

REVISED MASTER DEVELOPMENT PLAN FOR AMBERGRIS CAYE

Ambergris Caye, Belize. Central America



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For

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FOREWORD

Belize's barrier reef, the sea and the coast is an extremely valuable asset to Ambergris Caye and the country. Generations have populated, exploited and managed these areas.

Today, Ambergris Caye is being challenged with the opportunities and advantages brought on by economic development over the decades. Too often, while development takes place in the interest of promoting productive tourism activities, we fail to recognize the basic objectives of long term protection of the natural resources of the coastal zone. In our haste to compete we ignore the need to plan hence, the process becomes one of crisis management and shortsightedness due to the fact that consideration was not taken as to what the cumulative impacts of the development activities would have on the reef and other sensitive ecosystems.

The island is one of the fastest growing tourism destinations in the country. More and more pressure to construct huge resort and condominium developments, as well as the request of land and homes, strains the local government and national government to protect the natural resources and cultural heritage of the coast.

The Ambergris Caye Master Development Plan is a regulatory and vision document. It establishes a comprehensive planning framework for the development of Ambergris Caye and should be used both by the public and private interests to carry out development in the proper place and direct it away from those sections of the community that are ecologically sensitive and should remain undisturbed in their natural state. The Master Plan should be used to promote regulatory procedures such as the assessing of subdivision applications and issuance of development permits.

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INTRODUCTION

By the request of the San Pedro Planning Authority and other sponsoring agencies, the Coastal Zone Management Authority and Institute was commissioned to revise the Master Development Plan for Ambergris Caye. Prior to engaging the public and developing the updated Master Development Plan, a team comprising of a Physical Planner and a Civil Engineer, conducted extensive reviews of plans and studies previously prepared by Shankland Cox, Dr. Len Ishmael, as well as drafts and plans made by other agencies regarding sustainable development on Ambergris Caye.

Both Shankland Cox' and Dr. Len Ishmael's reports met the objectives they were set out to achieve. However, they were never legally approved and are now outdated.

The main objective, among others, of this Master Plan is to provide a legal framework from which proper planning and development guidelines can be drawn as well as the legal framework to ensure its adherence and to authorize its implementation by the Local Planning Authority (or such entity).

To achieve this goal, key elements from all the documents reviewed will be taken into consideration along with the concerns of the residents of San Pedro, Ambergris Caye.

CHAPTER 1: COMMUNITY PROFILE

1.1 Historic Overview

“Ambergris Caye is Belize's largest offshore island. Located on the southern most point of the Yucatan Peninsula, and separated from it by the mile long Bacalar Chico canal which marks the boundary between Belize and Mexico, it stretches 25 miles long and about 4 miles wide at its widest part. The island sits only 35 miles north-east of Belize City and only three-quarters of a mile west of the Belize Barrier Reef and is bounded by the Caribbean Sea to the east and Chetumal bay to the west.”¹

San Pedro, being the only town on Ambergris Caye, was the first developed part of the country's tourism industry and continues to be the most visited destination in Belize. It has a population of about 11,600* residents and is distinguished for its laid back character and lifestyle with its primary mode of transportation on the town's sandy streets being via golf carts. In the town and along the beaches to the north and south, is a diverse collection of restaurants, gift shops, bars, hotels and numerous condominium complexes. However, although Ambergris Caye is probably the busiest of Belize's tourist destinations, it still manages to maintain its relaxed atmosphere.



Figure 1: Project Location

1: “Development of North Ambergris Caye Belize. An Investment in the Future” – Len Ishmael

*: “Abstract of Statistics 2008” – Statistical Institute of Belize

1.1.1 Geography of Ambergris Caye

*“Ambergris Caye was formed by an accumulation of coral fragments and silt from the Río Hondo as it emptied from what is now northern Belize. The Caye is made up of mangrove swamps, 12 lagoons, a plateau in the north called Basil Jones, and a series of low sand ridges. The largest lagoon, fed by 15 creeks, is the 2.5-mile-long Laguna de San Pedro on the western side of the island.”*²

The eastern side of the island is bordered by a low lying sand ridge that is only a few feet high and approximately 500 ft wide. On the southern part of the island, this sand ridge, along with the lagoons on the west, are underlain by a flat limestone formation. The thickness of the limestone formation is unknown but it is found at about three feet below sea level in the areas of San Pedro Town.

Over a period of time, the constant wind, rain, tides, and occasional battering of a hurricane have significantly reduced the shoreline and beachfront of the town.³



Figure 2: Ambergris Caye; inner lagoons and wetlands.

2: “Ambergris Caye History.” – Glen Godfrey.

3: “MoonHandbooksBelize.CentralAmerica.com” –Cubola Productions

1.1.2 The Barrier Reef

The Barrier Reef is located at approximately half a mile off the windward side of the island. It is the longest barrier reef in the Western Hemisphere and is home to various species of fish and other marine ecosystems. For this reason, many visitors are attracted to the reef and adjoining marine protected areas.

The true value of the reef to the existence of Ambergris Caye is priceless, as it serves as a natural barrier protecting the coastline from erosion due to wave action and without it, the island would not exist.



Figure 3: Ambergris Caye Coastline and the Barrier Reef.

1.1.3 Wildlife

Ambergris Caye, from a more geographical perspective, can be considered more of an extension of the Yucatan Peninsula than an island, and as a result of such, has a close connection to the mainland which supports a fairly wide array of wildlife.

Before the recent rapid expansion of tourism and development, game animals such as deer, peccary, paca (gibnut), and even the ocelot were abundant on the island. However, increased human activity has greatly diminished the population of these larger species, but the smaller mammals, such as the opossum, armadillo, anteaters and raccoon are still fairly abundant.

There are no poisonous snakes on the caye; however, the boa constrictor and the black-tailed indigo have been known to inhabit the island. Also present are the giant iguanas, and the American Saltwater Crocodile.



Figure 4: Red-footed boobie Bird, North Ambergris Caye.

Birds are also an important element of the Cayes' wildlife. There is an abundance of seabirds such as the brown pelicans, the frigate birds, and seasonally the double-crested cormorants. Laughing gulls, as well as royal, Caspian and other terns are seen on occasion, as are brown and red-footed boobies, spoon bills and blackbirds.

1.1.4 Vegetation

"Plant life for the most part consists of White, Red and Black Mangrove, Buttonwood; littoral forest plants such as black poison wood, red and white gumbo limbo, sapodilla, ziricote, wild sea grape, fig, copal, coco plum, coconut, saltwater palmetto, and several small shrubs." ⁴



Figure 5: Red Mangroves along the southern leeward coast of San Pedro Town.

1.1.5 Archeological Sites

*“There are 19 recorded archeological sites on the island (see **Map I**). The largest is a Post-Classic site in the area of the Basil Jones plateau which features a number of low mounds made from local limestone. There are also areas dotted with well defined shell heaps and an abundance of obsidian flakings, fragments of pottery and an occasional jade ornament or object carved in bone. The soils in the vicinity of these Maya 'fishing sites' are characterized by a deep black top soil containing much fine charcoal.”*⁵

Archaeological process is integral to any development proposal and should be considered as early as possible in the planning process. Development through land use which involves the construction of roads, mineral extraction, and removal of trees from the forest, public utility, buildings, all pose threats to archeological sites; and therefore the priority is to minimize the impact of development upon archaeological remains.

While the vast majority of archeological sites and monuments are all capable of providing evidence about the past, many are important in the local context of value to the community and therefore require safeguarding through planning process.

In the case where development proposals affect archaeological sites and monuments, alternative sites would have to be identified for the development.

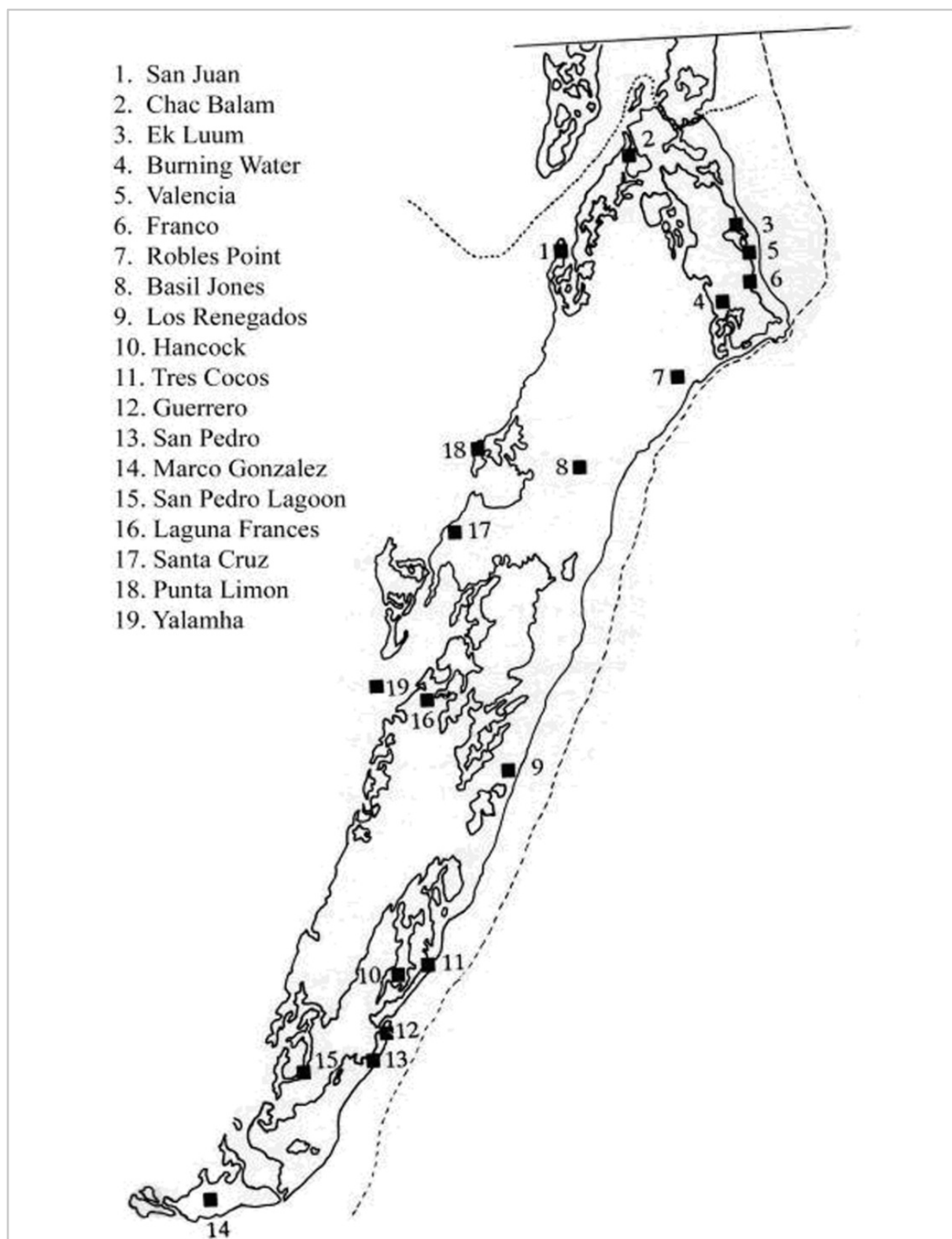


Figure 6: Archaeological Map of Ambergris Caye, Belize.

1.1.6 Economic Development

Logwood was the original industry on the island but as the political climate changed, so did the industry, which then went on to chicle, afterwards to coconuts' and then to lobsters. The fishing industry in Ambergris Caye at first was very unsuccessful and fishermen were getting only a penny a pound for lobsters. However, after much struggle, fishing cooperatives were formed which allowed for the proper rewards and benefits finally going to the fishermen.

As a result of the success of the fishing industry, people began to migrate to the area in seek of employment, which in turn created a demand for guest house accommodation; the first of which was established in 1965. Over the years several other similar endeavors where recognized and typically consisted of a few renovated rooms within the private dwellings of local residents.⁶

Today, what was once a quaint fishing village has now become an urban tourism development. For what was originally untouched stretches of white sandy beaches, is now a congregation of hotels, bars, piers and dive shops for almost the entire windward stretch of San Pedro Town. In one way or another, all economic activity on Ambergris Caye is geared towards tourism and the once prosperous fishing industry is no longer aimed at local sustainability but rather at supplying the demand made by the vast number of restaurants and their guests. The island is now fully dependent on tourism for its economic stability.⁷

1.2 Opportunities and Constraints

Inherent in every community is a set of limitations that shape the past, present and future of the demographics and physical landscape. These opportunities and constraints are summarized for Ambergris Caye in the following broad categories: environmental, geographic, economic, and developmental.

1.2.1 Geographical Constraints

Ambergris Caye is for the most part considered wetlands and as a result, fill material is required for many development purposes. The majority of this fill material comes from dredging, which sometimes proves to be difficult and anti-economical; considering sources of dredged material in the immediate surroundings of the island are limited.



Figure 7: Wetlands of North Ambergris Caye.

Also a factor to consider is that with many other coral islands, fresh groundwater is limited. Groundwater on Ambergris Caye is located under the beach ridge. All these wells are shallow and only a few penetrate the lagoon rock layer. The existing water quality is not good as they have been contaminated due to over-pumping and where the wells are close to septic tanks. Because of this, the island relies on a single Reverse Osmosis plant as its source of potable water.⁸

1.2.2 Environmental Constraints

Environmental constraints to development relate to *“the ecological, physiological and economic importance of the Barrier Reef and the need to protect its relatively high biological diversity. In the case at Rocky Point, where the Barrier Reef touches the land, this feature aids aggregate spawning of Nassau and Red Groupers as well as the extensive sea grass development, turtle nesting and a host of other commercial fish species.”*⁹

The fragility and the unknown carrying capacity of the beach ridge becomes a restraint to development especially considering the high value of beachfront property and their ideal use for hotel and high density developments. With new development of this type comes the building of new roads, the clearing of land, and the construction of septic systems. This in turn leads to the problem of contamination of nearby reefs and grassbeds due to large number of septic tanks and inadequate sewerage system disposal.

8: “Belize Water Services Limited”

9: “Development of North Ambergris Caye Belize. An Investment in the Future” – Len Ishmael

Approximately 43 percent* of the land on Ambergris Caye has moderate to severe limitations for development due to environmental constraints. At the same time, the abundant natural and scenic resources of the Caye offer a high quality of life for residents, and new development arising from this interest boosts the real property tax base for the community.

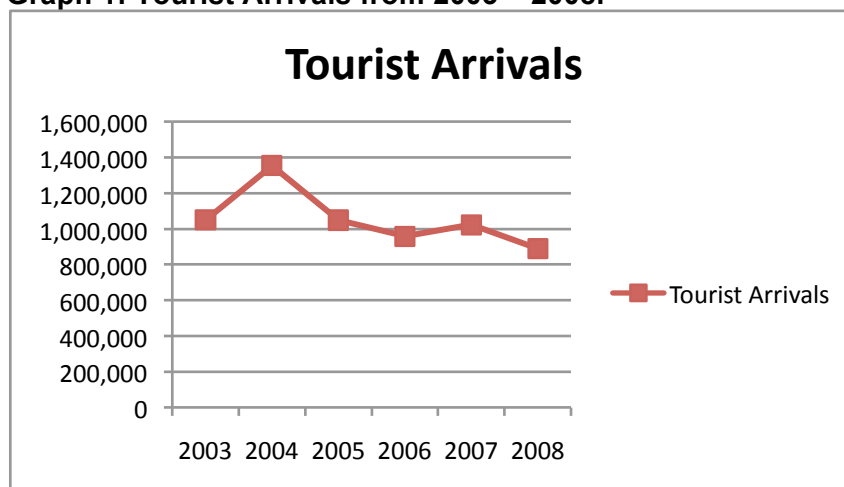
1.2.3 Economic Constraints

Tourism is now the largest source of foreign exchange in Belize and has also become the fastest growing sector. Its continued success is dependent primarily on the country's natural resources. Therefore, it is imperative that the natural resources, and all future tourism based development, is sustainable.

*"In 2003, for the first time, one million plus tourists arrived in Belize with the inclusion of cruise tourism; the largest increase recorded thus far. The trend for the past 6 years shows slight fluctuations in the number of visitors per annum. However, in 2008, the services producing industries (hotels and restaurants) contracted by 10.7 percent, stay-over tourist arrivals slumped by 11.0 percent while cruise ship arrivals also fell by 1.9 percent."*¹⁰ This decline in the number of visitors to the country is assumed to be the result of the global financial crisis. And with Belize being the most expensive destination in Central America, it becomes a less attractive destination to the increasingly budget minded visitor.

However, despite this decline of tourist arrival and consequent decline in economic growth, there are still tourist related job opportunities in fields such as hotels, construction work, tour guide and diving services, telecommunication and financial services as well as gastronomical services and entertainment.

Graph 1: Tourist Arrivals from 2003 – 2008.



Source: Abstract of Statistics 2008.

10: "Cruise Tourism in Belize: Perceptions of economic, Social and Environmental impact." – CESD, 2006

Although the fishing industry in Ambergris Caye does not contribute directly to the national economy, it continues to remain a strong indirect contributor to the local economy of the island. This stems from the increasing number of tourists which in turns increases the demand for seafood set forth by the gastronomical providers of the island. *“The local supply of seafood has had to be supplemented by imports and the demand for imported seafood is increasing on a yearly basis.”*¹¹

Due to high international trade standards and the non tariff barriers that is associated with globalization, The Belize Fishery sector and its local institutions and producers, have found the global competition to be fierce as they are faced with limited funding, materials, the lack of amendable credit, as well as the decreasing supply of marine life.

Because Belize still has an open access fishery and due to the increase in international market prices, there has been an increase in exploitation resulting in the decrease in the quantity of fish available to the local market. An important factor to consider therefore, is the deficit of qualified personnel necessary to define and implement the required management program to ensure the sustainability of the available resources.

1.2.4 Developmental Constraints

Development constraints and opportunities on Ambergris Caye depend greatly on the demand, the availability of land, and the availability of such support services. They also greatly depend on the cost of land and its environmental suitability.

Maps MNAC1 and MSAC1 (Appendix 1), shows parcels of land that are most at risk for development such as wetland areas, mainly due to its lower anticipated cost. Demand for large parcels of land for subdivision and development is expected to continue as Ambergris Caye becomes an even more attractive and viable living and working location for people.

1.3 Public Participation

Public participation for the development of the 2009 Master Development Plan for Ambergris Caye has been solicited through several different venues. These have included interviews with residents, stakeholders, members of the Ambergris Caye Concerned Citizens for Sustainable Development as well as several steering committee meetings seeking input on goals and objectives for the plan.

11: “FAO Fisheries and Aquaculture. Belize” – www.fao.org/fishery/countrysector/FI-CP_BZ/en

The following narrative represents an analysis of the results of the interviews that were conducted with residents, stakeholders and members of the Ambergris Caye Concerned Citizens for Sustainable Development in July of 2009. The overall response to the Master Development Plan was excellent and all persons interviewed were very receptive of the team and willing to cooperate and give their insight.

The vast majority, or approximately 72 percent* of all interviewed respondents, was from the Town of San Pedro. Nearly one-half the respondents have been residents of the community for over 20 years.

The community characteristic that respondents hold in highest regard is the natural setting. The fact that the region is not perceived as being overcrowded and is also rich in scenic beauty and has that laid back atmosphere ranks it as being the best feature about living in Ambergris Caye. Quality of life factors also rate very high in the community. Friendliness, peacefulness, and good schools all contribute almost equally under this category. The third highest-ranking characteristic is the community's proximity to the Barrier Reef and the cultural and other activities it has to offer.

The highest numbers of responses regarding detractions in the community are related to the lack of a legally binding zoning plan. This relates to the large number of bars and entertainment facilities found in designated residential areas. Because these facilities were not built regarding the standards set forth, noise pollution and overcrowding in certain areas are now becoming an issue.

Another concern that the residents of Ambergris Caye holds regards taxes, specifically land taxes. These taxes are perceived as being too high for the average community residents. Over 40 percent* of respondents feel that the tax rate or assessments are too high and that there is a need to develop the tax base further to offset this problem. Municipal services are ranked next with over 75 percent* concerned about the lack of potable water in certain communities, as well as sewerage and solid waste services.

Town regulations were the third highest-ranking drawbacks to living on Ambergris Caye. Concerns include the lack of monitoring of certain approved developments and poor code enforcement especially with regard to environmental violations. Approvals of what appears to be environmentally detrimental developments are also major concerns. Residents cited the need for a branch of the Department of Environment on the island so as to aid in the monitoring of

approved developments. Residents cite problems with the illegal disposal of solid waste in the mangrove swamps as they take away from natural beauty and charm of the island.

It can generally be concluded that the persons interviewed all want to keep the laid back, peaceful, and secluded character of Ambergris Caye intact. However, most are unsure of what mechanism will work the best while not depriving the landowner/ developer of their property rights. In terms of direction for the Planning Committee, the results of these interviews point to selecting a balanced approach that integrates conservation and planning concepts for future land development and economic development and land use initiatives that encourage the local developers to stay in business without significant detriment to the natural resources of the island.

2.1 Population, Housing and the Economy

2.1.1 Current Population

According to a comparison of the censuses of 2000, 2005 and 2008 there has been a steady growth in the population of Ambergris Caye. The main features of this growth are represented in Table 1. Between the years 2000 and 2005, San Pedro saw an inter-censal population change of 3,901. This represents a 47.2% increase from the previous inter-censal change; a fairly notable change in comparison to Belize City which saw a population increase of 23.9% during the same time period. However, the absolute population change of Ambergris Caye between the more recent censuses of 2005 and 2008 is 3,200; suggesting the stabilization of in-migration to the island.

Table 1: 2008 Mid – Year Population Estimates by Region and Sex.

District and Subdivisions	2000	2005	2008
Belize	68,197	87,000	96,600
Belize Urban	-----	-----	76,800
Belize City	49,050	60,800	65,200
San Pedro	4,499	8,400	11,600
Belize Rural	14,648	17,800	19,800

Source: Abstract of Statistics 2008.

2.1.2 New Households and Housing Needs

The most recent census on household and housing characteristics in Belize is dates back to the year 2000. According to the Statistical Institute of Belize, a household is defined as: “*one or more persons living under the same roof for most nights of the week, and sharing at least one (1) daily meal.*”¹² The 2000 census enumerated approximately 52,000 households in the country with the average household size being 4.5 persons. In San Pedro Town however, the census estimates approximately 1,114 households with an average household size of 4.2 persons.

The following table is a calculated estimate derived from the Abstract of Statistics 2008. It shows the number of households by area and selected housing characteristics.

Table 2: Number of Household and Housing Characteristics – 2000.

	San Pedro	Belize City
Total Number of Households	1,114	15,023
Number of Persons	-----	-----
1	175	2365
2	180	2429
3	183	2465
4	188	2528
5+	388	5236
Number of Bedrooms	-----	-----
1	236	3192
2	436	5876
3	315	4246
4+	121	1634
DK/NS	6	75

Source: Abstract of Statistics 2008.

In 2000, approximately 60% of all dwelling units in San Pedro Town had two (2), or less than two (2) bedrooms. Over- crowdedness occurs when the average household size divided by the number of bedrooms is greater than two (2). Considering this to be true, along with the percentage of households consisting of two of less bedrooms and the average household size, it can be generally concluded that over-crowdedness continues to be an issue in the entire country.¹³

2.1.3 Employment and Economic Activity

According to the 2008 Census on employment and economic activity, the overall employment rate for Belize was 59.2% of the total labour force. A comparison of the Censuses of 2000, 2005 and 2008 shows a steady increase in the overall employment rate of the country; this is the result of significant augments of women entering the labour force. Table 3 shows the overall employment rates for 2000, 2005 and 2008.¹⁴

Table 3: Main Labour Force Indicators for Belize.

	2000	2005	2008
Total population	249,800	289,875	321,660
Working – age Population (14 years +)	142,536	186,576	210,626
Employed Population	70,538	98,589	114,465
Unemployed Population	18,175	12,197	10,172
Persons not in the Labour Force	52,939	75,790	85,989
Labour Force Participation Rate	50	59.4	59.2
Unemployment Rate	12.8	11.0	8.2

Source: Abstract of Statistics 2008.

Employment rates are higher in Ambergris Caye than the national average for the main reason that the local economy is successful due to tourism. Although the industry occasionally suffers from seasonal problems, there are still many other job opportunities present; this in turn contributes to the low unemployment rate on the island.

The economy of Ambergris Caye is almost completely dependent on Tourism although there are other minor sectors that contribute to the economy. These sectors may be directly or indirectly related to the tourism industry such as the fishing industry and the construction sector. There is also a residential services sector of the economy of the island. It is estimated that approximately two thirds (65%) of the employed population on the island is directly engaged in tourism activity, (10%) in the fishing industry, another (15%) in the construction sector and (10%) for residential services. *

14: "Abstract of Statistics 2008." - Statistical Institute of Belize

*: "Consultants Calculations "

Tourism Sector

*“Direct employment in the tourism sector refers to any given job created in hotels, apartment and villas rented to tourists, as well as certain services such as tours. Indirect tourist employment denotes those jobs in activities which are supplemental to tourist accommodation and normally, but not always, found outside of it; such as restaurants, bars, taxis..etc.”*¹⁵ The fishing industry as well as the construction sector can also be considered as an indirect tourist employment as with the increase in tourist arrivals and immigrants to the island, comes the need to expand and improve infrastructure and public facilities as well as an increase in the local demand for seafood.

The basic principles of indirect employment in tourism vary according to the nature of the activities that this industry may create. However, it is reasonable to assume that indirect employment is equivalent to that of half the direct employment.

Fishing / Construction Sectors

Fishermen Cooperatives form some of the largest cooperatives in Belize and provide a livelihood for many Belizeans and have also become an important part of the country's economy. Presently, there are five fishing cooperatives in Belize; four of which contribute to the country's Gross Domestic Product. However, the fishing co-operative located on Ambergris Caye, the Caribeña Fishing Cooperative, is the only cooperative on Ambergris Caye with a total of 136 members. It is the only cooperative that is not considered as a producer by the Fisheries Department as it does not export its produce but provides strictly to the local market.

According to the Fishermen Cooperatives Production 2008, the Caribeña Fishing Cooperatives sole harvest was Lobster Tail with a total catch of 6,238 lbs. All of which were sold for indirect tourism.¹⁶

The construction sector of Ambergris Caye has grown significantly over the past decade as a direct result of the boom in tourism on the island. This sector continues to grow as more large scale condominiums and retirement homes are currently under construction.

15: “Masterplan for Ambergris Caye” – Shankland Cox, 1989,

16: “Fishermen Cooperatives Production 2008” – Fisheries Department.

Residential Services

This sector of the local economy refers to all those jobs geared at providing services to the residential population, such as food and hardware shops, post offices, banks, schools, clinics, domestic services..etc. *“They are dependent on the size of the population and are normally based on ratios which can vary from one (1) in twelve (12) to one (1) in five (5) of the population served.”*¹⁷ In San Pedro, these services have much improved over the last decade and a ratio of 1:7 is adopted for the existing situation on Ambergris Caye.*

2.1.4 Projection Indices

The future population of the island will be influenced primarily by the growth in employment. According to an analysis of the Abstract of Statistics 2005, 2007 and 2008; the population of Belize grew at a rate of approximately 2.7 per cent per annum. An analysis of crude birth and death rates from the abstract suggest a natural increase in excess of 3 per cent. The annual increase represents very high rates of fertility combined with falling rates of mortality.¹⁸

The average natural increase in population of Ambergris Caye is estimated at 4.5 per cent per annum.* It is believed that in the years to come there will be slight falls in the levels of fertility.

2.2 Tourism Statistics

2.2.1 Number of Visitors

The Belize Tourist Board statistics for Ambergris Caye are compiled from hotel returns. Table 4 shows the total number of visitors to the country from the years 2003 to 2007. The peak season runs from December to May but there is no really marked long seasonal decline. Only the months of June, September and October fall short of the monthly mean of visitors by more than 15 per cent. September and October are significantly less and can be regarded as a very real off-peak period.

17: “Masterplan for Ambergris Caye” – Shankland Cox, 1989.

18: “Abstract of Statistics 2008” – Statistical Institute of Belize.

*: Consultants’ Calculations ”

Table 4: International Visitor Arrivals by Month from 2003 – 2007.

	2003	2004	2005	2006	2007
Total	978,819	1,171,030	812,321	923,668	1,022,785
January	92,758	128,360	93,322	116,392	137,416
February	85,914	117,641	86,903	114,474	44,444
March	94,887	119,508	111,498	59,503	124,429
April	84,084	106,445	103,335	88,635	111,300
May	58,394	83,256	65,889	31,938	67,235
June	114,974	90,014	75,425	55,665	69,517
July	73,501	94,043	61,076	64,774	76,456
August	76,356	84,692	78,291	66,330	55,152
September	42,393	66,303	50,042	47,169	42,840
October	76,096	78,595	22,877	56,005	58,516
November	90,254	93,399	28,011	107,317	112,180
December	89,208	108,774	35,652	115,466	123,300

Source: Abstract of Statistics 2008.

2.2.2 Tourist expenditure

According to a 2005 study done by the Belize Tourism Board, the average length of stay of stay-over tourists in the country is 6.8 days with an average expenditure of US \$96 per day or a total of about US \$ 652.80 per visit while in Belize.¹⁹

Table 5: Stay-over Tourist Activities in Belize.

Activities	Number	Percentage (%)	Activities	Number	Percentage (%)
Snorkeling	1362	57.2	Fishing	341	14.3
Island Tour	665	27.9	Bird Watching	308	12.9
Diving	579	24.3	Cultural Event	304	12.8
River Trip	564	23.7	Other	243	10.2
Jungle	545	22.9	Sailing	225	9.4
Caving	467	19.6	Camping	141	5.9
Canoeing	358	15.0			

Source: Belize Tourism Board.

Table 5 shows the results of a survey done of the most popular tourist activities while in the country.

Based on the average tourist length of stay and the most popular tourist activities, it seems probable that the number of visitors to San Pedro consists of approximately sixty (60) per cent* of all visitors to the country.

2.2.3 Accommodation and Facilities

2.2.3.1 Nature of hotel accommodations

Hotels on Ambergris Caye can be categorized into six groups according to their densities or character of the accommodation provided. These accommodations are categorized as the following: Hostels, Budget, Mid-Range and First Class.

Table 6: Hotel Classification.

Hotel Category	Number	Percentage of total beds (%)
Hostels	1	1
Budget	5	5
Mid-Range	27	25
First-Class	74	69

Source: <http://ambergriscaye.com/pages/lodge/lodgingprice.html>

There is only one recorded *Hostel* on Ambergris Caye and is the most inexpensive type of accommodation on the island.

Budget hotels are the guest house type accommodations whose facilities can range from shared dormitories to single family dwellings with private baths and air conditioning. These hotels are normally designed to accommodate a higher density of persons as they usually consisting of two or more floors, with little amenity space due to the small size of the lots upon which they are built. Few have beach frontage which provides more leisure area for guests.

Mid-Range hotels are those that normally have their own beach frontage and include amenities such as a swimming pool and other recreational facilities. These would include one and two bedroom condos, private villas, apartments and cabanas.

*: "Consultants Calculations."

First Class Hotels normally offer luxurious rooms in a more spacious and secluded environment. They also offer a wider array of recreational facilities and as they are usually smaller hotels on larger plots of beach front land, support lower densities.

All the different types of hotels have their own special appeal to the different groups of tourists that visit Belize. Whether it may be the simple comforts of a timber framed guest house in San Pedro Town or the more elegant and luxurious settings of an exclusive retreat on a semi secluded beach, the character of the hotels complement the tranquil atmosphere of the Caye.

2.2.3.2 Quantity of Tourist Accommodations

Hotel rooms have been calculated from the number of individual guest rooms available together with an addition for suites where they are provided. A 2008 survey carried out by the Belize Tourist Board in conjunction with the Statistical Institute of Belize, elicited the following hotel information:

Table 7: Hotel Statistics from 2003 – 2008.

	2003	2004	2005	2006	2007	2008
Number of Hotels	74	81	92	98	99	107
Number of Rooms	1,204	1,228	1,259	1,401	1,443	1,585

Source: Abstract of Statistics 2008.

There are several approved new development plans for Ambergris Caye some of which are new hotels, condominiums and vacation homes. There are also expansion plans of existing hotels, either already under construction or is presently under consideration for the immediate future.²⁰

In addition to hotels and condominiums, there are several furnished apartments, each consisting of a living room, bedroom, kitchen and bathroom, available for rental to tourists. There are also an unknown number of private homes and villas which are put out to rent for tourists.

The trend of stay-over tourists has been shifting recently towards a more self catering type of holiday. This may be partly as a result of the economic recession in an effort to minimize vacation expenditures. Some evidence of this lies in the large number of condominium complexes that have been and are currently being constructed

20: "The San Pedro Town Council."

. 2.2.3.3 Holiday and retirement homes

Apart from the average tourist expenditure, owners of holiday and retirement homes also support the economy through the contribution of property tax.

The actual number of vacation homes on the island is not known but it is evident that they are becoming more pronounced. It is estimated that vacation homes account for 20%* of the total housing stock of the urban area.

2.2.4 Tourist Attractions

2.2.4.1 Beaches

The beaches on Ambergris Caye are unlike many Caribbean countries. They are very narrow stretches of white sand dotted with many coconut palms and other native flora. Most of the mangroves have been cleared on the stretch of beach from the San Pedro River down to The Victoria House Resort.

The beaches are located only on the eastern coast of the island where the water at the shore is shallow, and the sea bed dominated by heavy seagrass, making swimming not particularly enjoyable.

2.2.4.2 Reefs

The Barrier Reef extends for about 185 miles and sits only a half a mile off the windward side of Ambergris Caye. It is the longest barrier reef in the Western and Northern Hemisphere and boasts a wide, breath-taking array of coral gardens and marine life.

Inside the reef the water is clear and shallow, with an aquamarine hue while beyond the reef, the water is deep and appears to be a dark royal blue and the seabed drops sharply in a series of layers to depths of thousands of feet. From the air, the reef appears as a narrow white line separating the two shades of blue.

The only downside to the popularity of the reef is the heavy boat traffic in these shallow waters; they are not only visually unappealing but are highly hazardous to potential snorkelers.

* : The San Pedro Town Council."

2.2.4.3 Fishing

*“The coast of Ambergris Caye offers an unparalleled variety of light tackle fishing opportunities. The water around the island abound with a variety of salt water fishing such as tarpon, bonefish, or permit in the tidal flats, and barracuda, snapper, jacks, or grouper in the reefs. Most types of fish, including bonefish and tarpon, can be caught year round.”*²¹

2.2.4.4 Other Attractions

Other attractions include bird watching, kayaking, parasailing, wind-surfing, and mainland excursions. The exploration of the few archeological mounds on the island is rarely exploited mainly due to the problem of inaccessibility. As development continues, especially on the northern part of the island, the establishment of roads and trails in appropriate locations can provide an outlet for those visitors interested in archaeology or wild life.

2.3 Land Use

2.3.1 Urban Structure and Land Use

The nucleus of San Pedro town now extends in the north from the San Pedro River, through Coconut Drive to the south, with many new housing areas and new beachfront hotels towards and far beyond Victoria House, reaching almost all the way to the Boca Ciega Lagoon at the southern most end of the island.

North of the San Pedro River, is an ever growing collection of condominiums, luxury hotels and high end residencies that extends far north just shy of the Belize – Mexico border. Many of the newer developments fall within the Bacalar Chico Marine Reserve but are not a part of it.

2.3.1.1 The Core

Although urbanization has occurred from the San Pedro River all the way down through Coconut Drive, the original core of the town still basically remains organized around the north - south streets of Barrier Reef Drive, Pescador Drive and Angel Coral Street. Five shorter east – west streets produce a grid with blocks of approximately three hundred (300) feet by one hundred and fifty (150) feet.

This nucleus contains most of the community’s urban functions, with most of the public amenities such as the Town Hall, gift shops, banks, real estate agents and the central park located along Barrier Reef Drive. Pescador Drive has now become just as much of a commercial – residential street as Barrier Reef Drive as there are a number of shops and

21: “Masterplan for Ambergris Caye” – Shankland Cox, 1989.

restaurants along its entire length. Angel Coral Street for the most part, has retained its residential character with the exception of a church and a few shops and deli's providing for the local people of San Pedro.

Lot sizes within the nucleus generally measure about seventy five (75) feet by fifty (50) feet. As most of the Town's commercial activities take place within this urban core, an excessive density of buildings has occurred on several lots giving rise to a net density of 15 persons per acre. This excess comes in two main forms: the first being, non-residential buildings with a total site coverage of eighty (80) per cent or more; and the other type occurs when more than one dwelling is situated on the same lot.

This over-crowdedness gives rise to difficulties particularly in the proper disposal of effluent from septic tanks and the danger of the pollution of water sources.²²

2.3.1.2 North of the town core

San Juan is a predominantly residential community located directly north of the San Pedro town core; it is the entire stretch from behind the Belize Electricity Limited all the way to the river on the lagoon side. This area was the first to be developed after the original town core.

Boca Del Rio is a settlement in the north of the town core located directly after San Juan and just before the river.

San Marcos is a residential subdivision on North Ambergris Caye located near the Reef Village.

2.3.1.3 South of the town core

San Pablo is the residential area also known as the D.F.C housing project. It is a small community located just over a mile and a half southwest of the center of San Pedro town on the lagoon side of the island.

San Pedrito is the fifth residential development to be constructed in Ambergris Caye. It was constructed in 1992 with the intention of providing residents of San Pedro with affordable land.

The Escalante subdivision was conceived in 1996. Located just north of Victoria House, this subdivision is a full residential area with a few small businesses operating there. Present are several apartments and condominiums as well as a church.²³

22: "Masterplan for Ambergris Caye" – Shankland Cox, 1989.

23: "The San Pedro Sun" – Shankland Cox, 1989.

2.3.2 Public Facilities and Amenities

Present on the island are seven (7) primary schools only one of which is public, two (2) High schools, and a medical university.²⁴

Health services are provided by various different institutions on the island. There are ten listed clinics on the island including, dentistry, gastronomy, gynecology and obstetrics, just to name a few. In the event where serious medical attention is required, there is the Wings of Hope - Medical emergency air ambulance that is fully equipped for immediate transportation to the mainland.

Major public spaces include the Town Plaza located on Barrier Reef Drive, two beachside parks, one located next to the Island Academy on Coconut Drive and the other at the mouth of the San Pedro River, and two playing fields, one between Buccaneer and Black Coral Streets and the other between the primary school and Barrier Reef Drive. There are also a couple other small parks in some of the residential areas.

The Beachside cemetery continues to be of concern as it is too small and needs minor repairs and beautification. The current Mayor, Elsa Paz and the San Pedro Town Council have formulated the San Pedro Cemetery Committee with the hopes of finding a new site for the cemetery and to obtain ideas on how to renovate the existing one.

In April of 2001, the long awaited and much needed new Fire Station was inaugurated. The station houses two tenders and provides office space, a training room, a watchtower and boasts two up-to-date fire trucks.²⁵

The San Pedro Police Station is also boasting recent upgrades amongst which includes a new paint job, new furniture, a new small office and new personal lockers.

2.3.3 Traffic and Roads

Poor road conditions continue to be of great concern to the residents of Ambergris Caye. Only a few streets, nine to be exact, are paved with cobblestones with the rest being graded sand. In the rainy season, most of the sandy streets are filled with numerous potholes due to excessive traffic and rain erosion.

24: "Ministry of Education."
25: "AmbergrisCayeToday" – April 2001

However, apart from poor road conditions, traffic violations and control is now one of the biggest concerns held by both visitors and residents alike. Another major concern is the classification and amount of vehicles, particularly bigger vehicles that are now starting to dominate the streets. Other issues concerning traffic at the moment are parking, speeding, vehicle condition and drivers license revoking.

In hopes of curbing the traffic dilemma in San Pedro, the Traffic Department has been assigned under the San Pedro Town Board with the objective of finally developing a database to maintain control over the inventory of vehicles on the island. A Statutory Instrument that controls the importation of vehicles to Ambergris Caye exists but needs to be reviewed and strengthened.²⁶

2.4 Infrastructure

2.4.1 Water

Potable water for most residencies and businesses in Ambergris Caye is provided through a reverse osmosis plant operated by The Consolidated Water Co and distributed by, the Belize Water Services Ltd. It is the only plant on the caye providing municipal services although it is believed that there are several smaller private units supplying individual resorts.

Potable water is made available to areas from approximately one mile south of the plant to residents / resorts just north of the Boca Del Rio settlement. It is estimated that there are approximately 2,800 connections to the municipal system with an average monthly consumption of 10 million US gallons.²⁷

2.4.2 Sewerage

“The existing sewerage system in San Pedro consists of conventional gravity sewers, complete with concrete manholes and submersible fiberglass reinforced plastic pumping stations.

Sewerage is collected by gravity at each pumping station and pumped towards the treatment works. Pump operations in each station are automatic and controlled by float switches.

Sewerage treatment and the disposal of effluent in San Pedro is by means of two facultative lagoons operating in series followed by one maturation pond with impermeable layers at their bottoms which are used to treat the collected sewerage. The treated effluent from the maturation pond is discharged to the surrounding mangrove wetland, via a dispersion pipe, for polishing before final disposal into the natural lagoon environ (the Caribbean Sea). The cells are each designed to provide a hydraulic retention time of ten days.

26: “The San Business Association General Meeting” – February, 2009.

27: “BWS.” - Keith Hardwick, Technical Services Manager.

The sewerage system currently serves approximately 3,400 consumers and treats about 160,000 gallons of sewerage per day.” ²⁸

2.4.3 Solid Waste

Solid waste management and control falls under the responsibility of the San Pedro Town Council with its garbage collection department spear heading the daily collection and delivery of both municipal and commercial garbage to the town’s central dump site. The central dump site is situated within a wetland area approximately two miles south of San Pedro Town and has an open area of about five acres. The garbage is minimally separated and burnt on a daily basis.

Garbage collection is provided from Monday to Saturday and is free of cost for all private dwellings but commercial businesses are charged a service fee by the Town Council. Some businesses, especially construction companies, employ private collection and delivery. Construction wastes are often used for land fill.

Medical waste on San Pedro normally consists of three large garbage bags twice a week of which about one bag is RED waste. There is no incinerator at any of the clinics in San Pedro and medical wastes are disposed of on demand by special arrangement with the San Pedro Town Sanitation Department. The waste is normally burnt in the open dump site. ²⁹

Although there seems to be some progress in managing the collection and disposal of garbage on the island, some persons still engage in the practice of dumping garbage indiscriminately in mangroves, open lots, road sides and elsewhere. Other issues for the environment as a result of improper waste disposal are those associated with unplanned development activities along the coast and in the low-lying areas. In some cases waste oil from boats are being dumped into the sea as well as in the wetland areas and inner lagoons. These dumps generate odor, leachate in the groundwater system and result in the depletion of the coastal resources.

2.4.3.1 Solid Waste Management Plan

In 1997, an agreement was signed between the Government of Belize (GOB) and the Inter American Development Bank (IDB) for the preparation of a National Solid Waste Management Plan (NSWMP). At the time solid waste management was identified by the Department of the Environment (DOE) as one of Belize’s most pressing environmental and health concerns and therefore it became a priority in their action plan. The objective was to improve solid waste management practices, reduce environmental pollution and enhance its image in the eco-tourism market.

28: “Belize Water Services” - bws.bz.net.

29: “Solid Waste Characterization on San Pedro Town...” – Winston F. Pantón, 2009.

As a component of the NSWMP the National Solid Waste Management Authority was established as an independent body with broad powers to provide the collection and disposal of waste in accordance with the regulations issued under the Solid Waste Management Authority Act.

Under component 3 of the NSWMP Project infrastructure, work is in progress to close down the existing San Pedro dump site and relocate it to an alternative (proposed) site containing 25.01 acres being a portion of land belonging to the Port Authority. While this site is more than adequate in size another option is to identify one that is readily accessible to the main road. The closure will involve the leveling of the terrain, compaction, leachate controls and adequate cover. Waste transfer and recycling facilities will be constructed to carry out source separation of recyclables, household hazardous materials and waste. Commingled recyclables will be separated by hand and compacted, using baler, for preparation for barging to Belize City and transfer to Waste Collection and Transfer Station (WCTS) or to designated recycling businesses. Household hazardous materials will be barged to the WCTS for long-haul to the regional waste disposal facility at Mile 24 Site or other designated locations.³⁰

2.4.4 Electricity

“Belize Electricity Limited (BEL) is the primary distributor of electricity in Belize. The company, which is 70% owned by Fortis Inc. of Canada, serves a customer base of approximately 73,000 accounts and is regulated by the Public Utilities Commission (PUC).

BEL meets the country’s peak demand of about 70 megawatts from multiple sources of energy. These sources include electricity purchases from Belize Electric Company Ltd. (BECOL), which operates the Chalillo and Mollejón Hydroelectric Facilities in Western Belize; from Comisión Federal de Electricidad (CFE), the Mexican state owned electricity company; and from BEL’s gas turbine unit and diesel fired generators.

The San Pedro Sub Station is connected to the country’s national electricity system. This in turn is connected to the Mexican electricity grid.”³¹

30: “Solid Waste Management Authority.” – Mr. Gilroy Lewis, Director.

31: “Belize Electricity Limited.” – Bel.bz.net.

2.4.5 Communications

2.4.5.1 Air Transport

Belize is located approximately two hours from four major cities in the US; Miami, New Orleans, Houston or North Carolina. Flights out of Los Angeles connect through Guatemala and El Salvador. The major airlines servicing Belize include Continental, American, US Airways and TACA.

Ambergris Caye is located approximately 15 minutes by air from mainland Belize. Hourly flights from the Philip Goldson International Airport as well as the Belize City Municipal Airstrip to Ambergris Caye are provided by the local airlines Maya Island Air and Tropic Air.

*“The present airstrip is oriented at approximately fifty – eight (58) degrees east to face the prevailing north – east and east winds. The airstrip now boasts an extended runway with a total length of three thousand five hundred (3500) feet with an overrun on 06 of one thousand five hundred (1500) feet, and an overrun on 24 of five hundred (500) feet. The runway surface is not rated for carriers exceeding 12,500 lbs.”*³²

In July of 2009, Tropic Air opened the doors of its newly renovated passenger terminal.

The main disadvantages of the present airstrip are:

- ☐ It terminates in the center of the town, only a few meters away from the primary school and other nearby businesses and residential areas.
- ☐ When taking off into the wind, planes unavoidably overfly the town.
- ☐ Noise pollution.

2.4.5.2 Sea Transport

Ambergris Caye is easily accessible by sea through the services of several water taxi associations. By boat, it is a fairly short and very scenic sixty (60) minute ride. However, access to certain areas around the island is also limited by water depth. The maximum draught that can enter the barrier reef and anchor off San Pedro beach is about five (5) feet. Only the traditional sailing and fishing boats, twenty-four (24) to thirty (30) feet long and with a draught of three (3) feet, can enter the Laguna de San Pedro either from the west or through the San Pedro River.³³

Larger vessels have to anchor or moor south of the island where the water is deeper, or outside the reef where the sea is usually rough and the bed falls away steeply.

32: “Tropic Air Belize.”

33: “Masterplan for Ambergris Caye” – Shankland Cox. 1989

Tidal range is very small, about one foot but may be significantly affected by wind.

The windward coast of Ambergris Caye is just clustered with piers and jetties that are used for loading and unloading purposes such as materials onto the island (consumer goods, construction materials..etc.), for tourism purposes such as diving and snorkeling, and for the docking of private vessels. The piers extend into the sea to a suitable depth of water and the area around them is often dredged to increase the available draught.

Because of the excessive pier density and their negative impacts on both an environmental and social level, a temporary moratorium was placed on all applications seeking approval for the construction of piers on the island. Some of the major concerns related to high pier density include the increased vulnerability to serious beach erosion, navigational safety hazards, fire peril, and visual pollution of the island frontage, not to mention the obstruction of public use of the beach.

There has been an ever present confusion and battle between the San Pedro Town Council and businesses with regards to the public usage of piers. Legally stated is that all existing piers are open to public use between the hours of 6:00am to 6:00pm regardless of who built and who maintains them, but because of the lack of monitoring and the implementation of penalties, some piers have barricades on them and some impede pedestrians or traffic on public beaches.³⁴

The San Pedro Town Council in conjunction with the Ministry of Natural Resources through the Physical Planning Section has started an evaluation process that has lead to the one- year project entitled “Strengthening Policy and Legal Framework for Belize Pier and Construction Management Program.” This project proposes to sustainably manage piers and other constructions in an effort to prevent, minimize and mitigate negative impacts to the environment, particularly around seven of Belize’s marine protected areas in the vicinity of San Pedro, Ambergris Caye, Caye Caulker and Placencia.³⁵

2.5 Natural Resources

2.5.1 Geology and Morphology

The Basil Jones well, drilled on Ambergris Caye, includes nearly 8500 feet of rocks that tell the geologic story of the caye. Its foundation is made up of Cretaceous and Tertiary limestones which were formed from the accumulation of shells and reef debris.

34: “Ambergris Today Newspaper.” – 2008.

35: “Physical Planning Section, Lands Department.”

Glaciers alternately advanced and retreated across the continents during the Pleistocene Period, and as they advanced and ice built up, global sea levels dropped and exposed the limestones on the caye to rainwater, which resulted in the formation of many caves and sinkholes (cenotes) on the caye. These features are known as "karst". As the glaciers retreated, global sea levels rose and new limestones were formed. Four sea level falls and rises are recorded by the Pleistocene limestones on and under Ambergris Caye.

It is important to note that many of the limestone rocks underlying the island may have been subjected to karstification at some time in their history and that these systems of cavities may be interlinked.

Above the limestone, the island is bordered on the east by a low, unstable beach ridge, only a few feet high and about five hundred (500) feet, which runs parallel to the barrier reef.

It has been reported that the beach at San Pedro has retreated substantially in the last twenty (20) years, as the beach has a steepness indicative of erosion and strong winds capable of aeolian transport blowing directly onshore for a significant number of hours in each year. The coastal erosion on Ambergris Caye has also been exacerbated by human activity such as vegetation clearance both above and below the water line, sand dredging offshore, increased storm water run – off from the town and general interference with the beach line.³⁶

2.5.2 Hydrogeology

Fresh groundwater on Ambergris Caye is limited, and is found within the beach ridge which runs for most of the length of the island. There is also a small volume of freshwater that can be pumped out of the several interconnected cenotes on the island.

As majority of the beach ridge has been and continues to be developed, high levels of contaminants are present in the groundwater.

2.5.3 Environmental Analysis

2.5.3.1 Dredging

Dry land is scarce in the undeveloped parts of the caye and fill material is required for most developmental purposes. This material could either come from the quarrying of limestone outcrops in the north and west of Ambergris Caye, or it could come from dredging; however, sources of dredged material currently being utilized are limited and are an environmental hazard.

36: "Masterplan for Ambergris Caye" – Shankland Cox, 1989.

Sea walls on the windward side of Ambergris Caye and dredging the sea bed between the reef and the Island's Reef side are having a dramatic effect on the reef and its population of marine creatures. Although often thought of as separate ecosystems, the coral reefs, seagrass beds and mangrove wetlands that make up the marine environment are in fact a single extremely tightly integrated system depending heavily on each of the components within it. Such close integration and the finely balanced nature of the marine environment mean that changes in one area, such as seagrass beds can have far reaching effects in the other areas.

Despite the known dangers of large scale dredging, especially on the wind ward side of the island, it continues to be a huge problem. Illegal dredging is on the rampant and monitoring of such activities is faltering as well as the implementation of penalties for such acts.

The wave action caused by the increased depth of shoreline water due to illegal dredging will be devastating during any future tidal surges. The silt being dredged up by this activity naturally flows in an outgoing tide to the barrier reef. This layer of fine mud, if not caught and contained by seagrass, is just sitting on the seabed to be churned up again and again by wave action every time the wind blows. Sedimentation not only affects coral reefs, but also the fishing industry, another major source of economic income on Ambergris Caye.³⁷

2.5.3.2 Beach erosion

Beach erosion, although a natural phenomena, has accelerated in recent time and is attributable to numerous causes mainly those of man's activities in various kinds of beach engineering such as the clearance of mangroves, the reclamation of land from the sea, 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.

Retaining walls are often built along the coast in order to prevent further erosion of the shoreline. However, not only do these structures prevent erosion of sand at that particular location, but they may also contribute to changes in erosion and buildup patterns in close proximity to the structure. *"For example, if alongshore movement of sand is suspected to be from north to south along San Pedro, it is likely that just south of a sea wall may be deprived of sand. North of the structure, sand may build up and lead to accretion of the shoreline. As a result of this, owners of properties south of structures who are adversely affected by their neighbour's sea wall may have to build a similar stabilization structure so as to prevent further erosion of the shoreline directly in front of their property."*³⁸

37: "Masterplan for Ambergris Caye" – Shankland Cox, 1989.

38: "Development of Coastal Erosion Hazard Maps." – Civil Environmental and Coastal Planners (CEAC), 2006.

Another cause of beach erosion is the undue proliferation of piers. They reduce the effective use of beach areas and are potential sources of pollution. The latter arises from the concentration of boats and activities in localized areas which will inevitably generate refuse, petroleum spills, aerial pollution and noise. Strict controls should be imposed on their frequency to minimize these problems.

2.5.3.3 Mangroves

There are three species of mangroves growing on Ambergris Caye and throughout Belize, the red, the black and the white. Since the soils on Ambergris Caye are poor in nutrients many of the mangroves are relatively small. Some of the mangroves that are growing on the southern part of the island in richer soil attain heights of up to fifty (50) feet.³⁹

Mangroves can be considered as one of the most important ecosystems on Ambergris Caye for several reasons. They help add dry land to the island, protect the shoreline, provide shelter for juvenile marine life and are the beginnings of a food chain for some marine life.

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, as was explained earlier, may have adverse effects. Without a permit granted by the Forest Department, the removal of mangroves is illegal. Unfortunately, regulations are insufficiently enforced.

The removal of mangroves on the east coast should cease altogether. This applies particularly to the southern part of the island beyond the Laguna de Boca Ciega where the area should be regarded as a part of the adjoining Hol Chan Marine Reserve. In this area where mangroves have been cleared they should be permitted to regenerate.

2.5.3.4 The Barrier Reef

*“The most important threats to the reefs in Belize arise from natural disturbances, such as hurricanes, coral diseases, Diadema (sea urchin) mortality, coral bleaching, and sea level rise, as well as from anthropogenic threats like nutrient enrichment, sedimentation, over-fishing, direct damage (from boat and diving activities), and oil spills. Protection and management of coral reefs in Belize is achieved through a network of Marine Protected Areas that include areas within the offshore atolls, areas in the Northern Province (Bacalar Chico, Cay Caulker), the central province (South Water Cay), and the southern province (Sapodilla Cays).”*⁴⁰

39: “Masterplan for Ambergris Caye” – Shankland Cox, 1989.

40: “Status of Coral Reefs of the Mesoamerican Barrier Reef System.” – A. Arrivillaga, M. Garcia, 2004.

2.5.3.5 Especially sensitive ecologies

There are two areas of the marine environment which need special measures to protect their ecologies from possibly irreparable damage from the impact of human activities.

First, the sea is being commercially overfished at a non – sustainable rate with consequent serious depletion of stocks on the reefs and posing a threat to the long term prospects of the fishing industry.

Commercial catches of queen conch have dropped over the past few years and it is becoming necessary to go further and further afield to find spiny lobster.

The second important ecological issue concerns the protection of turtles. Turtles are theoretically protected to some extent under the Fisheries Regulations of Belize which establish a close season and prohibit the taking of eggs or turtles ashore, or young turtles anywhere.

At one time, turtle laid eggs along the whole eastern side of Ambergris Caye but because egg poaching was widespread, nesting is now mainly confined to the area between Robles and Rocky Points.⁴¹

Turtle numbers have declined greatly in recent years as a result of expansion and human activities disturbing their nesting habitats which frustrate their instincts to return. Green turtles are particularly sensitive in this respect.

3.1 Urban Structure and Land Use

3.1.1 General Land Use

3.1.1.1 Issues

Land issues in San Pedro Town primarily evolve around sustainable development and the selling of lands North of Ambergris Caye. At this stage, the town is in urgent need for planned sustainable use of its coastal and marine resources.

As Ambergris Caye is an important tourist destination in Belize, catering to approximately sixty (60) per cent of overnight tourist arrivals in the country, the success of the tourism industry on the island has attracted mega – developments that do not confer with the ecotourism product being marketed for Ambergris Caye.

At issue is whether there are appropriate areas in Ambergris Caye to support mega – developments and whether the intense development style will take away from the rural character of the community. This uncontrolled development also threatens the long term health of the coral reefs and associated ecosystems. Additionally, it will affect the livelihood of many locals who depend on a healthy coastal and marine environment for their sustenance.

In reference to the problem of land speculation, there are a few residents of San Pedro who feel as though their opportunities for owning land or businesses in the town have been decimated due to predominantly North American interest, which has raised prices and standards beyond the reach of the average islander. And as majority of the land on Ambergris Caye is now privately owned, concerns now arise as to what land will be available to the future generation of natural residents.

3.1.1.2 Goals

In order to remedy the situation of Land issues on Ambergris Caye, the Local Planning Authority should:

- ☐ Encourage land uses that promote sustainable development which meets the needs of the population while protecting and enhancing natural resources without compromising the livelihood of the present and future generations.
- ☐ Manage growth in a manner that is consistent with the desires of the residents.
- ☐ Preserve the rural character of the Town.

- Shape future development to match the existing character of the Town.
- Develop an up-to-date, progressive land use regulatory program.

3.1.1.3 Recommendations

- Consolidate the zoning and land utilization and subdivision act to simplify the application and review process and eliminate the possibility of incompatibility between two laws.
- Incorporate flexible zoning regulations which will direct specific types of development to specific sites with specific developmental codes.
- Develop and adopt design site development guidelines that provide direction for prospective developers and designers for building placement, landscaping, parking lot placement and operation, road layout and design, drainage, lighting, buffering, access, and pedestrian access. Add height restrictions for residences.
- Develop and adopt an animal control act.
- Develop standards for the operation of marinas. Include provisions for parking, garbage, pump outs, storm-water runoff, boat storage and dock expansion.
- Investigate the need to regulate the number of docks at residential properties and the use of those docks by non-residents.
- Update the Ambergris Caye Master Development Plan on a regular five year schedule.

3.1.2 The Town Core

3.1.2.1 Issues

As the San Pedro Town core contains most of the community's urban functions, with lots generally measuring seventy five (75) feet by fifty (50) feet, excessive density of building on some plots are known to be an issue.

There are two types; the first is non-residential buildings that have been built right up to all its plot boundaries with resulting site coverage of at least eighty (80) percent.⁴²

The second type occurs where more than one house has been built on the same plot. This gives rise to difficulties in disposing of effluent from septic tanks and the danger of the pollution of water sources.

42: "Masterplan for Ambergris Caye" – Shankland Cox, 1989.

Also an issue in the town core is the rapid change in land use without the proper adaptation measures set in place to accommodate for such changes. Such an issue is the rapid increase in the number of bars and night clubs within the town center with no preventative measures to avoid or reduce noise pollution. Although the town core is mostly urban in nature, most of the businesses located therein have residences located above them.

3.1.2.2 Goals

- ☐ Regulate and maintain the current density of the town core so as not to exceed the carrying capacity, and to put undue strain on the existing infrastructure of the core.
- ☐ Maintain the land use of the town center in accordance to the master plan.

3.1.2.3 Recommendations

- ☐ Ensure that any expansions or construction done within the town core abide by the legal boundaries set forth by the Central Building Authority in pursuant to the Belize Building Act, and provide for all necessary infrastructure.
- ☐ Monitor the change of land use within the core ensuring that they comply with all the regulations set forth by the Ambergris Caye Planning Authority/ Local Planning Authority.

3.1.3 South Ambergris Caye

3.1.3.1 Issues

Because of the thriving economy of Ambergris Caye, the island has become a popular destination for those seeking employment as well as for future development investors; making land for residential development in high demand. As a result, many residential subdivisions have taken place over the past few years to accommodate the new increasing demand. Some of the key issues facing southern Ambergris Caye are the lack of adequate infrastructure needed to support these sub-divisions and their ever growing population, and the close proximity to the Hol Chan Marine Reserve.

There are currently two new sub-divisions underway, both of which have given rise to many concerns. They are the Sugar Caye Development sub-division and the South Beach Project.

“The Sugar Caye Development is located next to the San Pablo development and contains 63.2 acres of land subdivided into 421 parcels of land; all of which has water front access by the dredging of canals.” ⁴³

Issues arising from this subdivision include the vast clearance of mangroves and the dredging of several canals which will allow each parcel of land water access to the lagoon near the Town's Marina; the project location's close proximity to the sewerage ponds and the health implications that future residents may face; the possible transmission of effluents from the dredged canals out to the Barrier Reef; and the question of whether or not the cleared mangroves will be able to regenerate.

*“South Beach Belize is a proposed development of 700 acres of land located on the southern end of Ambergris Caye; approximately four miles south of San Pedro Town.”*⁴⁴ This development would include various condo complexes, various hotels, casinos, night clubs, spas and other recreational facilities. The mere size and projected density is the biggest concern of the South Beach project as it may pose a strain on the current infrastructure of the island as well as the threat of major environmental damage.

Other issues arising from the construction of South Beach include the proximity of the Hol Chan Marine Reserve to the proposed development and the detrimental effects on the ecosystems surrounding the proposed site; mangrove clearance and excessive dredging. According to further investigation and upon closer inspection of the diagrams of the boundaries of the Hol Chan Marine Reserve, part of the intended South Beach development, falls within the boundaries of Zone C.

3.1.3.2 Goals

- ☐ Review all approved sub-divisions and developments ensuring that they comply with all the regulations set forth by the Department of the Environment.
- ☐ Remedy existing issues that are not in accordance with sustainable development and the desires of the residents of Ambergris Caye.

3.1.3.3 Recommendations

- ☐ Acquire lands for preservation purposes.
- ☐ Frequent inspection visits to the proposed development sites to ensure that they are adhering to what has been approved.
- ☐ Implement a mandatory reduction in the scale and density of the proposed South Beach Development.

3.1.4 North Ambergris Caye.

3.1.4.1 Issues

In March of 2009 representatives from the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites visited Belize upon receiving information that developments of concern were taking place within the Barrier Reef World Heritage Site; particularly within the Bacalar Chico Marine Reserve. It was reported that the World Heritage Site is *“poorly protected and that there is no clear recognition and understanding of the management implications....and should be considered for immediate inscription on the list of World Heritage in Danger.”*⁴⁵

Major issues include excessive and illegal dredging, both on the windward side of the island as well as in the Laguna de Cantena; illegal poaching of game; the selling of lands and excessive human activity within the boundaries of the Bachalar Chico Marine Reserve.

*“There is also much debate and controversy regarding the intention of re-selling the 3,000 acres of North Ambergris Caye that was formerly part of the Pinkerton Estate and was sold in 2007 to South Korean developers.”*⁴⁶ The property is located at approximately 12.5 miles north of San Pedro Town and although there are no current development proposals for the area, it is still of concern as the availability of land to the local residents of Ambergris Caye is rapidly decreasing.

August of 2009, saw the commencement of the construction of a new easterly road in North Ambergris Caye just behind Journey’s End Resort.⁴⁷ Minor concerns arose regarding the new access road and include the affection of the proper flow and interconnectivity between the wetlands found in that area. As a result of such concerns, the construction of the road was put on hold and topographical studies are currently underway. These studies will determine the flow of water in the area and will determine the best possible pathway for the road while taking into consideration the proper tidal fluctuation in the area.

3.1.4.2 Goals

- ☐ Revise and re-enforce management plans of the Bacalar Chico Marine Reserve.
- ☐ Ensure that development on North Ambergris Caye is sustainable and that proper procedures are taken to minimize negative impacts on the environment.
- ☐ Reduce land speculation on North Ambergris Caye.

45: “Repeating Islands News and Commentary on Caribbean Culture, Literature, and the Arts.” - 2009

46: “Amandala.” – 2009.

47: “Ambergris Today” – AmbergrisCayeNews.com 2009

3.1.4.3 Recommendations

- Implement penalties where due in the mis-management of the Bacalar Chico Marine Reserve when there is failure to adhere to development procedures set forth by the Ministry of Natural Resources and the Department of the Environment.
- Improve monitoring of development especially in these ecologically sensitive areas of the island.
- Revise the functions and implement committees such as the National Human Development Advisory Council (NHDAC).

3.2 Carrying Capacity

3.2.1 Issues

The rapid boom in the tourism industry on Ambergris Caye has brought with it the development of improved beach and comfortable swimming areas; as well as many of the islands current coastal and environmental problems.

Because tourism has a major role in the national economy, the proper management and use of the islands natural resources is vital for maintaining their quality and therefore its continued appeal to tourists.

Ambergris Caye has approximately twenty-five (25) miles of pristine beach frontage; a highly valuable asset, both environmentally and in terms of real estate. As a result, these areas are most subjected to intense pressures derived from excessive human activity.

These pressures can translate into a range of problems in different fields such as:

- **Coastal Planning and management** – *allowing undue chaotic and casuistic construction, at times in hazard areas, with all the problems inherent therein, leading to landscape degradation and all problems associated.*
- **Erosion** – *a result of using hazard prone areas, interference with the line of the coast and reduction of the principal rivers' sediment supply. Currently erosion seriously affects about 30% of Ambergris' coastline.*
- **Pollution** – *rapid urban increase without adequate infrastructure provision, notable a lack of waste – water treatment plants, is responsible for pollution of coastal and estuarine waters.*

In order to ensure the sustainable development of Ambergris Caye, it is vital to understand, study, and estimate the carrying capacity of the island, especially the highly populated tourist areas.

“The theoretical carrying utilization capacity of an area is the maximum number of people that can use said area without reducing conditions below an appropriate standard. The relevant parameters for calculating the capacity vary according to the type of area, and take into account areas subject to permission and prohibited areas.”⁴⁸

3.2.2 Goals

- ☐ Estimate the carrying capacity of the island to further aid sustainable development, with the intention of avoiding the saturation levels that both put natural systems at risk and disturb the residents and tourist’s quality of enjoyment.

3.2.3 Recommendations

- ☐ Define/Classify the available area subject to development.
- ☐ Identify the type of changes proposed (type of beach and equipments and infrastructures required).
- ☐ Analyze the classification of each land use type.
- ☐ Calculate the theoretical carrying capacity.

3.3 Natural Resources Protection

3.3.1 Issues

There is a network of important and valuable natural resources throughout Ambergris Caye and the Town places a high value on protecting these resources from degradation. The major concerns of the Town include; large scale clearance of Mangroves, illegal offshore dredging, habitat destruction and sedimentation of the coral reefs.

There are also threats to both surface water and groundwater resources as a result of individual septic tanks from residences.

3.3.2 Goals

- ☐ Minimize pollutant discharges to the natural environment.
- ☐ Protect environmentally sensitive areas.
- ☐ Assign densities to environmentally important areas.

- Develop adequate guidelines that will minimize habitat alteration.
- Identify and recommend adaptation and mitigation strategies to offset overuse of marine resources by identifying best use strategies for affected ecosystems.

3.3.3 Recommendations

- Adopt a set of conservation design guidelines that protect the integrity of the natural landscape and direct development to the most appropriate locations on individual sites.
- Strengthen provisions in the zoning law for the management of dredging projects, erosion and the placement and maintenance of individual on-site septic systems.
- Increase setback requirements for land use activities adjacent to any given water body.

3.4 Climate Change

*“Climate change is the general term associated with a range of demonstrable changes in global and regional climatic conditions, including temperature, sea levels, precipitation, and extreme weather events such as droughts, flooding, and storms. The effects of climate change are associated with higher concentrations of anthropogenic greenhouse gases in the atmosphere. A natural greenhouse effect keeps the Earth’s surface temperature warm, however, an amplified greenhouse effect where anthropogenically-caused increases in atmospheric concentration of energy-trapping gases is causing rapid global warming (a rise of the Earth’s surface temperature).”*⁴⁹

3.4.1 Issues

Belize is extremely vulnerable to the effects of climate change; particularly the rise in sea levels in the low lying coastal communities. As a small, open economy, Belize depends on imports for many basic goods, and relies heavily on tourism for foreign-exchange earnings to meet the demand for imported goods. The foreseen impacts of climate change in Belize include the exacerbation of existing social issues such as poverty and hunger; and environmental threats such as flooding, tropical storms, and deforestation.

The impacts of climate change to the tourism industry in Belize stems from rising sea levels and warmer sea surface temperatures.

Rising sea levels suggests a greater risk for flooding, inundation, saltwater intrusion and erosion.

49: “Tourism in Belize Vulnerability and Capacity Assessment.” – Robert B. Richardson, 2007.

Warmer sea surface temperatures leads to coral bleaching and are also associated with increasing frequency and intensity of tropical cyclones or hurricanes, which threaten coastal settlements and their infrastructure.

*“The vulnerability of coral reefs is among the most significant threats to the tourism sector in Belize, as reef-based activities attract more than 80 per cent of tourists who visit Belize. Healthy reefs provide numerous economic benefits, generating income from both tourism and fishing and protecting the shoreline. It is estimated that 45% to 70% of the tourism sector is highly vulnerable to the effects of climate change.”*⁵⁰

Also of concern is the augmented risk of outbreak of water borne and heat related diseases such as malaria, dengue and other food borne diseases due to increases in the earth’s temperature.

Adaptation and mitigation are the two ways in which to approach the effects of climate change. Adaptation is changing factors that make one susceptible to climate change while mitigation is considered as an attempt at altering the factors that cause climate change. The most feasible option to be applied on Ambergris Caye would be adaptation as Belize contributes a small fraction of overall greenhouse gas emissions.

3.4.2 Goals

The goals for Ambergris Caye include:

- ☐ Devise adaptation measures through the existing planning, marketing and policy making authority.
- ☐ Ensure that coastal development be planned with caution in light of the physical vulnerability of beaches, construction and infrastructure.
- ☐ Consider the feasibility of installing artificial reefs as part of a strategy to offset some of the potential losses stemming from the negative impacts to reef-based tourism and to divert some of the pressure of visitor impacts from existing Marine Protected Areas on the barrier reef.
- ☐ Emphasize education and public awareness of the vulnerability to climate change, both in the public sector as well as among private businesses.

3.4.3 Recommendations

- ☐ Adopt building design to increase airflow with the addition of trees for shade.
- ☐ Improve sea wall defenses.

- ☐ Mangrove restoration and beach nourishment; trees for protection.
- ☐ Storm-proof construction and reinforcement with the addition of trees for windbreaks.
- ☐ Marine protected areas should be monitored to ensure pollution control and coral regeneration.
- ☐ Rainwater collection systems should be installed such as water tanks.
- ☐ Conservation through tourist education and public awareness campaigns.

3.5 Economic Development

3.5.1 Issues

There is no established economic development policy or strategy for Ambergris Caye however; the San Pedro Business Association is an excellent resource in which to develop incentives and initiatives to attract certain industries. Due to the nature of the island, tourism is likely to remain as the primary source of income and therefore there is the need to develop a set of economic initiatives that help support local tourism.

3.5.2 Goals

- ☐ Preserve the untouched character of the island.
- ☐ Provide more quality jobs within the community.
- ☐ Encourage light industry to locate within the Town.
- ☐ Enhance tourism opportunities.
- ☐ Ensure that the benefits of tourism are felt throughout the island, particularly areas where there is social and economic disadvantage.

3.5.3 Recommendations

- ☐ Encourage the San Pedro Business Association to regularly survey high school junior and seniors to assess trends in job performances and career paths. Begin to target industry and job opportunities that are responsive to these future job-holders.
- ☐ Coordinate event-oriented planning initiatives with marketing to attract targeted segments of the tourist population.
- ☐ Promote the establishment of other sources of economic development such as agriculture on North Ambergris Caye where the soils are adequate for such activities.

3.6 Infrastructure

3.6.1 Issues

Infrastructure issues center on providing safe passable roads for residents. Additional significant issues are related to the provision of extending municipal sewer and water services to areas beyond the immediate boundary of San Pedro Town.

As development continues to increase on the northern part of Ambergris Caye, It is now essential that a proper road right of way from the San Pedro River to the north is constructed as the present road is in desperate need of maintenance.

3.6.2 Goals

- ☐ Improve and expand necessary infrastructure to Ambergris Caye.

3.6.3 Recommendations

- ☐ Continue to develop a regular schedule of maintenance on Town roads for resurfacing and drainage and repairs. Develop a detailed prioritized list of projects for improving Town roads by addressing dangerous curves and unsafe intersections.
- ☐ Identify intersections and road sections which do not have suitable dimension for the maneuvering of heavy vehicles such as trucks.
- ☐ Upon the process of maintaining and extending the road north of the San Pedro River, it is recommended that the road be aligned along the most westerly edge of the beach ridge where it meets the mangrove flat within a minimum reserve of sixty-six (66) feet.

4.1 Development Strategy

The strategy is comprised of the Land Use Framework that incorporates the tourism and recreation framework, housing, commercial, infrastructure, and conservation and natural resources.

The planning system regulates the development and use of land in the public interest. The planning system as a whole and the preparation of development plans in particular, is the most effective way of reconciling the demand for development and the protection of the environment.

4.2 Plan Implementation

The mission to implement the Master Plan includes those actions both from the previous adopted draft plan elements as well as those recommended through the revision of other documents.

Many of the actions required for achieving the success of the Master Plan need to be adopted at the national and implemented at the local level. There are however, several agencies, Ministries and Government Departments that share responsibility for the managing and development of Ambergris Caye and its coastal region.

The implementation strategy provides a broad framework to guide the planning and development of the island on a whole over the next 20 years. The Plan is implemented through zoning regulations and standards for lands within the town boundary, subdivision regulations, building codes, environmental regulations, Fisheries regulations, Forestry Regulations, miscellaneous regulations, guidelines and policies.

Zoning is the most important tool a town has to implement its Master Plan and policies with respect to new development. Regulation is direct and hence it provides the basis for enforcement to be well established. The Master Plan also recommends changes to subdivision regulations, health regulations and all other regulatory tool including general town bylaws.

While currently some proposals are already under various stages of implementation, and is confirmed that the existing institutional mechanism is adequate in tackling the possible implementation hurdles of the strategy, the important thing is to have an efficient inter-departmental coordination as well as a public- sector- private sector partnership approach. In

order to realize these strategies and policies, implementation measures encompassing the organizational, legal and financial aspects must be determined.

To achieve citizen involvement in the planning process, it is essential that within the implementation process the Town Council continues to use the advisory committees whose members are selected by an open process, and who are widely representative of the community.

4.2.1 Legislative Framework

On March 30th, 1990, Ambergris Caye was adopted and prepared as a scheme by the Central Housing and Planning Authority and approved by the Minister pursuant to the provisions of section 42 of the Housing and Town Planning Act, Chapter 182 of the Laws of Belize (the HTPA). To date, this approved scheme still remains in effect as it has not been revoked in accordance with section 43 of the HTPA.

Even though there was a draft master plan from 1988, that plan was never put into effect or given legal recognition by the March 1990 declaration. When the plan was prepared in 1988, the requirement was for the plan to be modified within a five to ten year period. That time has since elapsed, and as a consequence there is the need for a revision of the draft master plan.

In the event that the revised master plan is adopted at the local Level, the next step is for the Central Housing and Planning Authority to submit a copy of the draft Plan to the Minister for approval pursuant to the provision of the Housing and Town Planning Act, Chapter 182.

Due to the fact that nineteen years have passed, it is recommended that consideration be given to the revocation of the declaration made in March 1990 and the declaration of a new town planning scheme for Ambergris Caye.

The procedural manner to deal with a scheme as set out in the HTPA is as follows:

- The Central Authority may by a resolution decide to prepare a scheme which can by virtue of section 41(1) apply to Belize as a whole or with respect to any land within the area specified in the resolution.
- Notice of the resolution is published in the Gazette and a local newspaper for two successive weeks. Notice of the resolution takes effect from the date when first published in the Gazette.

- When the Central Authority decides to prepare or adopt a scheme and that scheme is wholly or partly in the area of a local authority, the Central Authority shall furnish the particulars of the scheme to the local authority for consideration and representations.
- The draft scheme is then submitted to the Minister for approval. He may approve the scheme with or without modification.
- When the Minister approves the scheme, the Central Authority shall cause copies of the scheme to be made available for public inspection and shall within a prescribed time cause it to be published.
- Notice of approval of the scheme is published in the Gazette and in such other as the Central Authority think fit.

When there is a scheme in place, all applications and proposals for development within the area covered by the scheme shall be submitted by the local authority to the Central Authority for its permission or prohibition as the case may be.

If any development is carried out in contravention of a scheme, there is a maximum fine of \$250.00. In the case of a continuing offence, a penalty of \$ 25.00 per day accrues. It is recommended however, that this fine be increased to a maximum fine of \$2500.00 with a penalty of \$250.00 per day accrues in the event of a continuing offence.

It is to be noted that section 54 of the HTPA allows for the Central Authority, with the approval of the Minister, to come to an agreement with the local authority named in the scheme to assign the duties and functions in relation to the carrying out of the scheme to the local authority. It is also noted that any person whose property is injuriously affected by any provisions in a scheme or by the execution of any works under a scheme shall be entitled to recover compensation from the Central Authority. There are however, a number of instances set out in the HTPA at section 65, where compensation is not payable. For example if there are provisions in a scheme limiting the number of buildings which can be built in an area or regulating subdivision of land or regulating the size, height, spacing, construction and type of material used, then compensation would not be payable. These are but a few examples. A more detailed list is set out in the Act at section 65(2).

4.3 The Actors

The success of the Plan is dependent upon the corporation and involvement of the inter-agency coordination and consultation process. Engaged in this course of action are a wide cross section of Government and non government agencies that ensure coastal policies are implemented through regulations and the issuance of permits for development activities on Ambergris Caye. The following section describes briefly the roles and responsibilities of the key agencies:

4.3.1 San Pedro Town Council

The San Pedro Town Council is consisted of seven elected members, headed by the Mayor whose responsibility is to manage the day to day affairs of the Council. The Council is a single corporate body and local authority, established by the Local Government Act, 1984 and a Local Building Authority, established by the Belize Building Act, 2003. The decisions it takes are the responsibility of the council on a whole and it represents and serves the whole community. It has the power to raise money through taxation and a range of powers to spend public money and is the tier of Local government closest to the people it serves.

4.3.2 Ambergris Caye Planning Authority (ACPA)

The Ambergris Caye Planning Authority was established on March 30th 1990 under section 6, subsection (1) & (2) of the Housing & Planning Act.⁵¹

The Authority did not really come into effect due to the fact that they did not have the technical capacity and capabilities of carrying out the planning functions and duties of Ambergris Caye. This further caused the name to change to the San Pedro Planning Committee.

4.3.3 Ministry Of Housing and Urban Development

The Ministry of Housing & Urban Development formulates policy for housing and human settlements. Its added function is to assist with the alleviation of poverty due to urban growth. The Ministry coordinates planning and development control functions through municipal bodies. The Ministry also provides the services of Planners, Building inspectors and Engineers to provide the required necessary assistance. The Ministry is legally empowered through the Central Housing and Planning Authority to make decisions for development which takes place within the boundaries of Ambergris Caye

51: "Housing and Planning Act." – March, 1990.

Municipalities throughout Belize have become more important over the years. With the accessibility of the Housing & Planning Act, it is expected these local Authorities would take the opportunity to formulate land use zoning plans within their boundaries and to develop housing and land use planning for developments. The importance of the land use plans in which areas are designated for housing development and are committed also lies in the fact that they are the only plans which are legally binding for both the public and private sector.

4.3.4 Ministry of Tourism, Civil Aviation and Culture

The Ministry was established in 1989 to enhance the economy of Belize due to the decline in the citrus and sugar cane industry. The purpose was to establish a broad control on all aspects of the tourism industry, environmental issues as well as archaeological resources. Within its portfolio other functions of the Ministry of Tourism involve the coordination, implementation and administration of the policies of government on tourism and archaeology.

Even though very small in size, the Ministry is dynamic in its operations as it carries out workshops and meetings which are hosted and coordinated while consultation is undertaken with actors from various segments of the industry.

The Standards Unit within the Ministry of Tourism is presently focused on the accommodations, taxis, and beach and water sports sectors. The objective is to create standards that cover all sectors and subsectors within the tourism industry.

4.3.5 Belize Tourist Board (B.T.B)

In April 1990, the BTB was established as a statutory body financed by revenue generated by the 6% hotel occupancy tax.⁵²

The Board is a statutory body within the Ministry of tourism, which represents a strategic partnership between government and the private sector to develop, market, and implement tourism programs that will fulfill the emerging needs of our local industries and international tourism market place for the benefit of Belizeans.

The responsibilities of the BTB include the following:

- ☐ Planning, development, and promoting the tourism industry
- ☐ Developing the tourism product locally
- ☐ Encouragement of private investment in tourism

52: "Belize Tourist Board."

- ☐ Issuance and management of licenses for the tourism hotel industry, tour guide, and tour operators
- ☐ Maintenance of historical sites and beauty spots in tourist areas
- ☐ Vetting the standards of facilities as offered by the tourism hotel industry

4.3.6 Belize Tourism Industry Association (B.T.I.A)

In 1989 the B.T.I.A was incorporated under the laws of Belize. This was as a result of the coming together of a group of private sector investors who wanted to develop and take the industry to a higher and different level. The Association now has over 400 members, comprising individuals from all spheres of the industry.

The BTIA is a Non-Government organization that strives to work closely with the Ministry of Tourism and other stakeholders in the interest of maintaining sustainable tourism while safeguarding the natural and cultural integrity of Belize for all.

4.3.7 Belize Hotel Association (BHA)

The Belize Hotel Association was established in 1990 and comprises members of the hotel sector. They were dormant for over two years and in 1993 the Association was revived and once again they became active.

The BHA is a non-profit, non-government organization whose regular membership is comprised primarily of hoteliers with category of allied members who actively service the hospitality industry. BHA is an active participant in major decision-making bodies affecting the growth development and maintenance of the tourism industry. This includes holding a seat on the Board of directors of the Belize Tourism & Industry Association, the country's largest tourism private sector organization and the Belize National Tourism Council, the joint public/private sector agency which coordinates tourism development in Belize.

The BHA interest is to encourage and support the sustainable growth of member hotels through lobbying efforts, national and international linkages, marketing initiatives and training opportunities.

4.3.8 Land Utilization Authority (LUA)

The LUA in accordance with the Land Utilization Act No.13 of 1981 reviews all applications for permission to subdivide land in Belize and further submits its recommendations to the Minister of Natural Resources & the Environment for approval.

4.3.9 Physical planning Section (PPS)

The Physical Planning Section within the Lands & Surveys Department functions as the Secretariat for the Land Utilization Authority. This is so since the PPS is responsible for processing all subdivision applications. The PPS and the LUA are oftentimes considered to be one and the same.

The PPS advises on the best utilization of lands and provides guidance in land use technology through the Special Development Area Program under which zoning plans are prepared. The PPS also provides information to investors and other stakeholders concerning the purchasing and utilization of land in Belize.

The PPS in accordance with, the Private Works Construction Act, Chapter 337 of the Laws of Belize, Revised Edition 2000 is responsible for the issuance of licenses for the construction of any wharf, bridge, pier, bathing or other kraal, or other erection whatever upon, and to enclose, stake in or fill any land on the shore of the sea or bank of any river in any part of Belize other than Belize City.

The PPS prepares licenses to Aliens under the National Lands Act(S.I. No.10 of 2001), which stipulates that the “Minister may in his discretion grant to an alien a license to acquire and to hold an estate as he may think fit for the development of said land.”

4.3.10 Geology & Petroleum Department

The Geology & Petroleum Department is governed by the Mines & Mineral Act, of 1988 and the Regulations attached. At that time the Department was responsible for the issuance of licenses for dredging, and other forms of sand removal.

To date under the Mines & Mineral General regulations of 1994, S.I. No.34 of 1994 control was granted over the dredging, quarrying, and other forms of mining related to the development of the Cayes.

4.3.11 Forest Department

The role of the Forest Department is to enforce the National Park System Act, Wildlife Protection Act, the Forest Act, Forest Fire Act, Private Land Conservation Act and the Mangrove Regulations.

The Forest Department's responsibility is to enforce in keeping with the regulation and stipulations of these Acts to issue certain permits which will allow monitored activity within these areas while respecting the category of these protected areas.

National Park System Act: camping permit, research permit.

Wildlife protection Act: hunting permit, pet permit, rearing permit.

Forest Act: petty permit, salvage permit, long term forest license, chainsaw permit, forest fires Act, permit to burn forest cover.

Mangrove Regulation: permit to remove mangrove land cover. It is the Department's duty to monitor and oversees that permits and license holders comply with the terms of the agreements and that all activity may indirectly affect the integrity of this Protected Area be penalized.⁵³

4.3.12 Department of the Environment

The Department of the Environment, commonly known as DOE, was formed in 1989 and legally established in 1992 by the passage of the Environmental Protection Act (EPA). The DOE is responsible to undertake compliance monitoring and implementation of the Act and subsequent regulations.

The DOE is divided into three units: the Enforcement and Compliance Monitoring, the Project Evaluation/Environmental Impact Assessment, and the Public Awareness/information Management Units.

The EPA granted the DOE broad regulatory and enforcement authority for the prevention and control of environmental pollution and conservation management of natural resources and environmental impact assessment. (EIA)

The Department is also empowered to approve EIAs. The EIA process has taken on an integrated approach to environmental management in order to achieve sustainable development. This initiative takes place through the efforts of the DOE, CZMAI, the Fisheries Department, and Lands Department and other government bodies with regulatory instruments.⁵⁴

53: "Forest Department."

54: "Department of the Environment."

4.3.13 Fisheries Department

The Fisheries Department is responsible generally for all matters connected with the control and regulation of fishing and the proper carrying out of the provisions of the Fisheries Act, Chapter 210 of the revised edition 2000.

The Department is comprised of a number of regulatory units within its development framework some of which are:

The Aquaculture and Inland Fisheries Unit guides the development of a competitive aquaculture industry while at the same time maintaining the viability of the environment and providing responsible stewardship for inland fisheries resources of the nation as well as the ecosystems that supports them, in order to provide sustainable benefits for Belizeans of present and future generations.

The Capture Fisheries Unit (CFU) is the arm of the Belize Fisheries Department responsible for providing the necessary legislative and management interventions to facilitate the continued development and proper management of Belize's marine fisheries resources.

The Ecosystem Management Unit (EMU) of the Fisheries Department consists of management of the marine reserves, marine environmental assessments, CITES marine related matters and regional fisheries policy formulation. Ecosystems management, a new management paradigm, has shifted from specific species and site protection to the protection of entire ecosystems and the regulation of the activities within those systems. The Marine Reserves are Fisheries Management Tools (FMT) implemented by the Department to ensure sustainable fishing.⁵⁵

4.3.14 Belize Port Authority

The Revised Edition 2000 of the Belize Port Authority Act Chapter 233 and regulations empowers the Authority to provide a coordinated and integrated system of ports, lighthouses and port services. This includes the following:

- ☐ Regulate and control navigation and to provide pilotage services, beacons, buoys and other navigational services.
- ☐ The issuance of license for private port.

- Direct where any ship shall be berthed, moored or anchored within the port and approaches to the port.
- The proper control and maintenance of the foreshores of any port and the entrance thereof.

4.3.15 Institute of Archaeology

1894 'The Ancient Protection Ordinance' was passed. The law was limited in that it only recognized and protects monuments sited on land owned by the Belizean government.

1955 the Department of Archaeology was officially established as an administrative branch of the Ministry of Natural Resources to manage the nation's cultural resources and oversee all archaeological resources.

2000 The 'National Institute of Culture and History Act,' Chapter 331 of the Subsidiary Laws of Belize was passed and in 2003, the NICH Act' was passed which caused the Department of Archaeology to be renamed the Institute of Archaeology.

The Institute of Archaeology is responsible for research, the protection, preservation, and sustainable management of Belize's culture and archaeological resources.

Under the NICH Act an Archaeological Impact Assessment is a mandatory component of the Environmental Impact Assessment requirement to ensure that no development regardless of size destroys or impacts any cultural sites.⁵⁶

4.3.16 Coastal Zone Management Authority & Institute (CZMAI)

The Coastal Zone Management Authority & institute is established under the Ministry of Agriculture and Fisheries. The Authority is an autonomous public statutory body mandated by law to coordinate all development activities within the coastal zone of Belize. The Authority's purpose is to prepare a comprehensive coastal zone management plan for Belize. As a function of its responsibility, the Authority is charged with the drafting of a Cayes Development Policy framework that will formulate the proper planning guidelines, implementing and monitoring mechanism that have control over the use of land and the suitability of various development proposals and activities within the coastal areas. In meeting its objective the CZMAI was engaged in the accomplishment of the Coastal Planning Programme whereby development

56: "Institute of Archaeology."

guidelines were produced for 9 coastal planning regions, namely; the Northern Ambergris Caye, Caye Caulker, Belize City, Turneffe Cayes, Lighthouse Cayes, Dangriga Cayes, Placencia/Laughing Bird Cayes, and Southern Cayes Regions. The development guidelines of the Master Plan correspond to the draft Cayes Development Guidelines of the Comprehensive Coastal Zone Management Plan.

The Coastal Zone Management program has established an effective mechanism for continuing consultation and coordination between the CZMAI office and local government and all permitting agencies that play a role in the development of Ambergris Caye.

The CZMAI's plan is to carry out marine research and compile and maintain a data centre that will analyze the data and provide information as required by the authority and the public. The institute organizes training courses, supports other agencies involved in CZM, maintains coastal monitoring programme, and assists with preparation of a national CZM plan.

The CZMAI is a legal entity that has the capability to become the agency to take full responsibility for the management of the coastal zone of Ambergris Caye. The recommendation is that the CHPA delegate its powers and duties to the CZMAI in regard to the declaration of planning scheme specifically for this Master Plan and in addition for the coastal regions including the cayes.

As the Law (Coastal Zone Management Act, Chapter 329) presently stands, delegation of any powers and duties by the CHPA to the CZMAI would be outside the purview of the Coastal Zone Management Act (CZM) as the CZM Act does not give powers of implementation to the CZMAI. Also the jurisdiction of the CZMAI is limited to that area referred to as the "coastal zone". From the definition of "coastal zone" in the CZMA Act, we note that the only land area included is the foreshore-I.e. up to the high water mark.

The definition is as follows:

"coastal zone" includes that area bounded by the shoreline up to the mean highwater-mark on its landward side and by the outer limit of the territorial sea on its seaward side, including all coastal waters.

It follows that for the CZMAI to be able to **implement** any plan or scheme on land, say for example, in north Ambergris; then the law would have to be amended to give the jurisdiction to the CZMAI.⁵⁷

4.4 The action plan

4.4.1 Reduction of Land Speculation

The price of land has increased substantially in San Pedro and Ambergris Caye, making land inaccessible for those within the low-income bracket. The reason behind the land value increase is because of the huge return on land investment. Other special circumstances are the absence of a clear and comprehensive planning and zoning framework that will put in place the proper development guidelines.

The Land Management Programme (LMP) within the Lands Department is in the process of formalizing the land titles as a part of a market approach to development. This will include the credit institution, the regulation of a real estate through the real estate association and the official land management and registry system. The LMP aims at achieving an enabling environment for private and public sector development through enhanced land security; effective land markets and the promotion of a coherent Land Policy framework contributing to the sustainable development and efficient use of land resources. The main objectives are as follows:

- Expand systematic cadastral surveying, tenure clarification and property rights registration, accompanied by consolidation of land rights into a single land registry system;
- Improve the efficiency and sustainability of land administration services provided by the public sector;
- Build a capacity for land use planning at the local, regional and national levels; and
- Support land policy reform.

In addition to land titles, land use classification, long term planning by way of the master plan and enforceable zoning regulations are also essential for promoting better land management and efficient development. The property map that classifies private and public land will help reduce conflicts and promote good governance.

Throughout the years, the private sector has been largely determining land use patterns in the absence of Master Plans and zoning regulations. If the trend continues, that is without government zoning regulations and enforcement, then uncertainties associated with uncontrolled mixed land uses could drive up transaction costs associated with competition over

public resources among private individuals which would impede incentives for productive investors; particularly for small investors, and undermine the development of an efficient land market.

4.4.2 Subdivision Procedures

Within the Master Plan framework, land subdivision requires detailed subdivision planning, submission review, and approval of the proposed plan. The proposed plan must significantly conform to the conceptual land use plan and may only be subsequent to the issuance of a “Notice to Proceed”, and must be accompanied by payment of prescribed fees.

The applicant must submit all necessary information to the Ambergris Caye Planning Authority who will then process the application to be reviewed by the Land Utilization Authority. The ACPA will have representation on the LUA only when land subdivision is applicable to San Pedro and Ambergris Caye.

The application and approval for subdivision has two phases:

1. The first is Provisional Approval, which requires the applicant to submit a completed application form that should include twelve copies of the proposed plan to show it complies with accepted planning guidelines. The following are general standards that are applied in the assessment of application for subdivision:

Identification and Description

- ☐ Proposed subdivision name, location, section, and reference by dimension and bearing to section or section corner, north point, scale, and date of preparation.
- ☐ Name, address and phone number of the owner, and the surveyor, or planner who prepares the plan design.
- ☐ Adequate open space provision (10% of total area is required for recreation or community use).
- ☐ 66 feet reserve along rivers, sea, lagoons, hydro lines, etc.
- ☐ Compliance with the Special Development Area Plan for the area.
- ☐ Contour plan may be requested where area is known to be hilly.
- ☐ Input from other agencies such as The Department of Environment is required in the case of large developments or developments in sensitive areas, Ministry of Works for road construction etc.

Once the applicant complies with the requirement of the Land Utilization Authority, his/her application is submitted to the Minister for Provisional Approval, following which he/she is duly informed of the Minister's decision.

2. The second step in the process is Final Approval. This requires the applicant to submit the relevant completed form together with legible and completed copy of the authenticated surveyed plan. The Land Utilization Authority reviews it to ensure compliance with the previously approved plan, and with Section 13© of the Act, which requires that road construction be carried out to the satisfaction of the Ministry of Works. Once the Land Utilization Authority recommends Final Approval, the application is again submitted to the Minister, this time for approval, and the applicant is subsequently informed of the decision of the Minister.

4.4.3 Disposal of interests to immigrants

The Lands and Surveys Department's policy regarding the allocation and distribution of national lands is clearly stated that national lands is for Belizean nationals only whereas, privately own lands can be made available to foreigners through the real estate agencies.

The Alien Landholding Act Chapter 144 has been repealed and is now under the National Lands Act (S.I. No. 10 of 2001), which stipulates that the "Minister may in his discretion grant to an alien a license to acquire and to hold an estate in national land subject to such term and conditions as specified in the license as he may think fit for the development of said land." It also states that "the Minister from time to time by Order published in the Gazette-

- a) Set out the terms and conditions applicable to license granted under this section.
- b) Determine the duration of licenses granted thereunder.
- c) Set out the procedure by which for which applications for license may made and prescribe the form of license, deed of cancellation, notice and other documents for use under the provisions of this section.

Every license issued shall be recorded in the General Registry as a deed and the breach of any term or condition in a license issued shall render the license voidable. Where the conditions of a license have been fulfilled to the satisfaction of the Minister shall grant the licensee a certificate declaring that the license shall no longer be voidable and the same shall be recorded in the General Registry deed.

4.4.4 Land Registration

The Land Registry Act establishes a Land Registry to carry out the functions of the Act. Three Acts are operated for the registration of land.

San Pedro Town has been declared a compulsory registration area. This means that the dealings of all land situate within the declared areas operates on the authority of the Registered Land Act.

The Strata Titles Registration Act is a follow-up to the Registered Land Act and allows for units resulting from the horizontal or vertical divisions or subdivisions of buildings on a common property, to be registered with freehold title.

The remaining areas of Ambergris Caye fall outside of the registration area which caused land to be registered under the General Registry Act.

The Titles Unit operates under the General Registry Act and its Regulations and deals with land transactions that are situated outside of the compulsory declared areas. It also records transactions under the Bill of Sale Act and Fiats issued under the National Lands Act (Section 19).

4.4.5 Land Taxation

Taxation for local government use to fall under the Local Government Ministry and they had a Valuation Department. This had functioned for quinquennial (5year revision) role for all towns.

In 1996/97 Belize City was given autonomy under the loan agreement and subsequently all other towns.

The basis of taxation under the Land Tax Act is the unimproved value of the land. In addition to the ordinary land tax, there is also a speculation tax for parcels in excess of 300 acres that are in an unimproved condition. These lands attract a tax of 5% of their unimproved value.

San Pedro Town has been declared as a compulsory Registration area which means the right to administrate land will be brought under one system to assure more secure land tenure. The Land Tax Act was amended in January by Act 5 of 2004. The approach taken in the amendment was for there to be a schedule setting out the declared unimproved values for land tax purposes based on the listed categories. The principle behind the amendment was salutary in that at a glance a land owner would be able to determine for him/her what amount he/she would have to pay annually rather than having to rely on what was assessed by a valuation officer.

It is recommended that land tax be guided by zoning considerations and that different rates are established for the various designated zones. The land use zoning for value taxation provides benefits to overall development of land, for example, once an area is being zoned for specific use a multiple of things can occur:

- ☐ The plan will assist the Lands Department in determining how best to distribute land.
- ☐ The Ambergris Caye Planning Authority will be guided when assessing applications for approval.
- ☐ Land will be readily available for the productive sector, e.g. land for industrial development.

This can only be implemented after the Master Plan has been approved.

4.5 Development Concepts

The Ambergris Caye Town Planning Scheme shall come into operation on the publication of the Scheme in the Government Gazette. The responsibility for the planning and development of Ambergris Caye is entrusted to the Ambergris Caye Planning Authority having jurisdiction over the entire island and the Local Planning Authority through the San Pedro Town Council having jurisdiction within the San Pedro Town boundary. The recommendation is for the Town Council to request for the expansion of the town boundary to include the entire island along with the fringe mangrove islands.

The purpose of this section is to regulate development on Ambergris Caye in order to manage and protect the coastal resources by incorporating the recommendations set forth in the document.

The Master Plan is being updated to reflect the changing needs of the island. Highlighted in the Plan is the land use element which shows the existing and proposed location, extent, and intensity of development of land to be used in the future. The Plan is zoned for varying types of residential, commercial, industrial, agriculture, recreational, educational, preservation, open space and other public and private uses or combination of uses. Other plans elements include, archaeological and conservation.

4.5.1 Land Use Strategy

As most of North Ambergris Caye is in public ownership, it is anticipated that the development objectives of these areas will differ as a result of differences in the structure of land ownership.

The land use map shows how the land is currently zoned. The zones control land use and development and provide clear direction for managing the land. The land use categories ensure a balance among the environment, economic and social benefits received from the natural resources, regarding land use subdivision, and the construction and carrying out of buildings and works. These land use categories are listed as follows:

4.5.1.1 General Residential Land Use

*“This designation extends to areas zoned for general residential purposes and all other purposes directly related to and generally found in association with residential areas including schools, public space small professional offices, home industries, place of worship, playing areas, social facilities and small scale local shops. It includes hotels, apartments, buildings, vacation homes, guesthouses, motels, etc., and other purposes directly related to and generally found in association with such use.”*⁵⁸

Residential land use can be divided into four categories;

□ **R1 – “Low, Low Density Residential.”**

The primary use of land within this zone shall be residential which includes occupation by owner as the family home or tenant renting for the purposes of a family home or a vacation home or to be accompanied by owners or rented to tenants for certain times or periods of the year. It may also be used secondarily as conservation and open spaces, parks and playgrounds and other community facilities.

Development specifications within this area are:

- Site coverage within this zone shall not exceed 30 percent
- Building setbacks in respect of any plot shall not be less than 30 feet from the front boundary; 25 feet from any side boundary; and 50 feet from the rear boundary.
- Building height shall not exceed two stories or 28 feet.
- Net density not exceeding 1 dwelling per acre.
- Site Density shall not exceed 10 habitable rooms per acre.
- Maximum number of lots per acre: 1(one).

- Building form shall consist of single family detached dwelling house.
- Building lots must be large to accommodate the owner installed services without detriment to the environment.

□ R2 – “Low Density Residential.”

This zone has all the primary and secondary uses of an R1 zone. The Development specifications are:

- Site coverage within this zone shall not exceed 35 percent.
- Building setbacks in respect of any plot shall not be less than 15 feet from the front boundary; 15 feet from any side boundary; and 25 feet from the rear boundary.
- Building height shall not exceed two stories or 28 feet.
- Net density not exceeding 4 dwelling per acre.
- Site Density shall not exceed 30 habitable rooms per acre.
- Maximum number of lots per acre: 4(four).

□ R3 – “Medium Density Residential.”

In addition to the primary uses of an R1 and R2 zones, R3 areas can accommodate low intensity commerce, apartment, hotels, guest houses, town houses, row houses and condominiums. Development specifications include:

- Site coverage within this zone shall not exceed 40 percent
- Building setbacks in respect of any plot shall not be less than 10 feet from the front boundary; 10 feet from any side boundary; and 20 feet from the rear boundary. Except that no set back shall be required along any side boundary which is used jointly as a party wall between lots.
- Building height shall not exceed two stories or 28 feet.
- Net density not exceeding 8 dwellings per acre.
- Site Density shall not exceed 40 habitable rooms per acre, in the case of dwelling units for family use. In the case of a hotel, net density shall not exceed 100 guest beds per acre.
- Maximum number of lots per acre: 8(eight).
- Building form shall consist of single detached, and multiple-family residential.

- R4 – “High Density Residential.” This zoning applies to existing high-density areas in and near the town core. Its primary and secondary uses are the same as that of R3 – “Medium Density Residential.” Development specifications are:
 - Site coverage within this zone shall not exceed 60 percent.
 - Building setbacks in respect of any plot shall not be less than 5 feet from the front boundary; 5 feet from any side boundary; and 10 feet from the rear boundary.
 - Building height shall not exceed three stories or 38 feet.
 - Net density not exceeding 12 dwelling per acre.
 - Site Density shall not exceed 120 habitable rooms per acre or 250 guest beds for hotels.
 - Maximum number of lots per acre: 10(ten).
 - Building form shall consist of single detached or multiple-family residential or apartment buildings.

4.5.1.2 Commercial Land Use

*“This zone stipulates land specifically for commercial purposes including stores, offices, and services such as banks, insurance broker, restaurants, hotels bars, and repair shops. It also includes residential use, which might be found above shops or with commercial uses.”*⁵⁹

Commercial land uses can be divided into two categories:

- Town Core / Central Business District

This refers to areas within the town that supports high intensity commerce including department stores, supermarkets, offices, banks, hotels, entertainment facilities etc. It may also include conservation uses, parks and playgrounds, all housing densities and medium-low density commerce. The Development specifications for high intensity commercial areas are as follows:

- Site density shall not exceed ratio 8 : 1.
- Site coverage shall not exceed 60 percent.
- Building setbacks in respect to any plot shall not be less than 2 feet from the front boundary; 4 feet from any side boundary; and 5 feet from the rear boundary.
- Building height shall not exceed three stories or 38 feet.

- Commercial

Commercial land use zone includes low-medium intensity commercial which includes grocery shops, local convenience stores, local serviced out, gas stations, etc. these areas may also

include conservation areas and open spaces, parks and playgrounds, and all residential densities (R1,R2,R3,R4). The Development specifications for commercial land use areas are:

- Site coverage shall not exceed 50 percent.
- Site density shall not exceed a floor ratio of 1.2 : 1.
- Building setbacks in respect of any plot shall be no less than 2 feet from the front boundary; 5 feet from any side boundary; and 10 feet from the rear boundary.
- Building height shall not exceed three stories or 38 feet.

4.5.1.3 Industrial Land Use

*“This designation includes areas for manufacturing, and land for warehousing, Storage, building contracting, port facilities, trucking and distribution. The activities carried out within an industrial zone should be performed without detriment to the amenity of the locality by reason of noise, vibration, smell, fumes, smoke, vapors, water, waste, waste product, grit, oil, traffic or otherwise. The establishment should not impose any undue load on any existing or projected service for the supply or provision of water, gas, electricity, sewerage facilities or any other like service.”*⁶⁰

General requirements for Industrial Use

- Development for residential purposes shall not be permitted in any industrial land use class or in any industrial building other than for care taking, security or similar staff in which case the gross floor area so used shall not exceed 5 percent of the gross floor area of the building or comprise more than a single dwelling.
- Development for office purposes shall not be permitted in any industrial land use class or in an industrial building other than administrative offices directly related or ancillary to the main purpose and the gross floor area so used shall not exceed 20 percent of the gross floor area.
- The development of shops shall not be permitted in any industrial land use class other than on sites designated for this purpose by the Authority.
- Vehicular access shall be provided to the satisfaction of the Authority from the carriageway of a public highway through entrances in the boundary barrier of sufficient width to accommodate the type of vehicles using the building.
- The plot shall be enclosed by a barrier along the boundaries of the plot of not less than 4 feet or more than 7 feet in height except where the wall of any building coincides with the boundaries or is required for entrances.

Development specifications include:

- Site cover shall not exceed 60 percent.
- Building height shall not exceed two stories or 28 feet.
- Minimum setbacks with respect to any plot shall not be less than 25 feet from the front boundary; 12 feet from any side boundary; and 25 feet from the rear boundary.
- Parking space shall be provided as 1 per every 500 square feet of floor space.
- 25 percent of site should be reserved for landscaping.
- Disposal of solid waste should be approved by the Local Authority and Health Department.
- At least one loading bay should be provided.

4.5.1.4 Open Space and Conservation Use

“This applies to areas designated for conservation purposes, areas to be left in its natural state, sixty-six feet (66’) strip along the coast to be kept for public use of all shorelines; and it applies to parks and public recreational space.

(In cases where the owner’s land extends to the high water line, then the owner may erect a fence 30 feet from the high water line. Construction for any use will necessitate a 66 feet setback from the high water mark in the interest of protecting private property).”⁶¹

Conservation Areas

The National Parks System Act of 1981 defines a Nature Reserve as *“any area set aside as a scientific reserve for the protection of nature be it biological communities or species, and to maintain natural process in an undisturbed state in order to have ecologically representative examples of the natural environment available for scientific study, monitoring, education and the maintenance of genetic resources.”⁶²*

☐ Rocky Point Conservation Area

The designation of this area as a Nature Reserve and Marine Park is of utmost importance. The entire beach from Robles Point north is a known nesting site for three species of turtles, two of which are endangered. This is the only point along the coast at which the reef is a national resource, which plays a critical role not only in fisheries, but also via the protection it provides for the coast, and nourishment to beach areas, and as such its integrity should be the subject of aggressive protection.

Development on this coast will have profound negative impact on the reef ecosystem over time, due to the increase in sediments and run off which will occur through development and the potential for sewerage leakage into coastal water. Any development will also have implications for the integrity of the Laguna de Cantena.

However, because the area in question is privately owned, it is recommended that all possibility for further subdivision be eliminated and have the area zoned as R1, the lowest permitted density, i.e., an area in which the maximum density allowed is 1 dwelling per acre with total site coverage of 30%. It is highly recommended that no further land subdivision occurs.

Pier construction should be absolutely prohibited due to the highly sensitive nature of this area.

Also implicit in this recommendation is the understanding that this is an area of sufficient national interest that all due consideration should be given to its acquisition by the public sector.

4.5.1.5 Special Coordinated Development Areas (SCDA's)

SCDA's are areas that would be comprehensively planned in partnership between the owners and the planning authorities given their highly ecologically sensitive nature with the concept being for low density hotels and R1 type low density residential uses with the beachfront area equally divided between hotels and residential, with green areas, and public access to the beach at intervals of approximately 1000 feet (300m).

Pier construction in these areas would be restricted to no more than one communal pier.

It is recommended that 30% of all SCDA's remain green areas for conservation purposes.⁶³

4.5.2 Procedures and General Powers

4.5.2.1 Need for planning permission

- ☐ As from the day the scheme comes into effect, no development can be undertaken without prior planning permission from the Authority.
- ☐ The Authority may with the consent of the Ministry by a development order specify categories of development where planning permission is not required notwithstanding that development as previously defined is undertaken and such an order may apply

different provisions to different classes of development and to different parts of the scheme area.

4.5.2.2 Application for planning permission

- The application to the Authority for planning permission shall be made on a form issued by the Authority and shall include such particulars as may be prescribed by the Authority under this section and be accompanied by a plan sufficient to identify the land to which it relates and such other plans and drawings as are necessary to describe the development which is the subject of the application.
- An application for planning permission may be expressed as a standard application in which the proposed development conforms in all respects to the primary use of the relevant land use class and the regulations permitting thereto or, in any other case, as an exceptional application.
- Where a planning application relates to the land within which an area for which a local plan of any kind has been prepared by the Authority, development shall be in accordance with the layout, conditions, regulations and other matters in so far as they are established by that plan and these prevail in the event of conflict over any similar matters contained in this scheme.

Without prejudice to the general powers of the Authority in this part of this scheme no development shall be permitted on any land which is not within a land use zone.

4.6 Proposed Land Use Zoning

In deciding the future development of those undeveloped lands on Ambergris Caye, the issue of sustainability must be addressed. The type of strategy implemented must significantly influence the location of the future development of the town. The following planning guidelines will also influence and shape the strategy and require a sequential approach to the zoning of land to maximize the utility of existing and future infrastructure permission and to promote sustainability.

4.6.1 North Ambergris Caye

Lands on North Ambergris Caye are higher in altitude than the rest of the island, they are still fairly pristine in nature boasting an array of wildlife, flora, fauna and a variety of important and ecologically sensitive ecosystems and as such, is at most risk for mega developments. Most of

the lands on North Ambergris Caye is privately owned and has already been subdivided (see Map MNAC 4). It is of utmost importance that the Local Planning Authority take the initiative in determining the appropriate land use zones for North Ambergris Caye; taking into consideration the planning guidelines provided in this Master plan.

However, as a further recommendation, Map MNAC 4 identifies two areas that are to be considered Special Coordinated Development Areas (SCDA). This refers to those lands adjacent to the Bachalar Chico Marine Reserve. As these areas are within the boundaries of the Marine reserve but are not a part of it, it is recommended that the Local Planning Authority consult with the Bachalar Chico Management Plan (Annex 2) before approval of any development proposals.

These SCDA's should be considered in terms of low density (R1) restricting and limiting development specifically from Robles Point to Rocky Point; the justification being that this area is highly sensitive as it is a well known nesting area for three species of turtles, of which two are endangered. It is also the point where the Barrier Reef adjoins the coastline.

It is therefore recommended that this area be developed according to the specifications of R1 type land use previously mentioned. It is further recommended that no piers are required to be erected within those two points. However, one communal pier can be erected to service the area stretching after Rocky Point up to the Mexican border.

With regards to land that have already received final approval to subdivide from the Land Utilization Authority, development should be limited and should follow strict site coverage and setback specifications.

Land owned by the Town Council is to be prepared as a development scheme to facilitate a compact and sustainable form of urban settlement with the necessary infrastructure support; namely roads, sidewalks, schools, day care centers, residential areas, commercial etc. This is to create a more balanced structure to the Town's development at the same time encourage a strong and sustainable local economy.

4.6.2 Town Core / South Ambergris Caye

As the Town Core has already been developed to an almost full capacity, further development of these areas should adhere to the existing land use zones, (as illustrated in map MSAC 2) and should follow the development specifications previously stated in this chapter.

Any change in the use of these areas should get approval from the Local Planning Authority.

CONCLUSION: OVERVIEW OF REVISED MASTER PLAN

The Master Plan establishes a robust planning system that regulates the development and use of the land. Its policy framework is underpinned by principles that place emphasis on sustainable development in the public interest. The objective is to achieve an integrated development plan and implementation strategy that will bring forward innovative and sustainable development proposals to meet social and economic needs. It also seeks to minimize environmental impacts and as far as possible protect the barrier reef and marine resources in the coastal zone.

In developing an appropriate framework to take Ambergris Caye into the next decade the approach has to be one that will build upon the existing resources of the island including both its buildings and people and establish guidelines for development, ensuring a sustained quality of environment.

The Master development Plan comprises:

- The development strategy, which sets targets for the expansion of tourism, assesses the implications on the growth of employment and population, and establishes the general policy for the use and development of land on the island is shown on Map MNAC 4.
- The institutional Framework outlines the way in which improvements and changes could be introduced to facilitate the implementation of the Master Plan.

With whom does Ambergris Caye need to work?

Inasmuch as Ambergris Caye is an independent, residential community with a strong economy, it is crucial that the island maintain a strong relationship with mainland Belize. Further, with extensive development taking place on the island, it is imperative that the Town takes a proactive stance with the central government, to create and implement a smart growth plan that will be accepted by all residents and stakeholders.

Ambergris Caye must maintain strong ties with two particular departments: Natural Resources and Transportation. Maintaining strong relationships with those at the management level of these departments will ensure consistent respect for Ambergris Caye during changes in administrations. Strong relations with the leaders of these departments will allow those on the

planning committee to effectively lobby their position on major issues. The Town should maintain its leadership positions in all regional committees in which it now participates. It should also take a proactive stance on proposed regional planning groups and on special task forces that may be developed to tackle specific issues.

Also, as the rate of development is high on Ambergris Caye, at least once a month, officials from the Department of the Environment should be invited to attend one of the general Town Council meetings. This will keep the Town's needs on their agenda. As stated in the opening paragraph of this section, the Town needs to work with all regional municipalities to develop a smart growth plan that will be adopted and legally enforced. Smart growth is not about limiting development; it is about being sure development occurs where it is needed and wanted. It is to make certain infrastructure is not overloaded. It is about being sure road and school capacity are adequate before development occurs, and it is about being sure the environment is protected.

What can Ambergris Caye control?

Ambergris Caye should try to control and limit the number of canals being constructed on the island, the condition of its existing canals, the cleanliness of the beach, and the condition of the landscaping throughout the Town. It should maintain a friendly and effective Town staff and police force. It must monitor the Town and enforce all legislations fairly and equally.

The Town Council should develop a proactive lobbying plan and should work towards getting the boundaries of their jurisdiction revised to cover the entire Ambergris Caye rather than just San Pedro Town. Ambergris Caye must have an effective management and lobbying plan for both the municipal and Central Government.

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ANNEX 1

LAND USE / ZONING MAPS

ANNEX 2

BACHALAR CHICO MANAGEMET PLAN