ropewalk Caye and Deadman's Caye are now under private ownership. This encompasses the majority of Turneffe's littoral forest that grows on the higher elevations along these cayes. Only a few of these properties have been developed at this time.

Five locations on Turneffe Atoll have been developed for tourism with a total acreage of approximately 200 acres. Additionally, four to five properties have been partially or fully developed for personal use with an estimated acreage of approximately 25 acres. Several small cayes located on Turneffe's back reef flats are privately owned, and several privately owned areas have been denoted by the Turneffe Atoll Coastal Advisory Committee as being "unique and special" areas.

Two lighthouses are located on Turneffe Atoll and these are managed by the Port Authority – one on Mauger Caye to the north (ARLHS BLZ-007) is manned, and the other on Caye Bokel to the south (ARLHS BLZ 001) is unmanned. The Belize Coast Guard also has a manned station on Calabash Caye.

There are approximately 30 fisher's camps scattered throughout the Atoll, many held as long-term leases rather than owned property. Belizean fishermen have fished the area for many years, and commercial fishing is regulated by the Fisheries Act and the Turneffe Atoll Marine Reserve (TAMR) Statutory Instrument (No 111 of 2012).

The TAMR is co-managed by the Turneffe Atoll Sustainability Association (TASA) in partnership with the Belize Fisheries Department. TASA has a station on Calabash Caye next to the Belize Coast Guard station and a smaller station on Mauger Caye to the North.

Why Manage Development?

Comprehensive management of development at Turneffe Atoll is necessary to preserve the substantial economic, social and environmental benefits that the Atoll provides for Belize. Without effective management of development at Turneffe, fishermen's livelihoods, the tourism industry, many jobs, and the protection of Belize City from extreme storms would be in jeopardy.

Protecting the Tourism Value of Turneffe

Any damage or degradation of Turneffe Atoll's reef, back reef flats, mangroves, corals, sea grass or water quality puts significant economic benefits related to Turneffe's tourism industry in jeopardy. Turneffe Atoll's tourism contributes considerably to the economy of Belize and this

economic benefit depends directly upon a healthy environment. World class scuba diving and sport fishing plus the unique and diverse wildlife of Turneffe Atoll, draw tourists from around the world and contribute approximately US\$36.9 million annually to Belize's economy.

The total economic impact of sport fishing for bonefish, permit and tarpon in Belize in 2007 was estimated to be \$56.5 million. Fishing activity associated with bonefish, permit and tarpon generated approximately \$30 million in wages and salaries and supported 1,864 full-time equivalent jobs in Belize in 2007. Total taxes paid to the Government of Belize by independent fishing guides and fishing lodges amounted to approximately \$2.3 million during 2007.

Direct expenditures from tourism activities on the Atoll combined with commercial fisheries benefits and storm protection benefits for Belize City collectively contribute approximately US\$62.3 million annually to Belize's economy. The overall annual economic contribution of Turneffe Atoll to Belize (including income and employment and taxes paid to the Government) exceeds US\$75.8 million.

Protecting Valuable Ecosystem Services

Turneffe Atoll possesses about 14.7% of Belize's 116,136 acres of coral reefs and 11.7% of the 237,094 acres of the country's mangrove forests. The annual value of Turneffe Atoll's storm protection related to its coral reefs and mangroves totals approximately US\$22.0 million and US\$16.2 million respectively. The mangrove forests on the Atoll are a major asset for Belize, particularly as it relates to the protection of Belize City.

Improper Development is Avoidable

In addition to protecting Belize City from storms, there are other important reasons for ensuring that mangroves and coral reefs remain intact. Turneffe Atoll's mangroves provide habitat for both local and migratory birds, as well as an essential nursery for juvenile fishes. The already declining commercial fishery would certainly be negatively affected by the loss of these habitats with resultant detriment to important commercial fishery species, namely conch, lobster and finfish. Degradation of these habitats at Turneffe Atoll would be costly to the Belizean economy and place the employment of Belizeans at risk. Development on the Atoll should ensure that environmental services are safeguarded and that social and economic benefits are secured through the development process.

Principles of Sustainability

All development activities are embedded within the environment in which they are constructed. As such, following the principles of sustainability is not just a matter of compliance

but a necessity. The original concept of sustainable development was defined in the United Nations Bruntland Commission report as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” The Bruntland report was published in 1987 in an effort to link the issues of economic development and environmental stability. The Belize Growth and Sustainable Development Strategy (GSDS) uses this very same definition.

Ecologically sustainable development (ESD), which emphasizes the necessary integration of economy and environment, involves a cluster of elements or principles. The six principles to note are:

1. *The principle of sustainable use;*
2. *The principle of integration;*
3. *The precautionary principle;*
4. *The inter-generational and intra-generational equity;*
5. *The conservation of biological diversity and ecological integrity, and*
6. *The internalization of external environmental costs.*

These sustainable development principles are explained below:

The Principle of Sustainable Use

- Natural resources should be used in a manner which is “sustainable” or “prudent” or “rational” or “wise” or “appropriate”.
- The concept of sustainability applies not merely to development but to the environment.
- Sustainable development has the objective of creating and maintaining prosperous social, economic and ecological systems.

The Principle of Integration

- Ecologically sustainable development requires the effective integration of economic, social and environmental considerations into decision-making processes.
- Ecological harm caused by economic development without regard to and at the cost of the environment can only be broken by integrating environmental concerns with economic goals.
- There must be mutual respect and reciprocity between economic and environmental considerations:
 - Environmental considerations are to be integrated into economic and other development plans, programs and projects, and;
 - Development needs are to be taken into account in applying environmental objectives.

- Economic development, social development and environmental protection are interdependent and mutually reinforcing pillars.

The Precautionary Principle

- Where there is uncertainty concerning the impacts of an activity, rather than assuming that human economic activities will proceed until and unless there is clear evidence that they are harmful, the precautionary principle supports action to anticipate and avert environmental harm in advance of, or without, a clear demonstration that such action is necessary. If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Inter-Generational Equity and Intra-Generational Equity

Inter-Generational Equity

- Requires the present generation to ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Intra-Generational Equity

- The use of natural resources by one sector within a country needs to take account of the needs of other sectors within the country.
- People within the present generation have equal rights to benefit from the use of natural resources and from the enjoyment of a clean and healthy environment.
- There must be environmental justice.

Conservation of Biological Diversity and Ecological Integrity

- Ecologically sustainable development mandates that the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making, including in the formulation, adoption and implementation of any economic and other development plan, program or project.
- Biological diversity means the diversity of life and comprises:
 - Genetic diversity (the variety of genes in any population);
 - Species diversity (the variety of species); and
 - Ecosystem diversity (the variety of communities and ecosystems).

Internalization of External Environmental Costs

- Ecologically sustainable development requires the internalization of environmental costs into decision-making for any economic and other development plan, program or project.

- The principle requires accounting for both the short-term and long-term external environmental costs.
- Internalization of environmental costs can be undertaken in a number of ways.
 - Environmental factors should be included in the valuation of assets and services.
 - The polluter pays principle should be adopted, i.e., those who generate pollution and waste should bear the costs of containment, avoidance or abatement.
 - The users of goods and services should pay prices based on the full life cycle of the costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste back into the environment.
 - Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximize benefits or minimize costs to develop their own solutions and responses to environmental problems.

An Example of a Green Standard for Tourism

Incorporating ecological sustainability need not be difficult or confusing. There are several organizations which evaluate and monitor the environmental, social and economic impacts for tourism developments. One such organization is the Green Globe.

The Green Globe Standards include a complete set of indicators for sustainability criteria, as well as certification policies and procedures. This standard provides a set of guiding principles for environmentally and economically sustainable development. Sustainable management and cultural heritage are also considered in the sustainability criteria indicators.

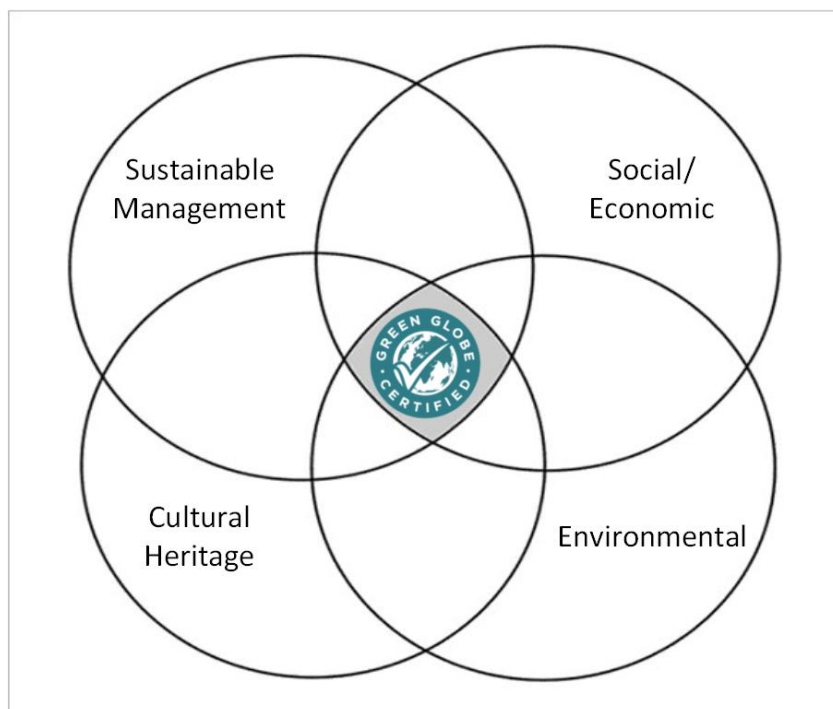


FIGURE 1: THE GREEN GLOBE STANDARD CRITERIA & INDICATORS

These four sets of indicators for each of these sustainability criteria are summarized in Chart 1.

Sustainable Management	Social/Economic
A.1 Implement a Sustainability Management System	B.1 Community Development
A.2 Legal Compliance	B.2 Local Employment
A.3 Employee Training	B.3 Fair Trade
A.4 Customer Satisfaction	B.4 Support Local Entrepreneurs
A.5 Accuracy of Promotional Materials	B.5 Respect Local Communities
A.6 Local Zoning, Design and Construction	B.6 Exploitation
A.7 Interpretation	B.7 Equitable Hiring
A.8 Communications Strategy	B.8 Employee Protection
A.9 Health and Safety	B.9 Basic Services
Cultural Heritage	Environmental
C.1 Code of Behaviour	D.1 Conserving Resources
C.2 Historical Artefacts	D.2 Reducing Pollution
C.3 Protection of Sites	D.3 Conserving Biodiversity, Ecosystems, and Landscapes
C.4 Incorporation of Culture	

CHART 1: GREEN GLOBE SUSTAINABILITY INDICATORS

Addressing these types of indicators will go a long way in ensuring that any development on Turneffe Atoll is sensitive and responsive to the need for long term sustainability.

Entities Managing and Regulating Development at Turneffe

Turneffe Atoll Marine Reserve (TAMR) was established by the Ministry of Forestry, Fisheries and Sustainable Development through Statutory Instruments 105 & 111 of 2012. TAMR encompasses the entire Turneffe Atoll extending into the deep waters surrounding the atoll on all sides. The Marine Reserve consists of four zones as follows: the General Use Zone, several Conservation Zones, two Special Management Areas, and one Preservation Zone. The Fisheries Department oversees the Turneffe Atoll Marine Reserve and the Reserve is managed through a Co-management Agreement between the Fisheries Department and Turneffe Atoll Sustainability Association, a non-governmental organization. A detailed management plan, which encompasses Natural Resource Management, Science, Education and Outreach, Infrastructure, and Administration, guides the management of TAMR.

Both government and non-governmental organizations are involved in managing TAMR, regulating development at TAMR, and supporting the management of TAMR. These entities are listed and described in this section.

Fisheries Department

The Ecosystem Management Unit of the Fisheries Department is responsible for overseeing the management of all marine reserves in Belize. The Fisheries Department also oversees environmental monitoring and research, review and approval of research applications, and tourism impact monitoring within marine reserves. As such, this Department is the government entity responsible for the management of the TAMR. The Fisheries Department reviews and approves the TAMR management plan. Once approved, the Management Plan becomes a legally binding document.

The Fisheries Department's responsibilities are programed into four units: the Ecosystem Management Unit, the Capture Fisheries Unit, the Conservation Compliance Unit, and Policy and Planning Unit. These units are responsible for conservation and sustainable use of fishery resources, registration and licenses, fisheries research, education, liaise with fishing cooperatives, management of marine reserves, fisheries law enforcement, export and research permits. The Fisheries Department regulates both the fishery and spawning aggregation sites and is responsible for enforcement of fisheries regulations.

Turneffe Atoll Sustainability Association

After the TAMR was declared in October 2013, the Ministry of Forestry, Fisheries and Sustainable Development designated TASA as the co-manager of the marine reserve. TASA is a

registered non-governmental organization whose primary goal is to promote the sustainable use and conservation of the marine ecosystems at TAMR through management of natural resources, education and outreach, and science for adaptive management.

TASA includes representation from stakeholder groups including (fishing, tourism and education/science) on its Board of Directors. The participation of stakeholders is vital for the sound management of the marine reserve. TASA is currently composed of thirteen (13) full time professional staff - 4 administrative staff and 9 Conservation Officers. TASA actively works with all the stakeholder groups, government organizations and partner NGOs focused on marine protected areas management in Belize. The organization also works very closely with members from six (6) communities that utilize the Turneffe Atoll Marine Reserve, namely: Copper Bank, Chunox, Sarteneja, San Pedro, Caye Caulker, and Belize City. TASA considers these communities the main beneficiaries of the TAMR. The organization's education and outreach program focuses on community visits and meetings to educate and share general and science information with all the communities. TASA also goes boat-to-boat on a regular basis to dialogue with fishers and tourism stakeholders.

TASA has established two Conservation posts, the headquarters on Calabash Caye and a station on Mauger Caye, from which their operations and enforcement team conducts daily patrols, monitoring, enforcement, and education and outreach. TASA also supports science partners in collecting relevant data on species of commercial interest and data on ecosystem status.¹ TASA has developed a Science Committee to advise its Board.

TASA's management efforts at the Marine Reserve are guided by the TAMR Management Plan with particular focus on Natural Resource Management, which includes fisheries management and enforcement, science, education and outreach, infrastructure, and administration.

Turneffe Atoll Trust

Turneffe Atoll Trust is a non-governmental organization established in 2002 to support the sustainable management of the Turneffe Atoll. TAT's mission is to "drive conservation efforts at Turneffe Atoll leading to sustainable environmental, social and economic benefits for Turneffe and Belize and serving as a model for similar coastal marine environments throughout the world."

Between 2010 and 2012, TAT led efforts to declare Turneffe Atoll as a marine protected area. TAT works closely with TAMR and TASA and also operates a number of independent programs related to the sustainable development at Turneffe including a Conservation Oversight Program and its Land Conservation Program.

¹ Source: TASA

TAT's Conservation oversight program does the following:

- Communicates with permitting agencies to obtain early information about development applications at Turneffe and ensures that applications are properly processed;
- Ensures that stakeholders are notified early in the process and given adequate time to respond to development applications;
- Provides important environmental and engineering information for permitting agencies to assist them in their decision making processes;
- Sees that all developments meet the environmental standards and legal requirement of Belize, including legal intervention when necessary;
- Vigorously monitors all development at Turneffe to see that Environmental Compliance Plans are closely followed; and
- Ensures that development at Turneffe Atoll is consistent with the principles of the Turneffe Atoll Marine Reserve and the long-term environmental, economic and social sustainability of Turneffe Atoll and Belize.

Through its Land conservation program, TAT:

- Maintains current ownership data for the entire Atoll;
- Prioritizes key areas needing protection based upon their conservation value;
- Builds relationships with Atoll landowners and identify landowners willing to work with TAT to conserve the Atoll; and
- Raises funds to purchase and protect the key Turneffe Atoll properties.

Additionally, TAT supports the sustainable use of Turneffe through a variety of programs. Current research is focused on a baseline analyses of queen conch (*Strombus gigas*) and the Caribbean spiny lobster (*Panulirus argus*). This information is essential for decision makers to make informed decisions about management of these fisheries resources. TAT is additionally involved with a variety of projects related to stakeholder support, reef health, lionfish management and climate change issues bearing on Turneffe.

Department of Environment

The Department of the Environment (DOE) regulates all development activities at Turneffe Atoll. The functions of the DOE are mandated under the Environmental Protection Act (EPA) (1992) and subsequent amendments. The Act aims to ensure that development initiatives within Belize are planned for minimum environmental impact. The Environmental Impact Assessment Regulations (SI 24 of 2007) of the EPA designates Schedule 1 projects which automatically requires an EIA. Per this law, “any proposed development project, undertaking or activity within any protected area (terrestrial or marine)” is a Schedule 1 Project, which

automatically requires an EIA. Thus **all development activity at Turneffe Atoll requires an Environmental Impact Assessment before it can proceed.** Among other things, the EIA regulations require the DOE to respond to human impacts on the reef, boat groundings and fuel spills.

An approved EIA results in the production of an Environmental Compliance Plan by the DOE. The ECP sets environmental standards and guides all environmental aspects for development.

Forest Department

The Forest Department is responsible for the enforcement of mangrove legislation and protection of wildlife, such as the vulnerable West Indian manatee and the American crocodile.

The Forest (Protection of Mangrove) Regulations (SI 52 of 1989, under revision) provide for the protection of mangroves², with restrictions on mangrove alteration and/or clearance. Before granting a permit for mangrove alteration, Belize law requires the Forest Department to consider whether the project will adversely affect the conservation of the area's wildlife, water flow, erosion and marine productivity, and to find either 'that the proposed alteration will not significantly lower or change water quality' or that the degradation of water quality is in the "larger and long-term interest of the people of Belize". Clearing or alteration of mangroves on Turneffe Atoll can therefore be conducted only with the approval of the Forest Department.

The Forest Department also has the authority to declare a Public Reserve to protect parts of cayes (including associated lagoons where relevant) in recognition of conservation importance or wildlife protection.

Lands & Surveys Department and the Registry Department

The **Lands and Surveys Department** is responsible for all national lands in Belize and the department's primary functions are: a) management and allocation of national lands, and b) authentication of plans for all legal surveys. The department is organized into National Estate, Survey and Mapping sections. The **Registry Department** provides security of land ownership and expedites the granting of leases and titles for private land in both declared and undeclared areas throughout Belize. Private Land in Belize which are: (a) Undeclared Land or (b) Declared Land. A Ministers Fiat Grant is issued for ownership in undeclared areas and a Land Certificate is issued for ownership in declared areas. There are currently 111 registrations sections in Belize and Turneffe Atoll is currently an undeclared area.

² The proposed revised Mangrove Regulations, when enacted, will include the following provisions: a) establishing higher fees for application to clear mangroves and requiring permit to clear mangroves; b) prohibiting further clearance of mangroves on public land and allowing not more than 50% clearance on private land; and c) requiring security bond as insurance in case private land owners break these conditions.

Natural Resources Department

This department is responsible for mining activities, issuance of water abstraction licenses, subdivision of lands, the issuance of pier/dock licenses and the issuance of licenses for any use of the seabed. These functions are delivered through the **Mining Unit**, the **Physical Planning Section** and the **Hydrology Unit** at the Department of Natural Resources. This Natural Resources Department therefore oversees activities such as dredging and all dredging activity requires a permit prior to initiation. It also regulates drilling of wells, subdivision of land and the construction of piers, docks or other uses of the seabed, which must be approved prior any project initiation.

Central Building Authority

The Central Building Authority (CBA) is mandated by the Belize Building Act 2003 which is an act to control building operations in the interest of public health and safety. The CBA performs the following functions:

- Plan review and no-objections to building permit applications;
- Site inspections;
- Issue permits for moveable buildings;
- Review and provide no-objection to reports on the safety of public buildings;
- Inspect buildings, and if found to be dangerous, recommend for demolition;
- Develop new, and enforce existing building regulations; and
- Provide guidance and information, among other functions.³

All building plans must be submitted to the Central Building Authority for approval before any construction can begin on the Turneffe Atoll.

Development Recommendations for Turneffe Atoll

Over the past 25 years, several Turneffe Atoll-focused reports have made recommendations about how development should be carried out at the Atoll. In developing the Integrated Coastal Zone Management Plan, the Coastal Zone Management Authority and Institute (CZMAI) 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 were prepared for nine coastal planning regions which were

³ Source: CBA website

demarcated based on commonalities, geographic definition and regional characteristics. The Integrated Coastal Zone Management (ICZM) Plan lays out policies for managing all aspects of the coastal zone. The aims of this Plan are twofold: (i) to focus on management activities that are already being undertaken, ensuring these are integrated; and (ii) to highlight additional activities and actions that could be undertaken to help meet the challenge of ensuring a sustainable future.

The CZMAI “Cayes Development Guidelines⁴” include guidelines for Turneffe Atoll. The original guidelines for Turneffe identify ninety four (94) “development sites” and specify the type of land use, lot size, building density, means of utility supply and other relevant performance standards for each site. For instance, these guidelines stipulate that the height of buildings permitted on the islands can only go up to twenty eight (28) feet or two floors maximum.

Under the Integrated Coastal Zone Management Plan guidelines, the long-term objective for sustainable tourism development within the reef system, including Turneffe Atoll, is to limit growth, allowing for only necessary improvements and small enlargements for existing homes, resorts, lodges and other tourism facilities. Preservation of the reef system, marine habitats and ecosystem is to be the primary concern when assessing the need to make improvements of those existing facilities.

Specifically, the guidelines for tourism recommend the following:

- a) Promote low-impact, environmentally-sensitive, nature-based tourism with care to avoid practices that destroy Turneffe Atoll’s sensitive and valuable habitats;
- b) Avoid high-impact, environmentally-destructive tourism development;

Further, the guidelines recommend that all tourism facilities should meet the Belize Tourism Board’s minimum standards, including disaster preparedness and evacuation plans; and also meet the “Tourism and Recreation Best Practices Guidelines for Coastal Areas in Belize” prepared by the CZMAI.

The guidelines point out that dredging is in conflict with all of the management objectives for Turneffe Atoll. The guidelines state that no dredging, sand mining, or land filling, with the exception of limited hand dredging around docks, should be allowed at Turneffe without: 1) a comprehensive Environmental Impact Assessment which includes a vetting process involving relevant stakeholders, and 2) compliance with the guidelines.

The guidelines further stipulate that “in consideration of the objectives of these guidelines which include sustainability of commercial fishing sector and support of low-impact, nature-

⁴ These guidelines can be obtained from the Coastal Zone Management Authority & Institute in Belize City.

based tourism, development should be confined to areas naturally supportive of such development. Additionally, land without feasible access should not be developed and only minimal manual dredging for boat access should be allowed⁵.”

In order to ensure protection of corals, mangroves and seagrass, the guidelines state that:

- a) Clearing of vegetation should be kept to a minimum and valuable littoral forest should be identified with GPS coordinates, clearly mapped and zoned for protection.
- b) Preservation of seagrass beds should be a priority in all management decisions at Turneffe Atoll.
- c) Due to the economic and ecological importance of Turneffe’s fringe reef, patch reef and back-reef flats, management of Turneffe Atoll should ensure that the integrity and health of these areas is carefully protected.

Given that tourism is one of the main activities on Turneffe Atoll, the guidelines identify the provision of utilities as having potential impact on the ecology of the area. To address this, the guidelines state that:

- a) Tourism and residential developments should be required to provide detailed plans about how they will provide adequate fresh water which will not degrade natural fresh water resources used by wildlife.
- b) Rainwater collection, recycling of gray water, and other water preservation methods, should be utilized as much as possible.
- c) Maximal use of solar and wind power is recommended, yet it is recognized that some fuel based power will be necessary.

These Guidelines recommend that power requirements should be minimized to the extent possible through the use of power-saving measures and other efficiencies.

The guidelines note that transportation and storage of fossil fuels present risks of serious contamination, and that adequate policies and procedures for these activities should be required and approved for all residential and tourism developments. The guidelines stipulate that fuel related contaminants must be disposed of responsibly and all tourism and residential development proposals should include responsible plans for these processes.

For pollution control, the guidelines highlight the fragile nature of the atolls and as such underground septic tanks and soak-aways are not recommended as a means of handling liquid wastes. Furthermore, the “Cayes Development Guidelines” recommend the use of above-ground septic tanks with drain fields in several of the development sites. In 2010, the CBA

⁵ Turneffe Atoll Management Guidelines, CZMAI, 2013. pg. 78

produced detailed specifications for the construction of soak-aways and septic tanks for residential and other low-impact buildings. The CZMAI recommends that developers must consult with the CBA on standards for the construction of above-ground septic tanks with drain fields.

The guidelines further stipulate that:

- a) For tourism and residential developments, solid waste from toilets should be treated by means of an earth tub or similar type technology with the resulting compost used in landscaping. Open septic tanks should not be permitted for tourism or residential facilities and closed septic tank/drain-field systems should be permitted only with pre-approval from the Department of the Environment and Central Building Authority.
- b) Gray water should be recycled and reused as much as possible.
- c) Food waste from tourism and residential properties should be composted and used on-site as fertilizer.
- d) All hazardous waste, including batteries, tires, propellant cans and petroleum-based products, should be properly stored to avoid contamination and transported to the mainland for final disposal.
- e) Metal containers should be used for incinerating burnable inorganic waste, although such incineration should be done in a manner that is not a nuisance to neighbours. Large-scale resorts (yet to be defined) should be required to utilize incinerators for these purposes.
- f) There are no basic health care facilities on the atoll, and as such the guidelines stipulate that all residents should be prepared to provide at least basic medical care and resorts are encouraged to provide assistance to the wider community when needed.

The guidelines described above all form part of the Turneffe Atoll Coastal Zone Management Guidelines which in turn form part of the Belize Integrated Coastal Zone Management Plan developed by the CZMAI. The Plan has been approved by CZMAI's Board of Directors and passed by Parliament by affirmative resolution, and **is now official government policy**. As such, there is an expectation of adherence to these guidelines by both public and private entities.

Legal Framework

There are various laws and regulations that have a direct bearing on development activities on the Turneffe Atoll. The following table lists the existing pieces of legislation that have broad application to the TAMR.

TABLE 1: LEGAL FRAMEWORK FOR TAMR

Legislation/Statutory Instruments	Description	Relevant Provisions
Fisheries Act	Passed in 1948, revised in 1983, and is currently being overhauled (2011). It is administered under the Fisheries Department and is the principal governing legislation to regulate the fishing industry.	<ul style="list-style-type: none"> • Directly concerned with maintaining sustainable fish stocks and protecting the marine and freshwater environments including spawning aggregation sites. • Provides protection for marine turtles and nest sites. • Requires that artisanal fishers and fishing vessels are licensed annually for commercial purposes.
Sport Fishing Regulations (SI 114 and 115 of 2009)	Whilst the regulations are legislated under the Fisheries Act, the issuing of Sport Fishing licenses falls under the Coastal Zone Management Authority and Institute.	<ul style="list-style-type: none"> • Established to manage the economically important sport fishing species in Belize, and more specifically to address the management and protection of the three major sport fish in Belize - bonefish, tarpon & permit.
Environmental Protection Act (1992)	Was developed through the Department of the Environment to ensure that development initiatives within Belize are planned for minimum environmental impact.	<ul style="list-style-type: none"> • Outlines the steps in managing development of the Atoll.
Environmental Impact Assessment Regulations (SI 107 of 1995, SI 24 of 2007), SI 05 of 2009)	Requires an EIA for all development within protected areas including the Turneffe Atoll Marine Reserve.	<ul style="list-style-type: none"> • An accepted EIA results in the production of an Environmental Compliance Plan by the DOE which is then monitored by the DOE. • Requires the DOE to respond to human impacts on the reef, such as pollution, boat groundings and fuel spills. • Requires an EIA for “any proposed development project, undertaking or activity within any protected area (terrestrial or marine)”. • Provides a mechanism for assessment of damage from boat

		groundings, based on the area impacted.
Forest (Protection of Mangrove) Regulations (SI 52 of 1989, under revision)	Provides for the protection of mangroves, with restrictions on mangrove alteration and/or clearance.	<ul style="list-style-type: none"> • Before granting a permit for mangrove alteration, Belize law requires the Forest Department to consider whether the project will adversely affect the conservation of the area's wildlife, water flow, erosion and values of marine productivity, and to find either 'that the proposed alteration will not significantly lower or change water quality' or that the degradation of water quality is in the "larger and long-term interest of the people of Belize".⁶
Wildlife Protection Act (SI 12 of 1982, revised 2000)	Falls under the Forest Department	<ul style="list-style-type: none"> • Provides protection for West Indian manatee, whales and dolphins, with the prohibition of hunting and commercial extraction.
Mines and Minerals Act (1989)	Administered by the Mining Unit in the Department of Natural Resources. Requires that permits be obtained for mineral extracting activities.	<ul style="list-style-type: none"> • Permits and regulates mining activities, which include dredging. • Regulates the exploration and extraction of all mineral resources.
Petroleum Act (1991)	Administered by the Department of Petroleum (Ministry of Economic Development, Petroleum, Investment, Trade and Commerce)	<ul style="list-style-type: none"> • Regulates the exploration and extraction of petroleum. • Regulates oil prospecting and drilling which, if conducted in the adjacent seascape, have the potential to impact the Atoll⁷.
Belize Port Authority Act, 1976; revised, 2003	The Port Authority inspects and licenses all boats in Belize and is mandated to ensure the	<ul style="list-style-type: none"> • Port Authority maintains two lighthouses at Turneffe Atoll (Dog Flea Caye to the north and Caye Bokel to the south).

⁶ Chapter 213, Section 5.5, Belize's Forest Act

⁷ A permanent moratorium on offshore oil exploration has been presented in the House of Representatives at the writing of this document.

	safety of navigational channels through the installation of navigational aids and installation and maintenance of demarcation buoys.	<ul style="list-style-type: none"> • It also registers and monitors all marine vessels, establishes navigational channels and is responsible for the removal of boats from the reef, when groundings occur.
--	--	--

A series of legislated regulations under the Fisheries Department provide a mechanism for management of commercial marine resources, as do Statutory Instrument 161 of 2003 and Statutory Instrument 49 of 2009.

Turneffe Atoll Marine Reserve was established via Statutory Instrument No. 111 of 2012, which regulates activities and establishes development regulations within the TAMR. Several “prohibitions within the reserve” are stipulated in Statutory Instrument No. 111 of 2012 as follows.

Section 6 (3):

A person shall not engage in any activity which may cause negative environmental impact on species, habitats or ecosystems without written approval from the Fisheries Administrator.

Section 25:

A person shall not --

- (a) remove from its place or disturb any species of flora or fauna, including rocks, dead corals, shells or sand unless authorized to do so in accordance with these Regulations;
- (b) have in his possession any flora or fauna, unless authorized to do so in accordance with these Regulations;
- (c) discharge or deposit any toxic material, garbage or litter in the reserve;
- (d) mark or tamper with any sign, buoy or notice which is installed within the reserve.

Section 27:

A person who contravenes these Regulations commits an offence and is liable on summary conviction to the penalty specified in section 15 of the Fisheries Act.

Statutory Instrument 111 of 2012 also regulates the following activities within the Reserve: a) the use of long lines, seine nets or gill nets in the Reserve; b) engaging in commercial fishing, sport fishing or recreational fishing within the reserve; c) casting or dragging an anchor; d) engaging in water-skiing or jet-skiing; and e) using beach traps or fish traps.

Environmental Regulations in Force at Turneffe Atoll

Compliance with development and environmental regulations are obligatory and any proponent of a development activity on Turneffe Atoll must be aware of these regulations. These regulations may change from time to time so it is important that the developers obtain the most recent regulations.

The applicable laws and regulations for Turneffe Atoll have been grouped here based on the typical stages of a development project, a) Physical Planning and Design, b) Implementation and Construction, and c) Operation.

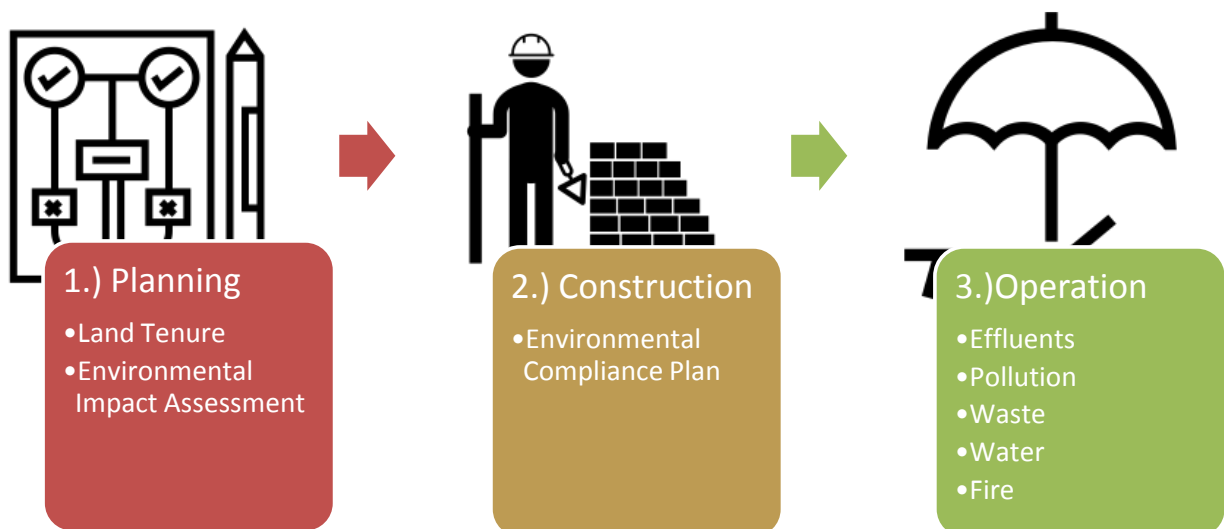


FIGURE 2: TYPICAL STAGES OF DEVELOPMENT AND RELEVANT LAWS

Planning & Design

At several points in the development process developers are required to document the status of their land ownership. A description of the National Lands Act is presented to create a better understanding of how and under what conditions lands in Belize and Turneffe are held.

Land Tenure

National Lands Act (Cap. 191 Rev. Ed. 2003)

This Act is designed to establish a framework for the management of National Lands. The National Lands Act applies to all lands (other than Reserved Forest) not already “located” or granted, including any lands acquired by or ceded to the Crown. They are classified as town, suburban, rural, mineral lands and beach islands. The Act is administered by the Commissioner of Lands and Surveys on behalf of the Minister of Natural Resources. Applications to purchase National Land, supported by statements of intended use and plans for development, must be sent to the commissioner. The Minister may approve an outright land grant, conditional title, or lease (usually the latter is first instance), on such terms and conditions of occupancy (including stipulations as to cultivation) and at such rates or prices as he deems fit.

In the case of leased land, title is not usually given before the expiry of two years in the case of Belizeans or three in the case of aliens. Non-fulfilment of the conditions (particularly regarding development and profitable occupation) of either leased or titled land can lead to cancellation in the case of the first or re-possession by the Government in the case of the latter.

Under Section 2 of the Act, “national lands” are defined as meaning all lands and seabed, other than reserved forest within the meaning of the Forest Act, including cayes and parts thereof not already located or granted, and includes any land which has been, or may become escheated⁸ to or otherwise acquired by the Government of Belize. Under Section 5(2), the Minister appoints an Advisory Committee to advise him generally on matters relating to land administration. In addition, under Section 5 (3), the Minister may appoint local committees to assist him in the consideration of applications for leases of National Lands and matters connected with land distribution.

Under the Act, National Lands (except as provided by Section 6) shall not be disposed of except on the advice of the National Lands Advisory Committee. Section 6 allows the Minister to exempt from sale and dispensing of in such manner as may seem best in the public interest such lands that may be required for reserves, public roads and other public purposes. All reserves shall be notified in three successive issues of *The Gazette* and one issue of a local newspaper and set forth on plans in the office of the commissioner.

The National Lands Act (No. 6 of 1992) was amended by the National Lands (Amendment) Act, No. 10 of 2001, to provide for the issuing of enforcement notices and cessation orders in the administration of the Act and to regulate the manner in which title to an estate in national lands may vest in an alien (Section 43 to 58). **An enforcement notice may be served where there is thought to be non-compliance with frontage lines, high watermark boundaries, the term and conditions of a grant, lease or license or contravention of the Act.** Such notice may

⁸ Escheat is a common law doctrine that transfers the property of a person who died without heirs to the crown or state. It serves to ensure that property is not left in "limbo" without recognized ownership

be served on the proprietor, lessee, occupier or other interested person to be materially affected and must state the breach alleged, the matters constituting the breach and the steps to be taken to remedy the breach including the time within which to do so. The notice may require among other things, the suspension or cancellation of any license, lease or permit or grant, the cessation of any activity or thing, specification of compliance measures, the alteration or removal of any building or waste and the expulsion of squatters. Section 42 (1) sets out the ways in which enforcement notices may be varied or withdrawn. The attendant responsibilities and the effect of such withdrawal or variation, including that further notices are not precluded. Section 43 (1) makes provisions for appeals against such orders to be lodged at the Supreme Court and the relevant grounds. The Act makes it clear that even where an appeal is lodged the notice remains in effect until the determination of the matter or withdrawal of the appeal. Penalties for non-compliance with enforcement notices range from a maximum fine of five thousand dollars and or up to five years imprisonment and a further fine of five thousand dollars per day for each day of non-compliance following conviction (Section 45). Section 46 deals with **cessation orders for failure to conduct an environmental impact assessment and sets out the similarly serious penalties for non-compliance with such orders.**

Section 47 to 56 defines alien and makes provisions prohibiting aliens from holding national lands without a license from the Minister. The terms, conditions and procedures for the granting, issuing, recording, altering, amending, extension and cancellation of licenses and provisions for appeal are contained in sections 52. Sections 53 through 56 deal with the holding, transfer and forfeiture of land and shares as it relates to aliens and sets out associated offences and penalties.

Land Utilization Act (Cap. 188)

The Land Utilization Act requires that approval be obtained from the Government of Belize, before any parcel of land is subdivided. Any purported subdivision in breach of the Act is void and of no effect (Section 7). In addition, any person who contravenes the provisions of the Act is liable for a fine of \$1,000. The Act was amended in 1990 by the Land Utilization (Amendment) Act (No. 5 of 1990) to extend the scope of the Act to cover urban land. Thus, the Act applies to both urban land and land outside urban areas. The Act provides for measures to govern the use and development of land and to introduce measures for conservation of land and watersheds.

The Belize Building Act, 2003 (No. 7 of 2003)

The Belize Building Act, 2003 (No. 7 of 2003) has as its main purpose, “to control building operations in the interest of public health and safety and to enable the introduction of regulations prescribing standards related to the use of material and methods of construction.” The provisions of the Act apply to the construction of any building or structure in Belize.

The Act also establishes the Central Building Authority to administer the provisions of the Act. **The Director of Building Control signs and issues all building permits and enforcement notices. All applications for building permits must be accompanied by drawings, descriptions, calculations and specifications as the Director may require.** Applications for approval typically entails a site plan, floor plan, elevations, cross sections, electrical plan and structural engineering drawings.

Building and planning permission can be obtained at the same time. However, there may be instances in which a planning permission must first be acquired before an application for building permission is made. It must be noted that the subdivision of private property is governed by the Land Utilization Act. The granting of planning approval does not automatically authorize construction.

Any person who contravenes any provision of the Belize Building Act, commits an offence and shall on summary conviction be liable to a fine of not less than 1% and not more than 5% of the estimated construction value. In the case of a continuing offence a further fine not exceeding one hundred Belize dollars for every day during which the offence is continued after a date set by the Court for the contravention to be corrected.

Environmental Impact Assessment

Environmental Protection Act (CAP. 328 Rev. Ed. 2003) and Environmental Impact Assessment Regulations

Section 20 (1) of the Environmental Protection Act (EPA), states that every person (natural and artificial) intending to undertake any project, programme or activity which may significantly affect the environment is required to ensure that an Environmental Impact Assessment (EIA) is carried out by a suitably qualified person as defined in the Regulation (24 of 2007) and shall submit the same to the Department for evaluation. It is important to note that, **because the Turneffe Atoll is a marine reserve, an EIA is automatically required for all development** based on SI 24 of 2007. This provision was further confirmed by the National Protected Areas System Act of 2015.

Section 5 of the Environmental Protection Act describes the minimal contents that an environmental impact assessment must address. These are issues that are considered of critical importance in dealing with implications of development on the environment, and as such, must be included in all environmental assessments. The Act applies to both Government sponsored and private sector projects and activities, both large and small scale.

Section 20 (2) spells out the requirement that the EIA must indicate the effects of the proposed activity on human beings, fauna and flora, soil, water, air and climatic conditions. It must also consider material assets including cultural heritage, natural and other relevant factors. Section 20 (3) requires that developers include in their EIA measures for mitigating the adverse of effects of their development. **The proposed developer is required to consult with the public and other interested bodies or organizations.**

Any person who fails to carry out the EIA as set out either in the Act or Regulations commits an offence and is liable to a fine not less than fifty thousand Belize dollars (\$50,000.00) and not exceeding one hundred thousand Belize dollars (\$100,000.00) or to imprisonment for a term not exceeding two years or to both such fine and imprisonment.

The **Environmental Impact Assessment (Amendment) Regulations No. 24 of 2007** makes provisions for the development of an Environmental Compliance Plan (ECP). **The ECP is a legally binding document** that is developed by the DOE and sets out the environmental conditions, guidelines, policies and restrictions which must be agreed to by the developer for project approval. When the developer signs an ECP, payment of an environmental monitoring fee becomes due. Proceeding without environmental clearance and without signing an ECP carries penalties ranging from five thousand Belize dollars (\$5,000) to twenty five thousand Belize dollars (\$25,000) and or a term of imprisonment up to a maximum of two years. The DOE may require, among other things, a performance bond or guarantee at an appropriate level to secure compliance with terms and conditions of the ECP.

Persons submitting EIA's are required to publish a notice approved by the DOE in at least two widely circulated newspapers for two consecutive weeks.

Coastal Zone Management Authority Act (CAP. 329) Rev. Ed. 2000

Under section 5 (1), Coastal Zone Management Authority Act (Act #5 of 1998 the main functions of the Authority include (i) to advise Government in matters related to development and use of resources in the coastal zone in an orderly and sustainable manner; (ii) formulation of policies on coastal zone management; (iii) development of a coastal zone management plan and its revision as needed; (iv) commission monitoring and research of coastal areas; (v) promote public awareness and (vi) prepare guidelines for developers.

With the recent approval of the Integrated Coastal Zone Management Plan, it would be prudent to enlist this institution's review and evaluation of proposals for all development but particularly for clearing of mangroves, dredging piers, berthing and marina facilities

Fisheries Act (Cap. 210) Rev. Ed. 2000

In accordance with Section 14 of the Fisheries Act Cap. 210 Rev. Ed. 2000, the Minister may declare any area within the fishing limits of Belize and as appropriate any adjacent surrounding land, to be a marine reserve. An area declared a marine reserve, as in the case of the Turneffe Atoll Marine Reserve, **prohibits any person from damaging, destroying, removing any species of flora or fauna and from disturbing the natural beauty of such area or do any other act which may be prohibited by the specific Statutory Instrument (SI 111 of 2012) declaring a marine reserve.** A license for these activities must be obtained from the Fisheries Administrator.

National Protected Areas System Act, No. 17, 2015

The National Protected Areas System Act repeals and replaces the National Park Systems Act Cap. 215 Rev. Ed. 200. The Act requires the management of all protected areas, such as Turneffe, to be done in accordance with the management plan developed for it. The Act also empowers the Minister to make rules in relation to protected landscapes or seascapes.

Environmental Protection (Effluent Limitations) Regulations (S.I. No. 94 of 1995) and (Amendment S.I. 102 of 2009)

Effluent standards for Belize (guidelines and recommendations) are codified in S.I. No. 94 of 1995. The definition of effluent as per the Act means sewage or industrial effluent. Industrial effluent means liquid water or waste water produced by reasons of the process taking place at any industrial or commercial premises and includes the discharge of domestic waste water. Section 3 of the regulations applies to discharges of effluent into any inland waters or the marine environment. The regulations of Section 8 prohibit persons from carrying out any work without permission on any premise that may result in a new source of effluent discharge or cause a material change in the quantity or quality of the discharge from an existing source. An application to discharge effluent must be completed and submitted to the DOE with payment of relevant fees. If approved by the DOE, a license will be issued and a yearly fee of five hundred Belize dollars (\$500) is charged. Because Turneffe is a Marine Protected Area, these parameters will be spelled out in the required Environmental Compliance Plan.

The regulation stipulates that any person who discharges effluent into any inland waters, the marine environment or onto any land shall in the connection with such discharge install such sampling test point or points, inspection chambers, flow meters and other recording apparatus from time to time. Penalties for a guilty conviction under the regulations is a fine not exceeding twenty thousand Belize dollars (\$20,000) or imprisonment for a term not more than five years or both.

Pollution Regulations (S.I. No. 56 of 1996 and amendment of 2009)

The Pollution Regulations address the issues of air, water and soil and noise pollution. Part III – 6 (1) of the regulations deals generally with the emission of contaminants into the air where no person shall cause, allow or permit contaminants to be emitted or discharged either directly or indirectly into the air from any source. Regulation 31 of the Pollution Regulations (1996) provides that a person shall not pollute the land so that the condition of the land is so changed as to be capable of making the land noxious or harmful to animals. Regulation 32 provides that no person shall cause any seepage or leaching contamination of the adjacent soil, groundwater or surface water. Regulation 33 empowers DOE to issue directions to persons operating a site for the elimination of waste or a solid waste treatment plant and disposal system. Regulation 35 prohibits the deposition of waste in a place other than a site approved by DOE for the storage or elimination of waste or operation of a waste treatment plant or waste management system.

Under this regulation the DOE has established several licensing requirements for the prevention of pollution which include permits for the imports of Ozone Depleting Substances (ODS), lead acid batteries, and used tires.

Wildlife Protection Act SI 220/2000

The Wildlife Protection Act seeks to control hunting, research, and trade of wildlife. It protects many species from hunting, killing, and harassment Part II (a). **Many coastal and marine species are protected under this Act and includes two species of crocodiles, the Antillean manatee, all birds with exception of six species, whales, dolphins, and the Caribbean monk seal.** The Act prohibits the hunting of endangered species such as cetaceans, freshwater turtles and crocodiles.

The Forest Act Cap. 213, Revised Edition 2000 & Forests (Mangrove Regulations) Reg. SI No. 52 Of 1989

The Forest Act provides for the protection and conservation of all mangrove forests on both private and national lands. Any alterations require an evaluation and a permit by the Forestry Department. The protection of all mangroves fall under this Act via the Forest (Protection of Mangrove) Regulations. Mangrove clearance may be permitted under this legislation. A permit to clear mangroves can only be issued after a multi-agency assessment is conducted. This Act also includes for the establishment of Forest Reserves which may include mangroves, littoral forests and water bodies.

Construction

Implementation of the Environmental Compliance Plan

Upon completion and acceptance of an Environmental Impact Assessment (EIA) by the DOE, the DOE will develop and issue an Environmental Compliance Plan (ECP) which the developer is required to sign. The ECP is a legally binding document with which the developer is required to comply.

While the ECP will stipulate all mitigating actions that the developer is required to take, developers should also be aware of the following laws and regulations which must also be followed.

Forest (Protection of Mangroves) Act (Cap. 213)

Under the Forest (Protection of Mangroves) Regulations 1989⁹, all mangroves are protected and every person must apply to the Forest Department for a permit to alter any mangroves. The Regulations prohibit any “alteration” (which includes cutting and defoliating, but does not include “selective trimming”) of mangroves on any land except with a permit (Reg. 4). Alterations which involve dredging or filling of an area with mangroves can be authorized only in “exceptional circumstances” (Reg. 4 (2)). The regulations require that a number of factors are considered before a permit is issued. These include “the proximity of the proposed project to coastal and reef areas known to be of outstandingly high ecological value” (Reg. 5(2) (i)), and existing or proposed plans by GOB such as barrier reef regional management and development plans (reg. 5 (4) (c)). Applications for mangrove clearance permits must be published in a local newspaper by the Department (reg. 4 (5)).

Policy Regarding Clearance of Mangroves

According to the DOE’s Guide for Developers, 2011, “mangroves in their natural state already provide Belize and its people with a number of benefits and are generally best left in their natural state.” (pg. 213).

Possible exceptions for mangrove clearing

Development might be permitted in cases where it meets one or more of the following criteria:

- A development project must require access to the water for its practical operation.
- It must be small scale, especially if on the cayes.
- There must be no alternative location for the development away from mangrove areas.
- The development must have clear and substantial national economic and social benefits and not just be for private gain.

⁹ The Mangrove Regulations is under revision during the preparation of this document in 2017.

- Clearance may also be allowed where measures can be taken to reduce impacts to an acceptable level, by leaving protective buffers along waterways, for example and various other similar steps.

Private Works Construction Act, Cap 337, Rev. Ed. 2003

The construction of any “wharf, bridge, pier, bathing or kraal or other erection whatever upon, and to enclose, stake in or fill up land on the shore of the sea or bank of any river in any part of Belize other than Belize city”, is required to first obtain a license or permission of the Minister of Natural Resources and the Minister may grant such license or permission subject to conditions or limitations. According to the Private Works Construction Act, “every license granted under this Act shall be prepared at the applicant’s own cost and charge and shall be submitted to the Minister for approval, and after the granting of it shall, by or at the direction of the applicant, be recorded in the General Registry before such applicant does or commences to do or causes to be done or commenced any act or thing...”

Every person who, without a license or permission granted under section 2 of the Act, proceeds to construct commits an offence and is liable to a fine not exceeding one hundred thousand dollars for each offence. In such an event, the Minister is authorized to have any wharf, bridge, pier, bathing or other kraal or erection constructed without such license be removed and at the expense of the person offending.

Mines and Minerals Act (Cap. 226)

The Mines and Minerals Act, and associated Regulations, governs the extraction of any non-renewable resource except for petroleum. These regulations include the Mines and Minerals (General) Regulations, and the Mines and the Minerals (Safety, Health and Environmental) Regulations.

The Mines and Minerals Act and the associated Regulations are administered by the Mining Unit of the Natural Resources Department. The type of Mineral Right permit required is dependent on the nature of the activities to be undertaken and the scale of the requested activities. The most common types of Mineral Rights are:

- Quarry Permits (extraction of material below 16, 000 cubic yards); registered or unregistered
- Mining Licenses (extraction of materials greater than 16, 000 cubic yards)
- Prospecting Licenses, both Exclusive and Non-exclusive
- Reconnaissance Licenses.

Detailed procedures regarding mining operations are contained in the Mining Regulations CAP 226S, Subsidiary Laws Rev. Ed. 2003, which include dredging. The regulations require that licensees preserve and protect the natural environment by undertaking appropriate measures. For a dredging permit to be issued, the applicant must submit a complete application form, a map of the area, proof of ownership or interest in the surface rights, a mining or quarry plan inclusive of the type of equipment and method of extraction and a survey plan of the areas to be mined or dredged. Other relevant permits such as a permit for land reclamation and/or land creation, mangrove alteration, a seawall and/or pier permit, an environmental clearance plan and any other relevant permits must be obtained prior to obtaining a Mining Permit. Personnel from relevant government agencies shall visit the quarry site to carry out mandatory inspections prior to commencement of and during extraction. When dredging along and within the Belize Barrier Reef, sedimentation curtains are mandatory.

National Institute of Culture and History (Cap. 331)

Any person involved in land development and/or research should pay careful regard to the provisions of the National Institute of Culture and History Act. NICH mandates the Institute of Archaeology to protect, preserve and record Belize's cultural and archaeological heritage. The Act further authorizes the Institute of Archaeology with the responsibility of ensuring that no development, regardless of size, wilfully destroys any cultural features of significance to the country of Belize.

Under Part VI Section 33 of the Act:

- "ancient monument" means any structure or building erected by a man or any natural feature transformed or worked by man or the remains of or any part thereof, whether upon any land or in any stream, river, water course or under the territorial waters, that has been existent for 100 years or more.
- "antiquity" means any article manufactured or worked by man, whether of stone, pottery, metal, wood, glass or any other substance or any part thereof; the manufacture or workmanship of which belongs to the Maya civilization, being of an age of one hundred years or more; or the manufacture or workmanship of which belongs to a civilization other than the Maya civilization, being an article, which is of an age of one hundred years or more.

By section 45 any person who finds any ancient monument or antiquity, he shall within 14 days of such finding report the details of the finding to the Director. Section 62 (1) prohibits any person from wilfully damaging, destroying or disturbing any ancient monument or wilfully removing any antiquity from any ancient monument or destroys any such antiquity.

Section 63 is of particular significance to developers. Under Section 63 (1) the director may direct any land owner, lessee, concessionaire, contractor or any other person who is about to engage in any operation which in the opinion of the Director is liable to destroy, damage, interfere with or otherwise be to the detriment of any ancient monument of antiquity:

- not to proceed with any operation until the Director shall have had an archaeological exploration and survey carried out; and
- to take or to refrain or desist from taking any such action as part of the operation as the Director may decide to be fair and reasonable for the proper protection of the ancient monument or antiquity.

Solid Waste Management Authority Act Cap. 224 Rev. Ed. 2000

The Solid Waste Management Authority has broad powers to manage the collection and disposal of waste. **The Act requires that contractors remove and dispose of all construction waste material resulting from new construction or other works on or at any premises.** In the event a contractor fails to remove construction waste material when required to do so by the Authority, the Authority may remove such materials at the expense of the contractor. “Construction waste material” under the Act includes building materials from construction, alteration and remodelling buildings or structure of any kind, such as lumber, concrete, steel, roofing, etc.

Operational Phase

Developments must not only comply with the law during planning and construction but also during operation. There are several laws and regulations that all developments must comply with. The following describes some of the more pertinent environmental laws and regulations to be followed during the operation of a development.

Pesticides Control (Amendment) Act, 2002

The Pesticides Control (Amendment) Act amends the Pesticides Control Act Chapter 216 (2000); better classifies pesticides for administrative purposes – ‘general use pesticides’ & ‘restricted use pesticides’; and allows for making of regulations providing for codes of practice for the safe handling of pesticides. It is recommended that the use and application of pesticides on Turneffe Atoll is strongly discouraged given the sensitive ecosystems of the Atoll.

Belize Water Industry Act No.1 of 2001

The Water Industry Act repeals the Water and Sewerage Act, Chapter 185 of 1971 Laws of Belize. Chapter one of the Act deals with controlling disposal of wastes generated from sewer treatment. The Act makes new provisions with respect to the supply and control of water and sewerage services in Belize. **The Water Industry Act also establishes the responsibility of private entities to provide facilities for the final disposal of sewerage taking into consideration Chapter 36 of the Environmental Protection Act 1 of 2001.**

National Integrated Water Resources Act, 2010

This Act was passed in keeping with the long term vision of sustainable use and management of natural resources as expressed in the National Integrated Water Resources Management Policy developed by the Government (2008). This policy was required based on diminishing water resources which are threatened by increasing demand, reduced supply, and destructive actions of the populace, as well natural or climatic events. It is anticipated that climate change will accelerate the decline of freshwater inventory and also affect water quality.

The National Integrated Water Resource Act, vests the ownership, control and licensing of all water rights in the government of Belize, with the exception of rainwater in cisterns for personal use. The Act deals with administration of water resources and makes provisions for the management, control and allocation of Belize's water resources. It also addresses issues of water quality control and establishes a statutory body, the National Integrated Water Resource Authority. The Authority's core functions are the control, conservation and proper use of water resources. The Authority is to work in conjunction with, and not in replacement of, companies licensed by the Public Utilities Commission. The Authority is charged with the compilation, storage and dissemination of data concerning water resources, planning in accordance with the Master Plan and the Water Quality Control Plan, allocation of water resources, protection and control of water resources, provision of technical assistance to government departments on projects relating to the development, conservation and use of water resources. The Authority's role is also to raise public awareness of the importance of wise use of water resources. Incidental to its core functions are all matters related to the management, protection, conservation and use of water.

Section 16 of the National Integrated Water Resource Act requires that a license be obtained for the abstraction, augmentation, distribution and use of water resources or the construction or alteration of works for abstraction of water. The application process is set out as are conditions of licensing, modification of licenses and provisions for the enforcement of compliance. Licensees are required to comply with the Water Policy of the Government with respect to water abstraction and prescribed standards. Licensees must, among other things, keep a hydrometric scheme for obtaining, recording and analysing rainfall, evaporation of water and the flow volume in and out of waters. Licensees must also conduct periodic water

consumption surveys, prepare estimates of future demands and prepare and carry out plans for more efficient management of water in Belize.

Licenses are not required for abstraction of water for domestic use or agricultural use (not including flood irrigation) or any other purpose which may be exempted by the Authority.

One of the requirements for licensing is that the applicant must obtain certification from the Department of the Environment as to whether the licensee will, or is likely to, discharge effluents. This certification must be attached to the application.

Public Health Act (Cap. 40)

Under the Public Health Act, health officers are vested with powers to inspect water and sewerage works. **The Chief Medical Officer is empowered to carry out inquiries into public health matters and may permit authorized persons to enter buildings to carry out such enquiries.** Part II of the Act deals with construction of buildings and privies. The Chief Medical Officer is further authorized to remove, alter or pull down any work begun or completed in contravention of health regulations. All building plans are to be deposited with the Chief Medical Officer.

The Act also contains provisions regulating and requiring privy accommodation for dwelling houses, regulating lavatories, wash houses, and swimming pools, and the cleaning of unwholesome latrines. The Public Health (Amendment) Act empowers the Minister to make regulations to prevent, control or reduce pollution or contamination of the air, soil or water of Belize. **There are substantial penalties for the violation of the regulations under the provisions of the Act.** Any person who contravenes the Act is subject to a fine of ten thousand Belize dollars (\$10,000) or six months imprisonment, and one thousand Belize dollars (\$1,000) per day for a continuing violation as long as the violation continues.

The **Removal of Refuse By-Laws (S.R. and O. No. 39 of 1939)** are now under the Public Health Act. By-Law 2 requires the occupier of each premises to provide himself with a suitable receptacle for containing household refuse. The Public Health Officer is given wide regulatory powers in regard to the collection of garbage.

Fire (Negligent Use) Act (Cap. 117)

Under the Act, an occupier of land who sets fire to land or negligently, carelessly or improperly uses or manages fire in or upon his land commits an offence. The Act defines "occupier" as the person having immediate charge of land or place. The occupier is also liable for the setting or negligent, careless or improper uses of fire on his land. Criminal liability also arises where the occupier or any person uses or carries any pipe, cigarette or any lighted matter which is not sufficiently protected to cause damage to land, forest, wood, trees, plants, buildings or vehicles.

Fisheries (Turneffe Atoll Marine Reserve) Regulations, S.I. 111 of 2012

All activities on Turneffe Atoll are subject to the Marine Reserve Regulations. These regulations prohibit certain activities within the reserve including, but not limited to, any activity which may cause negative impact on species, habitats or ecosystems. Specifically, extractive fishing is prohibited within designated conservation zones, although catch and release fishing is permitted. Only traditional users, as determined by the Fisheries Administrator, are permitted to pursue extractive fishing in Zone 3 of the reserve. There are additional specific prohibitions within the general use, conservation and preservation zones of the reserve.

Visitors and boat operators are required to comply with visitation requirements including obtaining required permits and making payments of required fees. Sport and recreational fishers are required to obtain a fishing license. The regulations also prohibit anyone from removing or disturbing any species of flora or fauna, including rocks, dead corals, shells or sand unless authorized to do so. Any person who contravenes the regulations are subject to penalties specified in Section 15 of the Fisheries Act upon summary conviction.

National Plans and Policies

Several national Master Plans should be taken into full consideration by all developers. These Master Plans provide a vision for the management and use of Belize's natural resources, and, by extension, act as guidelines for development. These plans include: a) the Growth and Sustainable Development Strategy (GSDS), b) the National Sustainable Tourism Master Plan (NSTMP), and c) the National Biodiversity Strategy and Action Plan (NBSAP). These are discussed in more detail below.

Growth and Sustainable Development Strategy

The Growth and Sustainable Development Strategy (GSDS) 2016-2019 is Belize's primary development planning document. It provides detailed guidance on priorities and on specific actions to be taken, including actions that contribute to longer term development objectives beyond 2019. The GSDS encompasses issues covered by previous medium-term economic development plans; and it incorporates, for the first time, both poverty reduction and long-term sustainable development issues. It builds on previous documents including the Horizon 2030: National Development Framework for Belize 2010-2030.

The GSDS indicates that the development of the tourism industry will be guided by the NSTMP. A key proposal by the GSDS is as follows:

“Action 33: Foster inclusive growth in the development of the tourism industry.”

The GSDS states: “In pursuing tourism development, special care will be taken to ensure that the sector pursues an inclusive growth pathway. Efforts will be made to attract investors in hotel plants where the “all inclusive” hotel model will not be pursued, in order to spread the economic benefits of tourism more broadly to surrounding communities.”¹⁰

Under the section on protected areas, the GSDS lists the following special issues and implementation priorities to be addressed:

- a) Strengthening enforcement to reduce haphazard and unplanned coastal development; and
- b) Highlighting the social and economic benefits of protected areas and integrating consideration of these benefits — as well as valuations (as available and appropriate) — into national development planning decisions.

National Sustainable Tourism Master Plan

As part of the development of the National Sustainable Tourism Master Plan (NSTMP), an environmental assessment of each district was undertaken to identify measures for safeguarding of natural assets of Belize. Relevant gaps at the district level were identified. Turneffe Atoll was not specifically addressed but several coastal areas such as Belize City, Placencia and Punta Gorda, as well as the northern islands (Ambergris Caye and Caye Caulker), were included in the assessment.

Concerns identified for these areas are relevant to Turneffe Atoll including the following:

- a) The improper disposal of solid waste can have negative impacts to the surrounding Caribbean Sea and the recreational waters of [Turneffe Atoll]. Many substances in common domestic waste have the potential to negatively affect the environment because of their chemical properties.
- b) Dredging on the windward coast is supposedly severely restricted because of the potential impacts this activity has on the reef system, but it continues to be a huge problem. Beach erosion, although a natural phenomenon, has accelerated in recent times and is attributable to numerous causes —mainly those of man’s activities in various forms such as the clearance of mangroves, the reclamation of land from the sea, seawalls, the construction of piers, and the dredging of sand offshore, all of which affect the littoral drift and the consequent shift and deposition of sand.
- c) Despite the significant importance that mangroves have on the environment, they are rapidly being cleared to make way for new mega-developments. Sea walls are often put up in their absence, in an attempt to prevent erosion, but with little effect.

¹⁰ Growth and Sustainable Development Strategy (2016-2019), Ministry of Economic Development, GOB

- d) A UNESCO report raised special concern on several sites within the Belize Barrier Reef System World Heritage Site stating that some of these sites are “poorly protected and that there is no clear recognition and understanding of the management implications”. The Belize World Heritage Site (WHS) has been placed on the list of World Heritage in Danger since 2009.
- e) Coastal development is not presently guided by any zoning plan or master plan.
- f) Waste water discharge and the potential for pollution of the recreational waters is a major issue to be considered as part of the future development of the area.
- g) Beach erosion as a result of coastal structures and developments is a major issue to consider.
- h) Another area of concern is the mass visitation of cruise ship tourist to reefs, protected areas and other sites perhaps surpassing the carrying capacities of several of these sites. A study conducted by the Instituto Centroamericano de Administración de Empresas (INCAE) provides indications of environmental damage by cruise tourism, especially to the marine areas visited.
- i) Offshore oil exploration is an area of concern with the potential devastating impacts an oil spill could have on Belize’s very sensitive marine ecosystem, as well as its tourism and fishing industries.¹¹

The NSTMP project also conducted a SWOT analysis as part of a Diagnostic of the Tourism Sector in Belize. The main conclusions obtained from this diagnostic are summarized as follows:

*Belize as a tourism destination has a wide range of strengths that should be promoted in terms of tourism development. Its tourism attractiveness has its foundation on biodiversity, an ecotourism ethic, and cultural sites. However, sustainable practices should be integrated into all tourism operations in order to avoid environmental damage of the natural and cultural sites of Belize.*¹²

The NSTMP identified the following constraints for sustainable tourism development that may be applicable to the Turneffe Atoll:

Constraints for sustainable tourism development (NSTMP): ¹³	
•	Lack of asset management, mainly due to lack of awareness, knowledge and financial issues. Results in:
❖	Over-visitation of sites;
❖	Serious environmental and social negative impacts;

¹¹ National Sustainable Tourism Master Plan for Belize 2030, BTB and MTCA (June 2011).

¹² Ibid.

¹³ Ibid.

- ❖ Decrease of destination image: from eco-tourism or cultural sites to mass tourism;
 - ❖ Risk of serious deterioration, due to lack of diversification of product offering (marine assets, nature assets);
 - ❖ Damage of marine habitat due to larger vessels, especially at anchor.
 - Insufficient waste disposal, resulting in:
 - ❖ Mosquito infestation;
 - ❖ Malaria and dengue infection risk.
 - Insufficient sewage systems, result in:
 - ❖ Water contamination;
 - ❖ Diseases due to water contamination;
 - ❖ Negative image of the country's development.
 - Lack of land planning and regulation, resulting in:
 - ❖ Haphazard and inadequate urban development;
 - ❖ Incompatible development of commercial, industrial and residential activities;
 - ❖ Environmental concerns;
 - ❖ Degradation of the landscape;
 - ❖ Beach erosion and navigational safety hazards due to coasts clustered with piers and jetties;
 - ❖ Uncomfortable feeling for residents and visitors.
- SPACING
- Lack of public awareness programmes, resulting in:
 - ❖ Degradation of beaches and the natural environment, due to poor promotion of ecotourism and sustainability issues;
 - ❖ Inappropriate usage of natural resources, such as the reef, national parks and rainforests.

As part of a strategy to enhance sustainability of tourism, the NSTMP lays out a destinations development strategy for a set of seven tourism destinations. These seven destinations include the following: 1) Northern Belize, 2) Northern Islands, 3) Central Coast Belize, 4) Western Belize, 5) South Eastern Coast Belize, 6) Southern Belize and, 7) Belize Reef. Turneffe Atoll falls within the Belize Reef tourism destination.

To achieve sustainability, the National Sustainable Tourism Master Plan (NSTMP) lays out three strategies as follows:

- a) Design and develop a wide set of cluster programs in order to develop products structured as national clusters, being very cautious to avoid any negative environmental and social impact.
- b) Focused and controlled development, facilitating control of the positive and negative impacts as well as proper management of development. The NSTMP states that the strategic model for tourism in Belize should be focused on “a mid-level growth in terms

of overnights – low in rural or sensitive sites – and low in terms of density, except in certain areas allowing higher densities.”

- c) Due to the constrained economic resources Belize has for tourism development, it is required to set priorities for investment and define a clear phased program. This will also improve benefits from tourism allowing the projects to be completed, and their results achieved, before new investments are starting in other programs or sites.¹⁴

The NSTMP’s National Destination Physical Plan defines the following as the destination development objective for the Belize Reef System:

Conservation is key, and development completely subservient in quality and extent. The main objective is to limit growth, only allowing it for necessary improvements to existing homes, resorts, lodges and other facilities. Preservation of the Barrier Reef and all other marine habitats should be the primary concern when assessing any alterations to these.

The **Model of Development** for the Belize Reef is stated to be: “Only allow improvements and small enlargements for existing tourism facilities to complete maximum growth allocated of 37 new hotel rooms. The proposed strategy for conservation is to establish and promote a day visitation formula.”

The **Accommodation Growth Model** is as follows: “From 2012 to 2020, Belize Reef should not develop any additional hotel accommodation rooms. Existing facilities should be encouraged to restructure their offerings for day visitor activities. New development should not be promoted, as they would eventually become detrimental to the occupancy rates and the existing accommodation businesses. From 2025 until 2030, Belize Reef could develop 37 new accommodation rooms in low density facilities. New investments are recommended to be made in facilities devoted to nautical, sun & beach and nature-based activities.”

To summarize, the Belize Reef was identified by the NSTMP to “remain as long as possible a natural and generally untouched destination, which will mostly develop water-based day visitor attractions and enhance its nautical tourism product. Only at a later stage, Belize Reef [should] start developing its low density sun & beach tourism product”.

National Biodiversity Strategy and Action Plan

The National Biodiversity Strategy and Action Plan 2016-2020 (NBSAP) identifies coastal forests (littoral forests) and beach vegetation (tropical coastal vegetation on very recent, moderately drained sediments) as highly vulnerable, lying in areas targeted for coastal tourism

¹⁴ National Sustainable Tourism Master Plan for Belize 2030, BTB and MTCA (June 2011).

development. Even with the establishment of the Turneffe Atoll Marine Reserve protection of littoral forest remains under the 10% national target. The NBSAP states that “these ecosystems will be further stressed in the future with the predicted short term increase in coastal development and long term rise in sea level”.

Contacts:

Turneffe Atoll Trust (TAT)

501-670-3206

www.turneffeatoll.org

Turneffe Atoll Sustainability Association (TASA)

501-670-8272

www.turneffeatollmarinereserve.org

Belize Department of Environment

501-822-2548

www.doe.gov.bz

Belize Fisheries Department

501-224-4552

www.fisheries.gov.bz

Belize Forestry Department

501-222-2222

www.forestdepartment.gov.bz

Belize Lands Department

501-802-2711

www.mnra.gov.bz/natural-resources/lands-surveys

Coastal Zone Management Authority and Institute (CZMAI)

501- 223-5739

www.coastalzonebelize.org