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Tobago Yachting Study

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Executive Summary

Yachting in Tobago has not developed in any formal manner and much of its growth took place after the emergence of Trinidad as a regional yachting service centre. The Tobagonian experience thus far has been one of minimal engagement with the sector. In this environment, misconceptions abound and there is only a vague awareness of opportunities to turn the yachting experience into a positive one for Tobago.

Nonetheless it is estimated that expenditures of the yachting sector amount to TT$ 5.8 million, which is possibly more than expenditures by cruise ship visitors.

Development of Tobago's tourism product will require putting to fullest use the benefits to be derived from sustainable use of its natural resources: from its people, its land and as well from its marine resources. Development of the marine tourism sector cannot be ignored. Marina type facilities are the conduits for economic development of all boating related tourism; and Tobago will have to address the infrastructural needs of this sector in order to derive its potential benefits for Tobagonians.

Overcoming negative perceptions of the yachting sector will be achieved by overcoming indifference to the basic requirements for it to be operational; be it in the provision of proper landing docks or convenient clearance requirements. Toting fuel and water by hand does not attract a better paying market. The introduction of anchorage management to limit impacts, be it through moorings or demarcation buoys, will be a positive sustainable step once it is done in tandem with the creation of a yachting facility on the island to generate suitable economic activity.

An analysis of arrival figures for Tobago indicates that except for the annual events, on average there are less than 50 yachts in Tobago's waters on a continuous basis. Total combined capacity of the 15 different anchorages being used throughout Tobago suggests that not much more than 100 yachts could remain comfortably at anchor in Tobago's waters at any point in time. This is a relatively small density given the widespread distribution of these anchorages and also in comparison to other yacht destinations in the Caribbean. It is therefore expected that any appreciable increase to this number, which would contribute to the growth of yachting as a positive economic activity for Tobago, will need to occur through the creation of purpose-built marinas for the clustering of yacht based activity.

Tobago is charting its own course for its tourism product. This will require conscious choices and programmes for development of the various tourism niches available to it. Yachting can become a plus for Tobago by development of the tourism aspect of yachting, distinct and apart from the Trinidad product, yet benefiting from its proximity to it. The first step will be the commitment to learn more about it.

Recommendations

1. Establish a policy for the creation of marina type facilities in Tobago as a strategy to help address growth and management of the sector; particularly towards mitigation of wider environmental stress through containment and concentration of sector activity. Establish as a priority at least one such facility for the south west part of Tobago to be designated as a port of entry.

2. Commission a site selection survey for possible marina sites utilising coastal site analysis methodologies, community inputs, yacht industry knowledge and land use evaluation. Provide recommendations based on a cost/benefit evaluation.

3. Develop a zoning policy for anchorage which can help address user conflicts and environmental issues in the various bays. Measures to be examined could range from establishing minimum distances from shorelines to implementation and management of moorings.

4. Conduct an audit of the existing information systems and streamline information requirements for management information and control of the sector. Simplify procedures and paperwork,- wherever possible.

5. Encourage representation of the local charter boat sector at an official level to provide a balancing voice for the yacht sector within tourism forums.

6. Consider specific incentives to target private sector investment for appropriate development of the sector.

7. Encourage a revival of the bumboat activities by promoting sponsorship of an annual sailing event, such as a sailing festival from village to village as takes place every year in Martinique.

8. Provide an opportunity for decision makers of the Tobago House of Assembly (THA) to visit various yachting venues and events in the Caribbean which will highlight opportunities and models for the appropriate development of the yacht sector in Tobago.

CHAPTER 1
INTRODUCTION AND OBJECTIVES

1.1 Introduction

The Government of Trinidad and Tobago (GOTT) established a Standing Committee on Business Development in May 2003. The objective of that committee was to develop a suitable climate for investment and to identify priority industry areas in the non-energy sector for development. One of the industries targeted for development was the yachting industry and a separate Yachting Industry Team (YIT) was established in February 2004.

In the last few years studies on yachting have been carried out by the Tourism and Industrial Development Company of Trinidad and Tobago (TIDCO), the Institute of Marine Affairs (IMA) and most recently by the Economic Commission for Latin America and the Caribbean (ECLAC). The results of the latter study were presented in Tobago in 2003. The ECLAC study was also discussed in detail at a national consultation organized by the Ministry of Tourism in October 2003.

Most of the studies concentrated on the Chaguaramas area and for a number of reasons, lack of data amongst the more significant ones, little attention was paid to Tobago. It is noted however, that the Planning Department of the THA undertook a study in 1995 that was entitled "A Critical Review of Yachting Activity in Tobago." The THA Planning Department updated this information when a new review was initiated in 2004, producing a document entitled "Review of Yachting Industry in Tobago" (THA 2004). Prior to that, the IMA carried out a case study on the Establishment of a Marina/Small Craft Harbour in Southwest Tobago (IMA, 1991). Also in 1993 Cabinet approved a number of measures to facilitate yachting, some of which pertained to Tobago.

The government has stated its commitment to help strengthen the yachting sector in Trinidad and Tobago. There is at present however, no policy document which distinguishes between the needs of the sector in Tobago from that of Trinidad.

The Tobago study diverges from the earlier yachting study on Trinidad as the product in Tobago is very much different from that of the semi-industrialized Trinidad yachting sector. Therefore it focuses instead on managing the impacts of existing yachting on the island and on options for a managed low impact development as a third component of the island's tourism product. The study builds on the marine tradition of Tobago itself as traditionally the island has held and participated in regional events such as the Carriacou Regatta and races of the traditional, locally built work boats or bum boats as they are called in Tobago.

This study therefore focuses on all aspects of yachting activity in Tobago, drawing primarily from the inputs of stakeholders taken during the Tobago survey as well as from the recent THA review on yachting by its Planning Department.

Recommendations in response to those various inputs are made both in terms of policy formation and in direct response to proposals for specific areas of implementation.

1.2 Objectives

This document has been prepared as a position paper to inform the decision-making process related to developing policy and managing the Yacht Sector in Tobago.

The main objective of the study is to provide information to assist the THA and the people of Tobago in their deliberations on the costs and benefits of managing the island's yachting sector.

CHAPTER 2
BACKGROUND

2.1 Social

According to the 2000 census, Tobago has a population of 54,000 people, almost equally divided among the sexes, and most of whom (about 70%) live in the western part of the island. Population growth from 1990 to 2000 stood at 11.28%. Estimates of the incidence of poverty vary and range from 17 to 26%. Unemployment appears to be less than in Trinidad at 6.9 % out of an estimated labour force of 23,200 (21,500 employed and 1,600 unemployed) people in 1999.

At a social level, Tobago is largely community based. Because of the main mountain ridge which dominates the middle and north part of Tobago, together with the bay type coastline in these parts, many of these communities are centered around coastal villages where fishing and agriculture have been the traditional mainstays. The southwest part of Tobago, with its more open topography, has lent itself to wider economic activity and mixed-use settlement. Throughout Tobago, the relationship to the seashore is close spiritually, physically and socially.

2.2 Tourism

Unlike Trinidad, Tobago is little industrialized and its two main economic activities are tourism and agriculture/fisheries. Within the island there are two components of tourism. One group comprises the inbound tourists, arriving either at the Crown Point Airport in Tobago or at Piarco in Trinidad, the other group consists of Trinidad residents who spend more than 24 hours in Tobago. In addition there are visits by cruise ships using the cruise ship pier/dock at Scarborough or by the smaller Windjammer Cruises that anchor off Charlotteville.

The tourism product envisioned for Tobago relies heavily on the natural environment and culture of its people. This points to smaller scale tourism activity as being a key, though not exclusive, component of its future growth. It would be within this overall framework that yachting would be developed.

The available data on visitor arrivals only include overseas arrivals at Crown Point Airport. Therefore Trinidad residents and those overseas arrivals via Piarco Airport are not included. This is a major omission that severely underestimates tourist arrivals and expenditures in Tobago. Table 2.1 shows visitor and cruise ship arrivals in Tobago.

Table 2.1 - Tourist and cruise ship arrivals - Tobago

Year	Tourist Arrivals	Cruise ship visitors
2000	49194	21860
2001	30952	10776
2002	39355	10513
2003	56143	15913
2003 Jan - June	27316	
2004 Jan - June	31895	

Source: CSO

Tourist arrivals began to decline in 2001 as a consequence of a poor economic performance in the United States and the European Union (EU). The drop in demand following the events of 11 September 2001 strengthened this decline and while a recovery began in 2002, it was not until February 2003 that arrivals in Tobago surpassed the arrivals for the same month in 2000. Since then tourist arrivals have shown strong growth with arrivals for the first six months in 2004 at 16.7% of the corresponding period in 2003[1]. While the above data refer to Crown Point overseas arrivals only, it seems reasonable that a similar pattern can be discerned for those arriving through Piarco airport. However no such inference can be made for Trinidad residents.

The fisheries sector comprises of 255 fishing vessels, mostly pirogues of less than 9m LOA and powered by gasoline engines of 45 to 75 hp, although heavier engines from 125 to 150 hp are also found. There are about 20 landing sites of which 12 have some level of amenities. The major exports are flying fish fillets (this fishery has developed over the last 10 to 15 years), dolphin fish, king fish and tuna. The industry supports four fish processing plants. (FAO, based on national data).

2.3 Environment and physical

Tobago, with 300 square kilometers, is the smaller of the twin island State of Trinidad and Tobago. Socially and culturally linked to the Caribbean, the islands are bio-geographically linked to South America, as both islands were former parts of the South American landmass. Tobago has been separated longer, since the early Pleistocene period. The island of Tobago has a central mountain mass that reaches an elevation of 550 m above sea level[2].

Tobago is subdivided into two physiographic regions. The main ridge, comprised of metamorphic and volcanic rocks, occupies the northern third of the island, with the highest elevation of 550 m. The coastal plain is flat and coralline and occupies the southern two-thirds of the island (FAO, Aquastat database)

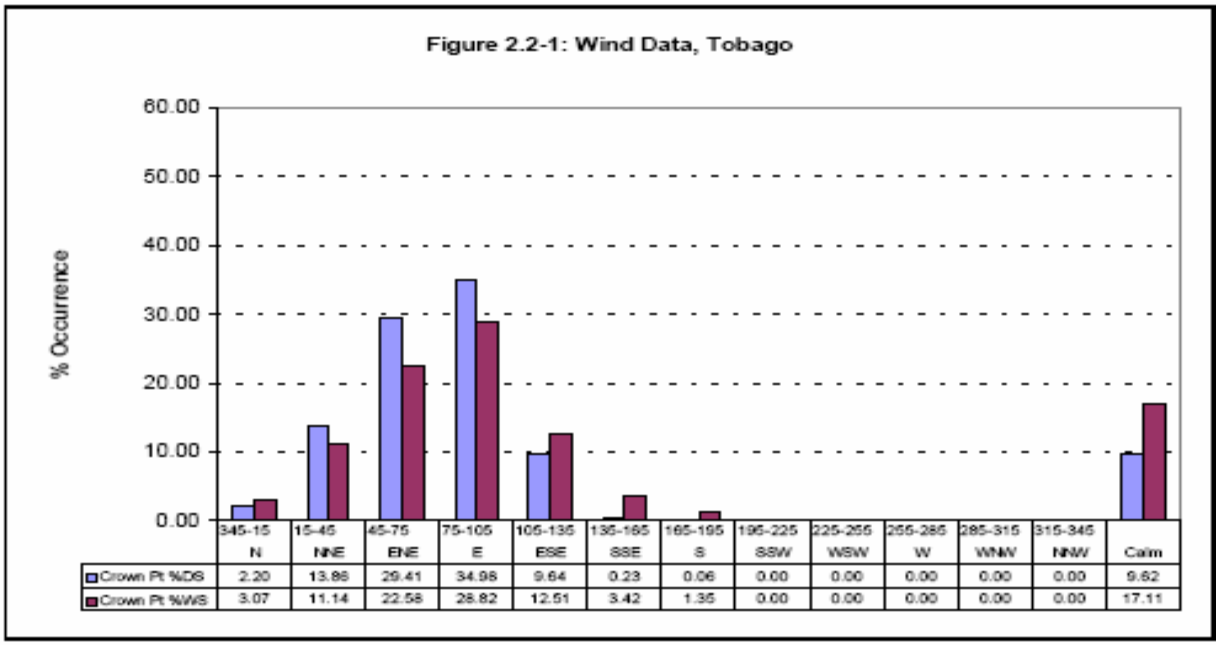
2.3.1 Climate

Tobago has a tropical climate with an annual temperature range of 26 to 30^{o}C. Temperatures in Tobago are somewhat lower than in Trinidad with a marked decline of about 4^{o}C in the *Main Ridge* area. (FAO, Aquastat database)

Tobago is influenced by the trade winds with the prevalent directions from north-north east to south-south east as shown in Table 2.2

[1] The impact of hurricane Ivan on Tobago may have slowed this growth somewhat.
[2] FAO Forestry Trinidad and Tobago country profile.

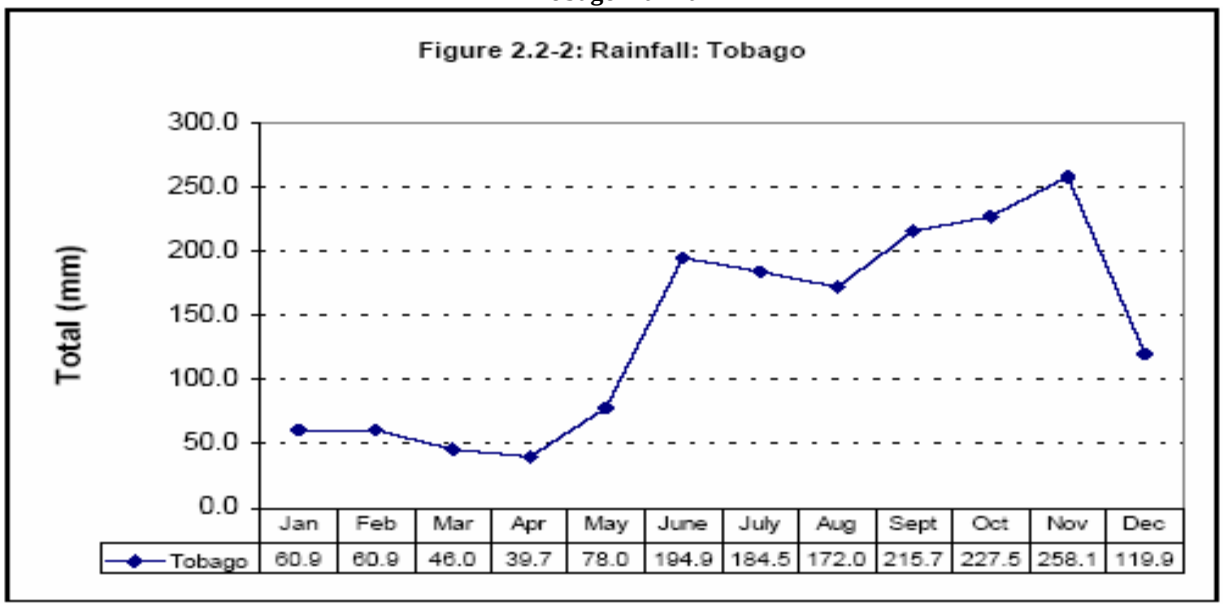
Table 2.2
Prevalent wind directions Tobago



Source: BHP Billiton

The mean annual rainfall is 1 900 mm for Tobago. According to a study conducted in 1998, available surface water resources were estimated at 136 million m^3/year for Tobago. (FAO Aquastat database). A distinct rainy season runs from May/June to November/ December as is illustrated in Table 2.3 below.

Table 2.3
Tobago Rainfall



Source: BHP Billiton

While Tobago is generally considered to be below the hurricane belt the probability of a tropical storm or hurricane is not zero as the passage of hurricane Flora (1963) and recently Ivan has shown. Table 2.4 below shows tropical storms and hurricanes passing within 60 nautical miles from Tobago (11.5 N and 60.83 W) since 1856. Nonetheless the island is considered south of the named windstorm exclusion area as designated by many yachting insurance companies.

Table 2.4
Tropical storms and hurricanes passing within 60 nm from Tobago

Name	Date	Classification
NN	13-8-1856	Hurricane 1
NN	22-9-1877	Hurricane 1
NN	2-9-1878	Hurricane 1
NN	6-10-1892	Hurricane 1
NN	27-11-1896	Tropical storm
NN	3-8-1928	Tropical storm
NN	17-8-1933	Tropical storm
NN	10-8-1938	Tropical storm
Anna	20-7-1961	Tropical storm
Flora	30-9-1963	Hurricane 3
Alma	14-8-1974	Tropical storm
Cora	11-8-1978	Tropical storm
Joan	14-10-1988	Tropical storm
Arthur	25-7-1990	Tropical storm
Bret	7-8-1993	Tropical storm
Joyce	1-10-2000	Tropical storm
Earl	2004	Tropical storm
Ivan	7-9-2004	Hurricane 3

Source: Storm Carib

2.3.2 Marine environment

The marine environment forms a major part of Tobago's economic resources. This wider economic zone has historically provided fishery resources for the island and, more recently, interest in the hydrocarbon energy sector has arisen. The nearshore and coastal zones characterized by blue seas, beaches, reefs and wetlands provide a natural environment for recreational and tourism activity.

According to the IMA State of the Marine Environment (IMA, 1999) waves are from the east with a shift to the northeast during December and January. Waves are generally higher during the winter season.

The marine waters of Trinidad and Tobago are influenced by the Orinoco River but less so in Tobago than in Trinidad. The coral reef formation in northeast Tobago is more alike to that of the wider Caribbean, while in Buccoo Reef the formations are influenced by salinity reduction, reduction in light and sedimentation from the Orinoco and are consequently less rich in species diversity (Kenny, 1997). However, Reefs at Risk, considers all reefs under high or very high risk (Burke and Maidens, 2004), with coastal developments, land based sources of

pollution and artisanal fishing pressure - as opposed to marine based sources of pollution - as the major threats.

Tobago has two fringe areas of mangroves, at Kilgwyn (12 ha.) and Bon Accord (10 ha) but there are smaller wetlands at the mouth of the Goldsborough and Hillsborough rivers and in Lambeau/Petit Trou, Louis D'Or, Minister Bay and Studley Park ((Kenny, IMA, BHP Billiton) The BHP Billiton study recognizes that over the years land use changes have caused losses in the area of wetlands. Of the wetlands, Bon Accord is particularly important since the area also serves as a hurricane shelter.

2.4 Bays and anchorages

2.4.1 Scarborough

Scarborough is the main port of the island. The facility between the breakwater and the custom offices has been built to accommodate fishing vessels, yachts and the coast guard. For sailing yachts the location of the port as a port of entry is somewhat less than suitable because of the ports windward location in relation to yachts entering the island on a leeward approach from the west (that is, yachts arriving from Trinidad). Sailing from Crown Point to Scarborough, against current and wind can easily take three hours for a nine nautical mile distance.

Also Scarborough is expanding its cruise ship jetty to accommodate larger cruise ships. The implications of this expansion, particularly in view of the International Ship and Port Facility Security regulations have not been evaluated but are likely to have implications on maritime traffic between the seawall and the customs building when cruise ships are in port.

Therefore Scarborough, because of its location and limited availability for safe anchorage, is not a suitable port of entry for yachts.

2.4.2 Charlotteville

The other official port of entry is Charlotteville. Unlike Scarborough it is also a popular anchorage.

2.4.3 Other bays and anchorages

Tobago's coastline, while widely distributed with attractive bays, is nonetheless restricted in terms of sheltered waters. Most of the accepted anchorages are located along the leeward coastline, which is generally sheltered from the prevailing easterly trade winds. Nevertheless all of Tobago's bays are susceptible to changing weather conditions, with the popular north side anchorages being exposed to swell activity during the winter months (November to April), while the summer months, though generally calm, are susceptible to tropical storm and hurricane swell activity. Thus, there are no true year-round sheltered harbours for small craft in Tobago. The only sheltered body of water in Tobago is in the Bon Accord Lagoon. This by virtue of lying within the Buccoo Reef system which, because of its environmental sensitivity, is only supposed to be used by small craft as a 'hurricane hole' in storm conditions. The only yacht type vessels

utilizing the lagoon presently are the day charter operators for loading supplies and paying guests.

CHAPTER 3
DESCRIPTION OF MARINE TOURISM

3.1 Definitions

Marine-based tourism is defined as those recreational activities that primarily use the marine resource.

A yacht is a seaworthy vessel of not less than five metres in length propelled by motor or sail, categorized as private or charter vessels and used primarily for pleasure.

A cruising or live aboard yacht is used typically by its owner for various periods of time.

A bareboat yacht is a yacht rented without a paid full-time crew for a fixed period of time.

A crewed charter boat is a yacht rented for a fixed period of time whereby the crew is responsible for all aspects of the sailing experience.

A super or mega yacht is a yacht over 30 metres." At times the boundaries between the larger yachts and small cruise ships, particularly those special purpose vessels such as dive charter boats or the sailing of "traditional" vessels, may be blurred. An upper limit therefore for a yacht would be a vessel that does not fall under the Safety of Life at Sea (SOLAS**)** or International Ship and Port Facility Security Code (ISPS) conventions.

. Vessels that comply with those definitions would be considered cruise ships.

A marina is a facility providing berthing facilities, including moorings, for a minimum of 10 yachts and offers bathroom, shower and change facilities and receptacles for the disposal of waste.

A boatyard facility provides a lifting capability of a minimum of 10 tonnes and land storage and services to marine craft.

3.2 Yachting within the Tobago context

The yachting sector forms part of Tobago's marine-based tourism. It is worthwhile to identify what the yachting sector encompasses in the Tobago context so that the analysis and recommendations behind this study are clearly understood by all stakeholders.

Marine-based tourism is that segment of tourism wherein the primary activity or experience is provided in and by the marine environment. In some cases this activity may be the determining reason for a visitor coming to Tobago (estination arrivals, such as specific diving or sport fishing visits), while in others it provides a component to the overall tourism product.

The yachting sector, for the purposes of this study, encompasses all activities utilizing vessels, which carry some form of accommodation facilities aboard, whether they are operated for day tours or for residing onboard. These vessels are typically larger and heavy enough to prevent being hauled out manually, with inboard engines and other specialized gear installed aboard.

This categorization of the yacht sector is useful since all the vessels associated with this cross section of activities, due to their size and type, have common infrastructure requirements for their safe and proper operation; and it is in the future development of common infrastructure to support these activities, that controlled growth and management can best be exercised.

The yachting sector in Tobago therefore includes the following identifiable segments:

- Foreign and local private cruising yachts, both motor and sail, using Tobago's waters;
- Locally operated charter boats, motor and sail, used mainly for sportfishing & day tripping excursions along the coastline;
- Event related tourism utilizing such types of vessels: fishing tournaments and sailing regattas.

The matrix below shows the key features of marine-based tourism.

Marine-based Tourism Activities in Tobago

	Beachfront & Nearshore Zone		**Reefs & Dive Sites**		**THE YACHT SECTOR Offshore Zone & Embayments**		
Natural Resource	Beach & shallow waters	Wind & Waves	Reefs Ledges & Wrecks		Fish & Sea	Wind & Sea	Anchorages
Activity/ Experience	Seabathing Skidoing Beach sailing Dinghy Sailing	Surfing Windsurfing Kiteboarding	Snorkeling	Diving	Game Fishing Tournaments	Day Chartering Regattas	Anchoring/ Mooring
Vehicle	The person PWC Beachcats Bumboats	Surfboard Sailboard Boats Kiteboard	Glass Bottom Boats	Dive Boats	Sportfisher Boats	Sail & Power Racing Yachts Speedboats	Sail & Motor Yachts
Example/ Type of Craft	Yachting Hobiecat	(Ditto)	(Ditto)	Pirogue	Flybridge boats	Multihull	(Ditto)
Destination Tourism		X X		X	X		X

3.3 Visiting yachts

Table 3.1 below shows the arrival data for yachts in Tobago. It must be noted that arrivals by Trinidad and Tobago residents and foreign yachts arriving from Trinidad are excluded; hence the actual number of yachts arriving in Tobago is higher than the data indicate.

Altogether the existing data may seriously underestimate the actual yacht arrivals in the island. This shortcoming is partly addressed by data from the Immigration Office in Scarborough, which are shown in Table 2.2 below. However, there are differences in yacht arrivals from foreign ports as compared with those compiled by the Custom and Excise Division.

From Table 3.2 below we note that there is little difference in the number of foreign port arrivals between Scarborough and Charlotteville.

Arrivals in Tobago fluctuate more than comparable arrivals in Trinidad. While Trinidad observed steady growth until November 2000 and steady decline thereafter, arrivals in Tobago show a more erratic pattern. It is noted that Tobago observed its highest number of arrivals in 2001, a year that was followed by an 18% drop in arrivals for 2002. Unlike Trinidad the following year showed positive growth in 2003, much akin to developments in the rest of the Eastern Caribbean. However, in contrast to the upsurge in tourism in general and yachting in particular, 2004 arrivals for the period from January to September are more than 30% lower than for the corresponding period in 2003.

Table 3.1
Yacht arrivals Tobago by year and month of arrival

	1997	1998	1999	2000	2001	2002	2003	2004
January	70	72	91	52	82	52	82	67
February	55	87	68	58	73	70	81	46
March	58	71	56	85	73	70	35	55
April	45	35	54	35	42	50	45	32
May	65	96	85	99	94	107	60	31
June	56	44	50	34	34	30	28	18
July	47	61	38	62	54	43	58	36
August	43	50	65	60	52	59	49	29
September	39	36	38	34	28	20	26	9
October	27	26	37	42	54	19	35	
November	37	39	64	37	60	21	35	
December	67	85	82	87	91	66	98	
Total	609	702	728	685	737	607	632	

Source: YSATT, based on Customs and Excise data.

Table 3.2 that about 29 % of the Tobago foreign yacht arrivals came from Trinidad from September 2003 to August 2004.

Table 3.2
Yacht arrivals by port of entry and previous port

		2003				2004								
		Sep	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Total**
Scarborough, Foreign Ports	From	10	16	17	37	35	38	29	18	41	7	14	11	273
Scarborough, Trinidad	From	9	8	17	13	16	11	13	2	10	15	9	14	137
Charlotteville, Foreign Ports	From	14	15	22	58	38	24	21	16	19	11	23	18	279
Charlotteville, Trinidad (Chag)	From	0	0	0	46	0	0	0	0	0	0	0	44	90
														779
Charlotteville, Scarborough	From	Sep – Dec 03:13				Jan – Sep 04:								

SUMMARY
% ARRIVALS FROM FOREIGN PORTS: 71%
% ARRIVALS FROM TRINIDAD PORTS: 29%
Source: Immigration Office, Scarborough

3.4 Seasonality

The period December to May appears to be the high season in Tobago with approximately 60% of the yachts arriving during that period. This pattern is more like that of the Eastern Caribbean and somewhat contrary to the pattern observed for Trinidad. On the other hand seasonality in Tobago is not as pronounced as in some of the other Easter Caribbean countries like, for example Antigua. A spike in arrivals consistently occurs in May of every year in line with the Tobago Sail Week.

3.5 Push and pull factors

Pull

- Relatively undiscovered
- Mostly favorable reports from visiting yachtsmen (e.g. article in Compass, other web-based commentaries
- Low crime rate
- Blue water
- Lower cost of living than most Eastern Caribbean islands
- South of the hurricane belt

Push

- Lack of basic infrastructure
- Lack of services
- Negative perceptions by Tobagonians
- Cumbersome immigration procedures
- Scarborough not suitable as a port of entry

3.6 Events

The Tobago Game Fishing tournament that started in 1981 and the Angostura Sail Week that began in 1980 are two major international events that are part of event tourism. Both events, as well as a number of smaller activities, form part of the established tourism calendar and have been widely supported because of the benefits accruing to the island.

3.6.1 Angostura Tobago Sail Week

Held in Tobago in May, the Angostura regatta follows the Antiguan Sailing Week. In addition to racing and cruising categories the regatta has specific events for live aboards and charter boats. In 2002, the event drew 76 participating yachts (14 racing, 13 cruising non-spinnaker, 30 charter class and eight in the comfort cruising class) and around 40 to 50 spectator boats. As shown in Table 3.3 participation has dropped particularly in the charter class since 2002, perhaps as a result of losing the connection with Yachting World and a drop of interest in chartering yachts from the Moorings.

Table 3.3
Class and number of boats participating
Angostura Sailing Week

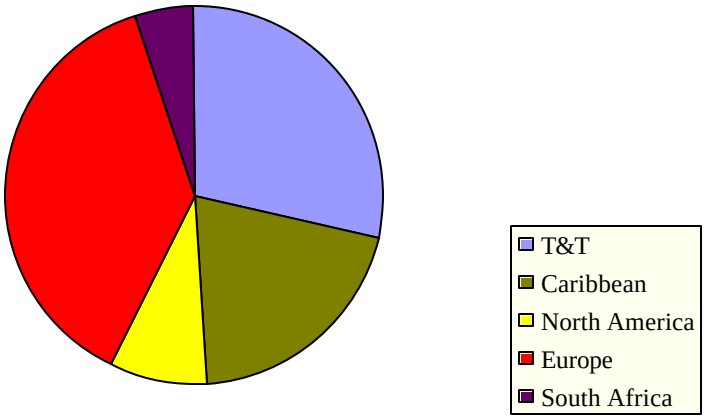
Class	2000	2001	2002	2003	2004
Racing	18	13	14	12	10
Cruising and racing cruising	17	24	24	21	19
Charter	17	28	30	19	10
Comfort cruising	6	8	8	5	3
Total	58	73	76	57	41

Source: Regatta Promoters Ltd

The charter class is drawn from bareboat yachts from other locations such as Saint Lucia, St. Vincent and the Grenadines, and Grenada or even as far as Martinique[3]. In fact charter boat companies such as the Moorings do advertise special packages to participate in the regatta. With a mainly European oriented marketing strategy, the impact can be seen in the distribution of skippers by nationality.

[3] For example, the Moorings was offering one week Tobago/Tobago charters starting at £860 per person (six people per boat) or two week charters from Grenada or Martinique at £912 and £1171 per person, respectively. These charges included flights, entry fees and support, but not race insurance, racing fees.

Figure 3.1
Nationality of skippers, 2001



Source: Regatta Promoters Ltd.

A 2001 expenditure survey by TIDCO and Regatta Promoters estimated expenditures at US$893 per boat per day. With an estimated stay of five days, this implies expenditure per boat of US$4,464 for the event. With 73 boats participating that year the estimated expenditures amount to US$326,000 or slightly over TT$2 million. It is interesting to note the distribution of this expenditure, which is shown in Table 3.4 below.

Table 3.4
Daily expenditures per boat, 2001
US $

Expenditure item	Expenditure
Accommodation	300
Food	375
Entertainment	150
Transport	45
Fees and taxes	16
Yacht services	7
Total	893

Note: 8 crew per boat
Source: Regatta Promoters Ltd

The above estimate points to an average expenditure per person per day of about US$110, which does not seem to be outrageous. This, however may include charter fees which

would not benefit Tobago. As can been seen from the table, most expenditures are not yachting related and, apart from possible charter fees, would contribute directly to the Tobago economy. There is little doubt that expenditures will have dropped since 2001 mostly because of the drop in charter participants.

The last two surveys conducted under the aegis of TIDCO were somewhat less than successful. This is of concern because of the drop in participation rates and there remains little insight in the reasons why participation has dropped. The Central Statistical Office (CSO) should be requested to conduct such a survey.

3.6.2 Great Race

The Great Race, a race from Trinidad to Tobago, is held the weekend before Independence Day[4]. Typically, approximately 20 boats partake in the event. Apart from the 40 to 50 participants, the event draws family members and friends who typically stay for the weekend. Participation is mostly local with ad hoc representation from United States or Caribbean-based powerboats.

The lack of foreign participation limits expansion of the race. Caribbean participation is limited because most of the islands do not have the particular type of racing boats required, while participation by United States boats is limited because the Great Race is held parallel to the United States racing schedule. Efforts have been made to have the Great Race established as a United States-recognized racing event or possibly shifting the date so as not to conflict with their racing schedule.

At an estimated expenditure of US$130 per day per group, the total expenditures amount to around US$15,600 to US$19,500 being spent in Tobago, for accommodation, food, car rental and other local non-fuel expenses.

The major constraint is the lack of a fuel dock. Around two thirds of the boats use ordinary gasoline while the others use C-12 or C-14 as fuel, and the fuel is being barged in and boats are fuelled in the lagoon. Altogether it is estimated that some 4,500 liters of fuel are being sold.

3.6.3 Fishing tournaments

The Tobago Game Fishing Tournament was established in 1981 and for most of the 1980s and 1990s participation numbered between 37 and 54 boats. Since 2000 this has dropped to a low of 24 boats in 2001 but the tournament seems to have undergone a slight recovery since that date. Since the middle of the 1990s a tag and release rule was established and most marlin is now being tagged.

[4] The race used to be held on the Discovery Day weekend (and coincided with the Great Fete. Since the pronouncement of Emancipation Day the race is held according to the above schedule.

Table 3.5
Participation Tobago Game Fishing Tournament

	2000	2001	2002	2003	2004
No. of boats	36	24	26	32	33
No of anglers	181	117	135	167	171
Fished landed (lbs)	3347	1221	5143	3603	2468
No marlin tagged	21	15	33	22	26

Source: Trinidad and Tobago Game Fishing Association

In 2004 there were 33 boats. Fuel sales alone amounted to 20,000 liters of diesel and 3,000 liters of gasoline. Fuel sales amounted to TT$55,000 diesel and TT$8,520 for gasoline. Fuelling took place in Bon Accord Lagoon, and one day in Scarborough.

3.6.4 Other

From 24 June to 3 July 2005 Tobago will host the North American Optimist Dinghy Championship. This event, with an expected participation of about 200 sailors and boats, will attract participants from across North, Central and South America. The championship will offer Tobago an excellent opportunity to promote the island as a sailing destination.

3.7 Other forms of yachting

3.7.1 Day charters

There are four day charter operators, based at Pigeon Point, Bon Accord Lagoon and Mt. Irvine, offering coastal excursions which fall into the yacht classification at present in Tobago. Three of these vessels being operated are of the catamaran 'twin hull' type (2 sail and 1 motor) designed to be more stable and carry a larger group of passengers; in one case up to 40, while the fourth is a speed boat. These operators offer full day all-inclusive excursions up the north side coast or exclusive day trips or the shorter evening trip for family or corporate groups. Rates for the day trip are around US$75 per adult.

3.7.2 Sportfishing

The waters around Tobago have year round billfish stocks. Tag and release is proving to be a component of marine-based tourism and charter guests stay in hotels, thereby strengthening the link with the hotel sector. Although billfish are available on a year-round basis, the optimum season runs from November to April in line with the flying fish season.

To some extent, sportfishing in Tobago has acquired a destination attraction, as is certainly the case for diving tourism. One established operator attributes at least 50% of his clientele to pre-bookings sold through specialist tour operators and referrals. There are about six game fishing operators in Tobago operating up to 10 boats of the cabin/flying bridge type. Additionally there are numerous smaller boats operating throughout the island, which offer fishing as a tourism activity. Also some boats based in Trinidad offer charters to Tobago.

Presently, Tobagonian game fishing operators are based mainly in Bon Accord Lagoon, Scarborough, Mt. Irvine and Speyside. Smaller pirogue type operators are more widespread through the island. Game fishing is a highly developed tourism activity in many parts of the Caribbean and charter fees range from US$600 to US$850 a day, which does not include accommodation.

3.7.3 Chartering

While Tobago is not on the crewed or bare boat charter agenda, there are occasions that Tobago is either used as a temporary destination (for example, during the Angostura racing week) or as a starting destination for crewed charter boats[5]. However it is not known how often such charters take place or what the impacts are on the island.

In the medium term there may be scope for a limited Tobago based charter operation, possible for one week combined with a one week hotel vacation in either Tobago or Trinidad. Tobago would derive similar costs and benefits of charter boat operations based in Tobago as from the hotel tourism sector since the accommodation component, albeit mobile, is based on the island.

Also Wind Dancer, a crewed dive charter is said to be based in Tobago for the 2004 summer season[6] and possibly longer.

3.7.4 Organic linkages between the different marine based tourism components and fisheries

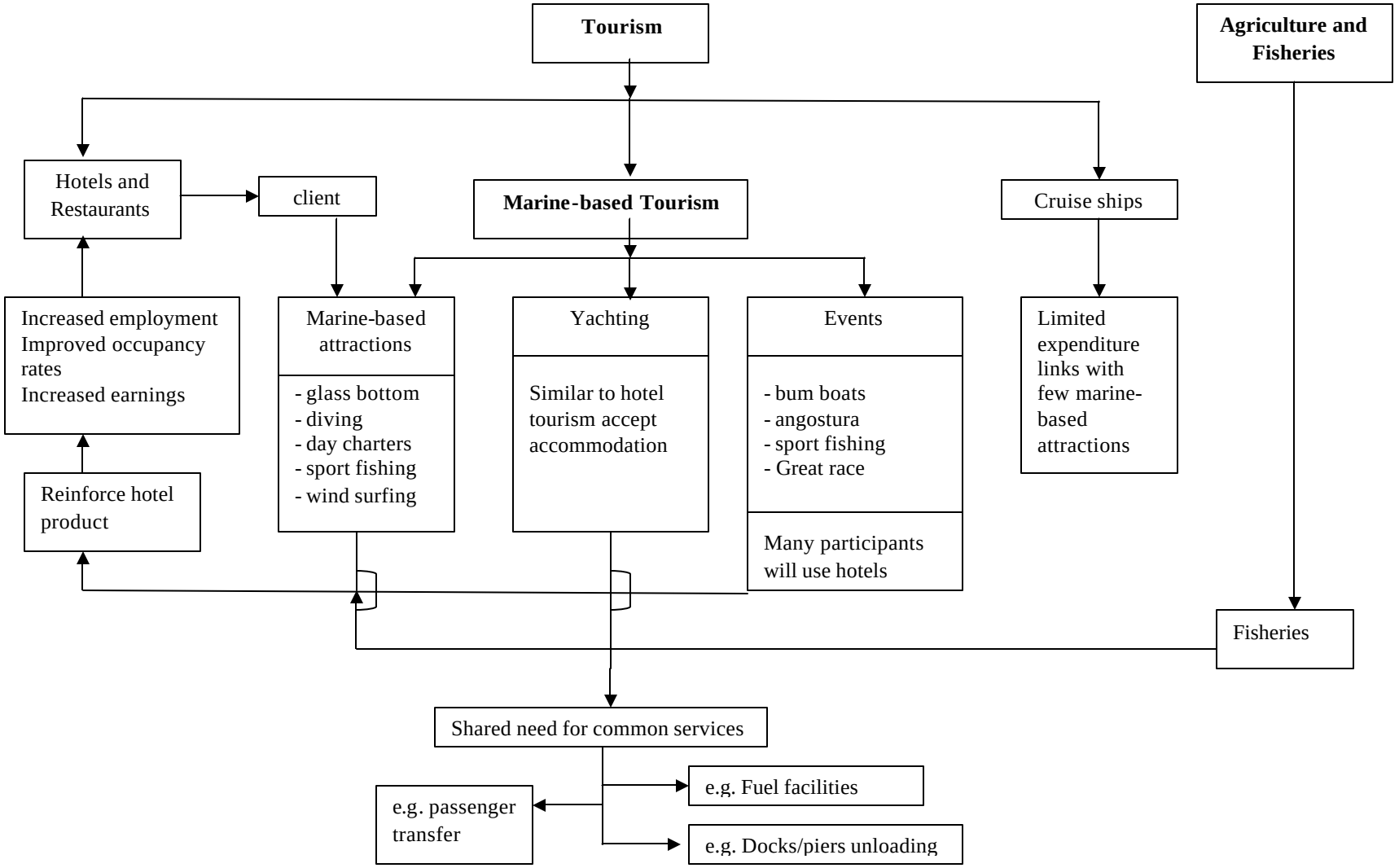
Apart from yachting or leisure marine, the marine sector also includes fisheries and other small craft. Many of the required services will equally not only benefit yachting or leisure marine but the whole marine sector. For example, the availability of an environmentally sound fuel dock would benefit everybody and probably reduce hydrocarbon pollution. Similarly, availability of small engine repair, refrigeration and small chandlery services would be required by all components.

Chart 3.1 below shows some of the organic links between the various components of marine based tourism and the hotel and agricultural sector.

[5] See for example http://www.caribbean-sun.com/Yacht/tobago_yacht_cruise.htm

[6] http://www.usdivetravel.com/V-TOBAGO-WindDancer.htm

Chart 3.1


Tourism
Agriculture and Fisheries
Hotels and Restaurants
client
Marine-based Tourism
Cruise ships
Increased employment
Improved occupancy rates
Increased earnings
Marine-based attractions
- glass bottom
- diving
- day charters
- sport fishing
- wind surfing
Yachting
Similar to hotel tourism accept accommodation
Events
- bum boats
- angostura
- sport fishing
- Great race
Many participants will use hotels
Limited expenditure links with few marine-based attractions
Reinforce hotel product
Fisheries
Shared need for common services
e.g. Fuel facilities
e.g. passenger transfer
e.g. Docks/piers unloading

CHAPTER 4
TOBAGO YACHTING IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

4.1 Government institutions with an interest in yachting

Within Tobago, there are various stakeholders with explicit interest in the yacht sector. Others in the public sector would include the THA, Customs and Immigration, the Department of Fisheries and Marine Resources and the Division of Works and Infrastructure. Non-governmental organizations (NGOs) are represented by Environment Tobago and the Buccoo Reef Trust. There is no private/business sector organization representing yacht sector interests in Tobago. It is fair to state that all public interest groups represented in Tobago are presently concerned with the control aspects of yachting in Tobago with little effort being paid to development issues for the sector. It is arguably the case that only when sufficient interest is created in the development of economic interests in the yacht sector (as defined earlier) within Tobago, that sufficient effort will be made towards resolution of the broader range of issues now holding interest.

One specific issue identified for management of the Tobago yacht sector is the collection of proper data concerning the presence of yachts in Tobago; specifically how many and which yachts may be in Tobago's waters at any point in time.

An analysis of carrying capacity of the different anchorages being used throughout Tobago suggests that there are seldom more than 100 yachts in Tobago's waters at any point in time. This is a relatively small number, given the widespread distribution of these anchorages and also in comparison to other yacht destinations in the Caribbean. Any moves at introducing anchorage restrictions in some of these areas will reduce this number. It is therefore expected that any significant increase to this number, which could contribute to the growth of yachting into a positive economic activity in Tobago, will need to occur through the creation of purpose built marinas for the clustering of yacht based activity.

4.1.1 The Tobago House of Assembly

Tobago has a large degree of self governance. The THA, which is the administering body, has primary responsibility for tourism, fisheries and natural resources.

The fisheries department is responsible for the management of fisheries as well as the Buccoo Reef Marine Park.

4.1.2 Immigration and Customs

Clearance procedures into and out of Tobago by foreign yachts are the same as for Trinidad with the same forms applicable. It is felt that inaccuracies might exist in data on yachts arriving into Tobago. This is because yachts clearing from foreign ports are governed by strictly enforceable customs and immigration laws, presumably receiving a high degree of compliance,

whereas those entering Tobago from Trinidad waters are governed by regulations and practices which are not adhered to strictly. There is evidence of differing interpretation among public officers on what actual procedures apply when entering from Trinidad; this effectively reduces compliance. Generally, however, foreign yachts, in their self interest, will follow the guidelines as they often will be leaving Tobago for a foreign port after coming from Trinidad, and would then want all the entry papers to be made available in Tobago. This can only happen once prior clearance is made in Trinidad so that original clearance papers are forwarded on.

Surveys as well as written reports from yachtsmen visiting Tobago ranks the experience of entering into Tobago as one of its real negatives, with paperwork and clearance requirements unparalleled to the rest of the Caribbean. Additionally, information for yachts entering Tobago and guidelines for yachting in general is not conveniently posted at the various ports and anchorages in Tobago. Such information becomes more regularly updated and available at facilities where yachts congregate and an active management interest exists.

A yachtsman will tolerate a certain amount of bureaucracy in order to attend to the needs of his vessel, which is often the main reason for going to Trinidad. This is much less the case once the reason for his visit is tourism. Tobago is a tourism destination and streamlining of paperwork is a typical start up issue for any tourism product. Trinidad's indifference to changing outmoded paperwork and coming in line with the rest of Caribbean practice is not in Tobago's interests for suitable development of the sector. A better paying tourist (sic. yachtsman) will avoid undeveloped product destinations which, in turn winds, results in the lower end of the paying market.

Presently, there are two ports of entry for yachts in Tobago. Scarborough in the south east of the island and Charlotteville in the north. Scarborough, because of its location and limited availability for safe anchorage, is not a suitable port of entry for yachts. This is the case particularly because of its windward location in relation to yachts entering the island on a leeward approach from the west. Establishing port entry facilities in the south west of the island will provide a platform for growth and management of the industry. Apart from creating a more user friendly approach into Tobago, it will go a long way towards obtaining compliance with entry procedures; it would also remove the need for Charlotteville as an entry point for yachts. All yachts would then proceed to one point of entry and departure, consolidating all management and information relating to yachts in Tobago.

It is not a coincidence that throughout the Caribbean, all ports of entry for yachts are located on the leeward coastline; which is not the case for Scarborough. Additionally, once a yacht has cleared into these countries, it is not required to check customs or immigration in order to move around the island's waters. In the case of Grenada, upon entry a cruising permit is issued for a fee. The same can be considered for Tobago. It is nonetheless recommended that all yachts including those coming from Trinidad, once they have cleared into Tobago, be free to move around Tobago's waters until they are ready to depart. There are no practical advantages in having yachts check into different ports along the nation's coastline unless the objective is to discourage them from coming in the first place.

In consideration of the above, Cabinet decided in 1994 that:

- A new harmonized single form for use by the Customs, Immigration and the Harbour Master be adopted.
- Special regulations for the reporting of pleasure crafts be introduced under the Customs, Immigration and Harbour Acts (chapters 78:01, 18.01 and 50.06, respectively).
- A private marina facility that exists at Plymouth on the leeward side of the island be used for the landing of pleasure craft.
- Government assumes the responsibility to erect proper office facilities at the Plymouth landing facility for Customs and Immigration.

To date these decisions have not yet been implemented.

4.2 Private sector entities

4.2.1 YSATT

The Yacht Services Association of Trinidad and Tobago (YSATT) has its office in Chaguaramas, Trinidad. The organization was established to facilitate the development of the yachting industry in Chaguaramas and consequently YSATT focuses on issues relevant to that area.

A similar organization does not exist in Tobago. This is similar to the situation that prevailed in the past in many of the Eastern Caribbean islands. In most of the islands a private sector association has now been established with advocacy, public awareness, liaison with government entities and promotion as major objectives. The formation of a private sector Tobago marine services association is highly recommended.

In Tobago, the emphasis of a private sector association would be different and more focused on the promotion of environmentally sound development of recreational yachting. Also a private sector association in Tobago could have a wider marine-based tourism basis and possibly include day charters, glass bottom boats, sports fishing and dive boats plus the service establishments.

Clearly the Tobago Association and YSATT would have a range of issues, many dealing with the unitary state, in common. Such issues would include immigration and customs, crime, taxation and incentives and promotion. With respect to other issues, such as the promotion of events or no anchoring zones, liaison with the THA would differ.

4.3 Infrastructure

The yachting tourism sector in Tobago, except for the locally operated charter boat and event tourism activity, is not operating within a sustainable development framework from the Tobagonian standpoint. This is evidenced by the low level of services being provided to visiting foreign yachts, by individuals or companies residing in Tobago. This situation, combined with

the environmental concerns related to reef damage and sewage pollution in community bathing areas, has called into question the benefits versus costs of visiting yachts to Tobago.

Within the Tobago context this is understandable, since yacht activity cannot exist in a sustainable, far less planned framework unless infrastructure suitable for the development of the sector is created. At present, it simply does not exist in Tobago. Like most 'sectors', properly conceived and designed infrastructure is the backbone of a healthy existence, since standards are set there for both the providers and users of services.

Facilities in Tobago for the servicing of small craft such as fishing boats, thus far, take the form of jetties, usually emanating from a beachfront. The only man-made harbour for small craft is at Scarborough which has a breakwater with a concrete pier immediately behind. The pier, generally referred to as 'the fish port', houses the coastguard station and also accommodates the tying up of local fishing boats, including some sport fishing types. The pier, like most other public jetties in Tobago which have been constructed mainly for fishing activity, has a very high freeboard (typically 7-8 ft above sea level) to cater for storm surge activity which could potentially be destructive to the structure.

On the other hand, most local fishing boats, like yachts themselves, carry a low freeboard (2- 4 ft.) and as a result the jetties have been largely underutilized because they are not 'user friendly'. They are not safe for tying up alongside and difficult to load onto. Actual usage has been different from that originally intended. The privately built pier at Plymouth is similarly not utilised and stands in a complete state of abandonment. Facilities being built for small craft (fishing boats and yacht type vessels) must cater for the type of human activity that goes with it as well as for safe berthing of the boats themselves; all designed within the context of a dynamic marine environment which is site specific. Future facilities must take account of these issues.

There is no facility for direct fueling from a pump in Tobago. Current practice for moving fuel and other stores aboard yachts is by manually handling containers, sometimes with a small boat as a transport tender. Customers for day charter yacht operations are sometimes transferred to and from shore by these means. Suitable dockage for safe and convenient loading of stores and persons is a necessary prerequisite for proper development of the sector.

The role that waterfront facilities play in the development and proper management of small craft operations is pivotal and cannot be understated. These facilities, where docks and marinas are located to provide berthing for all manner of small craft, are the conduits around which the entire marine recreational industry operates. Marina facilities serve as a platform for the following:

1. Port clearance which, when needed, provides convenient shoreside access to vessels for boarding and inspection purposes.

2. Safe berthing of vessels from most weather conditions.

3. Fueling and watering of vessels in environmentally manageable conditions.

4. Convenient and workable access for routine vessel maintenance.

5. Safe and convenient embarking/disembarking of crew, guests and paying customers.

6. Centralised and convenient means for communication of information; be it for regulations, sensitization of issues or promotion of landside services offered by the community.

The opportunities to maximize the benefits to the local community as well as promote proper management of the sector are built upon this functional infrastructure. The following types of benefits arise:

1. Clustering of vessels creates a sufficient concentration of needs to create new service providers, which would otherwise not exist. An example: Marine mechanics appear in the marina, instead of relying on Trinidad as much.

2. Vastly improved safety and security of the vessel encourages visiting owners to spend less time in undeveloped anchorages and more time ashore knowing their vessel is safely berthed. More landside services are consumed and conflicts in anchorages are reduced. Marinas also attract a more paying customer and there develops an upward shift in the economic profile of the visiting yachtsman.

3. The opportunity to increase carrying capacity, improving economies of scale, while containing the environmental stress through a managed location.

4. The creation of a forum for local persons to become exposed to maritime culture, ultimately providing opportunities for young persons to develop a new skill and livelihood.

5. A village waterfront atmosphere with an international flavour provides a new, enjoyable experience for locals.

CHAPTER 5
ECONOMIC ISSUES

An evaluation of the economic impact is hampered by a lack of information on the actual number of visiting yachts, on the average length of stay and on average expenditures. YSATT in its ongoing expenditure survey estimated that 45% of the visiting yachts spent between US$100 and $300 per week on living expenses[7], 32% spends between US$301 and $700 per week and 16% over US$700 per week. If a conservative estimate is made (that is, using US$700 as the upper limit) an average expenditure of US$330 per yacht is obtained.

Because the above only covers entertainment, tours, restaurants, living expenses and marina fees and Tobago is somewhat more expensive than Trinidad a crude approximation of yachting expenses would be US$330 per yacht a week. With an average complement of 2.1 persons per yacht the US$330 per week approximates a daily expenditure of about US$22 per person per day. Anecdotal evidence indicates that a yacht stays about two weeks in Tobago.

Based on the above assumptions, a first estimate for the year 2003 would be a total of US $417,120. However the above does not include local and foreign yachts arriving from Trinidad. Based on the immigration data from Table 3.2 it can be inferred that in 2003 30% of the yachts came from Trinidad. Therefore a correction of the earlier estimate to allow for foreign yacht arrivals from Trinidad would then be a total of US$542,100 per year.

To this total the impact of the events, in particular the Angostura Sailing Week and the Tobago Game Fishing Tournament, should be added. Based on the 2001 survey it is estimated that the Angostura Sailing Week generated US$ 54,000 in expenditures in 2003.

The Game Fishing Association estimates that each boat participating in the Game Fishing Tournament spends between US$500 and US$1000 on fuel and supplies. Because anglers stay in hotels it is estimated that the 167 anglers spend US$100 per person per day. Therefore the estimated expenditure of the Game Fishing Tournament would be US$116,000 to US$130,000.

Other related events, such as the Great Race, Great Fete and Heritage Week or the Charlotteville Fishing Tournament also attract local and visiting yachts and generate yachting expenditures. Apart from the estimate for the Great Race, no estimates are available.

[7] Hence these expenses do not include repairs.

Table 5.1 below summarizes the yachting expenditures in 2003.

Table 5.1
Estimated Yachting Expenditures Tobago 2003
US $ 000s

Item	Expenditures
Cruisers and live a boards	542
Angostura Sailing Week	254
Tobago Game Fishing Tournament	123
Great Race	20
Total	939

Source: ECLAC, based on mission data

Total expenditures are estimated at US$739,000 or around TT$5.8 million.

The above results remain tentative and are at best a first approximate of the order of magnitude. Compared with the rest of the region they are low, which is not surprising in view of the limited investment and limited support yachting tourism has received in Tobago. But how does the above estimate compare to another niche in tourism, namely that of cruise ships? In 2003, Tobago received 15,913 cruise ship visitors. Cruise ship visitor expenditures in Trinidad and Tobago are low and have been estimated by TIDCO at around US$41 per visitor in Trinidad. Applying this to Tobago would give us an estimate of not quite US $653,000[8], which is of a similar order of magnitude as the yachting expenditures, if not smaller.

The above, albeit tentative, observation is surprising since the yachting sector has not received the recognition, promotion and investment that the cruise ship sector has received. There are several possible explanations for this. Lack of visibility of yachting tourists leads to a lack of awareness by the public and private sector in Tobago. At any point in time the number of cruisers on the island is small and dispersed.

Nonetheless, visitors on yachts stay in Tobago for a varying amount of time and usually for at least two weeks, anchoring in different parts of the island and visiting ashore. While ashore, they avail themselves of the various restaurants, supermarkets, internet cafes, etc. Nature tours are usually popular and sightseeing by car rental or public transportation will be chosen according to the pocket. However because of their limited number the impact of the yachting expenditures is diluted and disappears in those of hotel tourists and the population at large. In addition the yachting sector does not have a dedicated and outspoken constituency like taxi drivers and others with the cruise ship industry.

[8] This estimate excludes crew and port expenses.

Yachting tourists at the market

Source: Eggington

CHAPTER 6
SOCIAL ISSUES

6.1 Employment

While there are individuals in various parts of the island who are known for providing services to visiting yachtsmen, outsourcing and local expediting usually being the main service, there are little or no enterprises in Tobago operating mainly for the purpose of servicing the yachting sector and, in particular, visiting yachtsmen and their boats. Therefore direct employment is limited to the day charter and sport fishing boats. Indirect employment is more substantial but because of the diffused character of yachting, tourist expenditures data are not available.

6.2 Training and human resource development

A recent report by the National Training Agency (National Training Agency, 2003) observed that within the tourism and hospitality sector, there remains "a problem of a very laid back attitude and poor work ethics". The report continues "There is also still not a clear distinction between service and servitude and so many persons shy away from working in the tourism and hospitality sector".

The same report indicated that customer service orientation, honesty and punctuality were the three highest ranking attitudes required by all employers. While that observation applies to all surveyed establishments, it may point to potential conflicts.

Despite the concerns expressed in the report, less than half of the interviewed establishments had a staff training programme.

The Tobago campus of the Trinidad and Tobago Hospitality and Tourism Institute primarily conducts training in tourism related subjects. Other tertiary and technical training is provided by the Youth Training and Employment Partnership Programme (YTEPP), the University of the West Indies (UWI), the College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT) and private institutions.

6.3 Communities depending on yachting

6.3.1 Conflicts

Because many bays utilised for yachting activity are centered around coastal villages, the impact on the communities has been negative in many cases. For some of these communities, the negatives have outweighed the positives. Almost all the issues cited concern yachts at anchor. They include conflict with local boats and seining activity, discharge of fecal waste and reef damage.

A summary table of the main features and issues connected to yachting is shown for the bays being utilised in varying degrees for yachting type activity.

TOBAGO BAYS & ANCHORAGES UTILISED BY YACHTS
USER & ENVIRONMENTAL MATRIX

Anchorages and Environmental Issues/Conflicting Usage						**Facilities & Carrying Capacity Estimated Max.**		
	Space issues			**Waste**				
No. Bays & Anchorages	**Local Boats**	**Seining**	**Reefs**	**Fecal**	**Solid**	**Existing Jetty**	**Public Facilities**	**No. Yachts Reported**
1. Scarborough (Port Entry-South)						X	X	4
2. Store Bay	X	X		X	X		X	12
3. Pigeon Point	X		X	X	X	X	X	6
4. Bon Accord Lagoon								-
5. Buccoo Bay	X		X					X-
6. Mt. Irvine Bay	X	X	X	X	X		X	15
7. Stone Haven Bay/Grafton	X	X						2
8. Great Courland Bay/Plymouth	X	X		X	X			6
9. Castara Bay	X	X	X	X	X		X	8
10. Englishman's Bay		X	X		X			9
11. Parlatuvier Bay	X	X	X	X	X	X		5
12. Charlotteville (Port Entry-North)	X	X	X	X	X	X	X	20
13. Anse Bateau/Blue Waters	X					X	X	2
14. Speyside	X		X	X	X		X	4
15. King's Bay							X	4
Total carrying capacity:								97

CHAPTER 7
ENVIRONMENTAL ISSUES

Throughout Tobago, the question of yachts polluting the marine environment has been raised as a matter of concern. The main areas of concern have been:

1. Anchoring in environmentally sensitive areas, mainly reefs.
2. Environmental degradation due to faecal discharge within the bathing areas and shorelines of the island.

While the disposal of solid waste has also been cited, this generally is not an issue so long as reasonable access to solid waste disposal bins exists at designated landing facilities.

Evidence of anchor damage to reefs from yachts exists, where the anchor chain becomes entangled as the tidal movement sweeps the anchor rode around the sea bed. This occurrence can be greatly reduced if proper knowledge of the reef layout is available. Efforts by Tobago's NGOs, notably Buccoo Reef Trust and Environment Tobago, in conjunction with the Department of Fisheries and Marine Resources, have introduced a Reef Demarcation Buoy system to specifically address this issue. These have been set up at Store Bay and Mt. Irvine with plans to extend all the way up to Charlotteville and Speyside. This initiative is to be commended.

7.1 Sewage

Liquid waste, particularly sewage, by yachts is a highly emotional issue in many countries and Tobago is no exception. Whether contamination by yachts is factual or not, it is the perception that counts and needs to be addressed.

A recent report by Environment Tobago states: "The problem of sewage pollution from other small coastal communities will however remain a critical issue with implications for human health, tourism and coastal fisheries. There is an urgent need for the development of approaches to reducing sewage pollution from small coastal communities where factors indicate that expensive, centralized sewage treatment systems may not be a feasible option[9]."

Tobago is served by a number of privately-owned and government sewage treatment plants and by septic tanks and soak aways. Not all of the treatment plants are operating at satisfactory standards, nor are all the septic tanks and soak aways necessarily well maintained (Ecoengineering, 1998).

Contamination of beaches by sewage is not a new issue in Tobago. Several IMA studies conducted in the 1980s indicate fecal coliform pollution in some of the bays. For example, a report by Norman (1984) indicates that several beaches suffered pollution levels exceeding the then international standards.

[9] Kuempel and Kamau, (2000)

MARPOL

In a number of written and oral presentations in Tobago, reference has been made to Annex IV for the Prevention of Pollution by Sewage from Ships of MARPOL 73/78 of the International Maritime Organization (IMO). However these regulations do not apply to yachts, as it applies to ships of over 200 (or 400) tons or to those under 200 tons certified to carry more than 10 persons. Neither are sewage disposal options limited to holding tanks, as the regulations apply to ships that have in operation either an approved sewage treatment plant, a comminuting and disinfecting system or a sewage holding tank. Furthermore governments undertake to ensure that there are provisions at ports and terminals to receive sewage without causing undue delay and adequate to meet the need of the ships using them. Finally the regulations state that ships may discharge sewage in accordance with such less stringent requirements as may be imposed by the State.

Source: IMO

Trinidad and Tobago has ratified annex IV of MARPOL 73/78. However, the enabling legislation, which is stricter than the regulations of annex IV and includes regulations for yachts, has not been enacted as yet.

While the THA's Planning Department has identified other land-based sources of marine pollution from sewerage and wastewater, the relative environmental impact of these sources in comparison to yachts at the various bays is unknown.

Nevertheless, it cannot be denied that the visibility of yachts as single source polluters versus land based groundwater seepage, which goes largely unnoticed, brings the issue of health impacts to the fore in people's mind. This was the common issue raised by persons from different sectors interviewed during the Tobago field survey.

Proposals to address this issue have taken various forms, all with the goal of eliminating yacht based sewage entering Tobago's nearshore waters. They include the following:

1. Mandating all yacht's entering Tobago's waters to have a holding tank; and disposing 8 km offshore as necessary.

2. Introducing two pump out barges to service the north and south of the island.

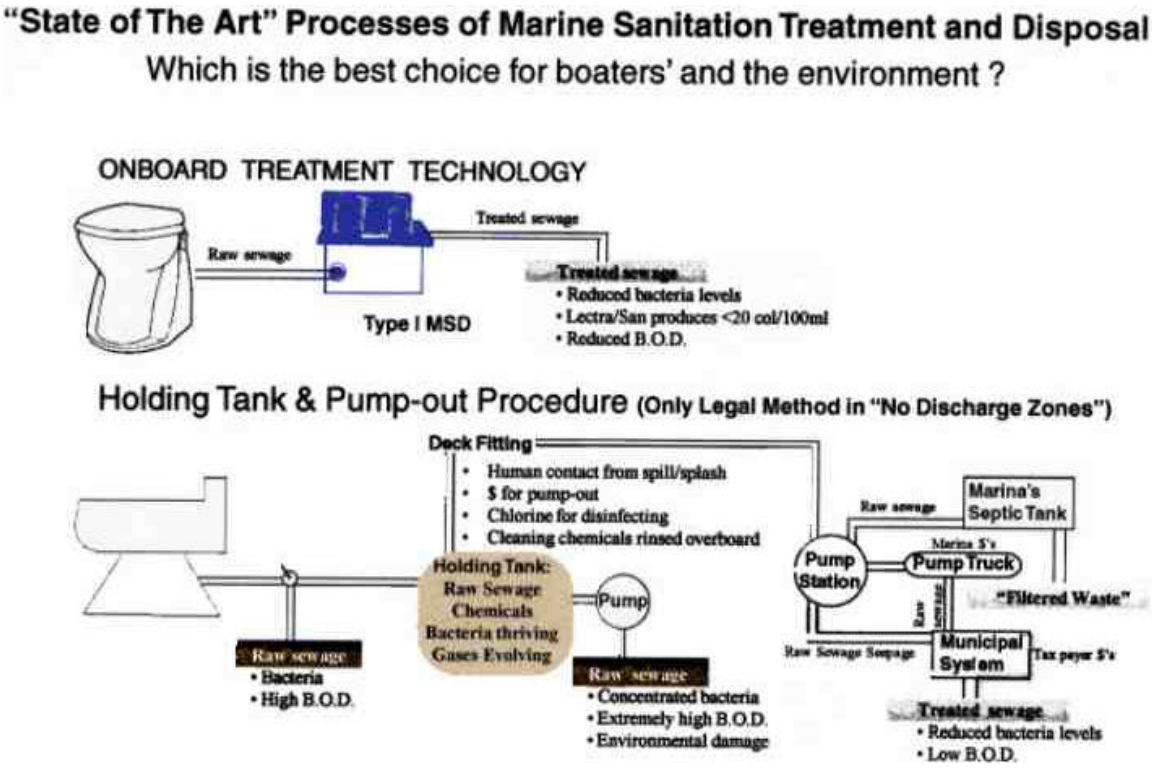
3. Introducing land based pump outs at designated public docks.

4. Restricting anchorage (mooring) to certain designated areas where environmental impact would be minimized.

5. The development of land based facilities/marinas, which can provide for the collection and disposal of all waste.

It should be stated clearly that the issue of 'eliminating' waste discharge from live aboard yachts is a complex one. Informed decision-making must therefore be guided by scientific information wherever available together with industry knowledge so that realistic objectives can be best achieved.

Some background to yachts and pump out facilities is necessary. Holding tanks for yachts to dispose of their liquid waste is still not in widespread usage. Only in the United States are holding tanks mandatory and there the legislation was supported by federal and State-funded programmes under the Clean Vessel Act that provided subsidies and promotional education. In the United States, most fueling docks in marinas serve as pump out stations and their availability is like gas stations along roadways, where convenience of access ensures high compliance. Pump out facilities in the Caribbean practically do not exist. So much so that many United States built yachts traveling in international waters, including the Caribbean, convert their holding tanks to water storage because of the unavailability of pump out facilities. One facility in Trinidad has a fixed pump out installed, which because it is not located at a transient dock (like for fueling) is hardly utilized because of difficult berthing access.



Additionally, most holding tanks for yachts have a capacity of only several days normal usage before they become full. Even if a boat has a holding tank, the practicality of moving out to sea to discharge offshore every couple of days is not realistic. Portable pumpout barges have proven to be feasible in only a few of the larger boat harbours where there is a heavy concentration of boats to warrant the operational expense. Similarly, land based pumpout costs are usually offset by a profit center dock like fueling, where the convenience of an attendant and a 'user friendly' designed dock encourages coming alongside.

Industry surveys of the international marina industry show that the most effective way of reducing waste discharge from yachts is by having well placed, highly attractive restrooms (showers and toilets) and convenient pumpout facilities at dockside. These only occur at properly

managed marina facilities. Shower and toilet facilities aboard a yacht are usually very cramped (closet type space) and the close convenience of spacious clean facilities ashore always helps to ensure high usage.

Beyond this, some yachts will still choose to remain at anchor while others, preferring a marina's convenience, will still be drawn to an anchorage from time to time for a short stay. So while proper facilities, such as a marina, will reduce the anchorage demand, where yachts are anchored the problem of waste discharge remains.

In light of the foregoing, it is proposed that an anchorage zoning policy be developed instead of a 'holding tank' policy for controlling the effects from yacht discharge, since the latter option does not reflect realities of the infrastructural framework required or the context within which yachts operate within the Caribbean.

To develop a zoning policy at anchorages will require evaluation of the local community's inputs together with particular facts of the location. Such considerations for evaluation would include the following:

1. Proximity of anchorage to bathing areas. This could determine a minimum distance from shore for anchorage[10].

2. Knowledge of bay current circulation. Through a dynamic variable, this could influence where boats should anchor to minimise impact.

3. Impact relative to other pollution entering the local marine environment from other sources.

4. Establish a carrying capacity for the anchorage. Restricting anchoring to a maximum number of yachts for certain anchorages, though somewhat subjective, establishes a precedent for acceptable environmental impact and can be viewed as a practical compromise instead of outright prohibition.

Should it be decided that a policy of anchorage controls be established for certain areas of Tobago's waters, these and other relevant facts can help guide the decision-making process. Though limited work has been done in some areas, specific surveys should be conducted by a suitably qualified body for those anchorages where restrictions are being considered, to help objectively establish the relative impacts of the various factors for each location.

Finally, a model for anchorage zoning can be developed around moorings for yachts to tie onto. There are several successful models in the Caribbean, some of which help to achieve objectives similar to the Tobago context. One such example worth examining is the Soufrière Marine Park in Saint Lucia which is operated by the Soufrière Marine Management Authority.

[10] This is practiced in Martinique and Guadeloupe. It also avoids other multiple user conflicts. On the other hand it has been reported that the water quality at Grande Anse Beach in Grenada did not improve when a no anchoring policy was established.

7.2 Solid Waste Management

Table 7.1: Waste handling policy

Waste Type	Waste Container Type	Method of removal	Comment/ Disposal method
Recyclables			
Glass	Carib glass eco bin	Remove/replace bin	Recycled at Carib Glassworks
Paper	Poly bag – shredded	Remove bag	Recycled at various paper recyclers
Steel/Iron	--	--	Company may sell externally
Solid waste			
Wood	General container	General bin	--
Organic waste	-do-	-do-	
Box	-do-	-do	--
Liquid hazardous waste			
Waste oils	Tank/drum	Suction	High temp incineration
Others	Drum	Drum removal	High temp incineration, drum disposal
Solid hazardous waste			
Filters	Fixed drum with poly bag and cover	Poly bag removal	High temp incineration
Batteries	Na	Na	Recycle into new batteries
Plastics/paint cans	General container	General bin	No systems in Trinidad for plastics/paint cans
Oily rags	Fixed drum/ poly bag and cover	Poly bag removal	High temp incineration
Fluorescent light bulbs	Unbroken in box or wrapped in card board	Box removal	Cement encapsulation prior to bury in specific landfill

Source: IMS

7.2.1 Fuel

Tobago has no fuel dock and all pleasure and fishing vessels are fuelled through other means. This is unsatisfactory as this practice increases the risk of pollution by petroleum products.

Best management practices for environmentally sound fuel docks

- Use automatic shutoffs on fuel lines and at hose nozzles to reduce fuel loss;
- Remove (or do not install) old-style fuel nozzle triggers that are used to hold the nozzle open without being held;
- Install personal watercraft (PWC) floats at fuel docks to help drivers refuel without spilling;
- Regularly inspect, maintain and replace fuel hoses, pipes and tanks;
- Install a spill monitoring system;
- Train fuel dock staff in spill prevention, containment, and clean up procedures;
- Install easy to read signs on the fuel dock that explain proper fuelling, spill prevention, and spill reporting procedures;
- Locate and design boat fueling stations so that spills can be contained, such as with floating booms, and cleaned up easily;
- Write and implement a fuel spill recovery plan;
- Have spill containment equipment storage, such as lockers attached to or adjacent to the fuel dock, easily accessible and clearly marked.

Source: EPA

7.3 Buoys

The Buccoo Reef Trust and the Department of Marine Resources and Fisheries of the THA have recently begun a programme of placing no-anchoring buoys in selected bays and anchorages. Anecdotic reports from the 2004 Angostura regatta indicate that the placing of no-anchoring buoys was successful as there were no reports of yachts anchoring in the restricted areas.

7.3.1 Mooring buoys

Apart from the buoys that indicate no anchoring areas, the THA may also consider the placement of suitable mooring buoys in selected areas to contain capacity, suitable means either Helix or Halas, buoys depending on the substrate, because engine blocks or cement may cause more damage.

7.4 Zoning

Because the product for Tobago is very different from that of Trinidad, e.g. Chaguaramas, the island may need more strict management and zoning requirements. These do not only stem from environmental reasons but also to avoid potential user conflicts between yachts and the local population (particularly fishermen) and with other marine tourism activities.

These management issues could include no anchoring zones, restrictions on diving, spear fishing and/or recreational fishing or other measure that may differ from bay to bay.

7.5 Safety and security

7.5.1 Hurricane shelters

While Tobago is considered to be at the southern edge of the hurricane belt the risk of a tropical storm or a hurricane passing within 65 miles of the island exists, as shown by the recent passage of Hurricane Ivan in September 2004. Therefore the identification and management of "hurricane" shelters remains important, not only for visiting yachts but also for fishing vessels and Tobago-based day charter and dive boats.

The Bon Accord Lagoon is the premier hurricane shelter in Tobago. It is located in the national park and anchoring is only permitted during a tropical storm or hurricane warning.

During the passage of Hurricane Ivan it was reported that a crewed dive charter boat remained at Man of War Bay in Charlotteville and did not discharge its passengers to a land-based location. This is a less than acceptable practice as a similar occurrence during Hurricane Iris in Belize caused the capsizing of the vessel Wave Dancer and the loss of 22 lives[11].

7.6 Navigational aids

It was reported that many buoys and beacons are missing. Included are markers near Scarborough and the cable buoys in Store Bay, Buccoo.

[11] NEMO, 2001.

CHAPTER 8
RECOMMENDATIONS

Institutional

Establish a private sector marine services association
Establish a dedicated yachting liaison officer within the THA
Strengthen the coast guard presence

1. Establish a policy for the creation of yacht-based marina facilities in Tobago as a strategy to help address growth and management of the sector, particularly towards mitigation of wider environmental stress through containment and concentration of sector activity. Establish as a priority at least one such facility for the south west part of Tobago to be designated as a port of entry; and possibly a future one in the north of the island.

2. Commission a site selection survey for possible marina sites utilising coastal site analysis methodologies, community inputs, yacht industry knowledge and land use evaluation. Provide recommendations based on a cost/benefit evaluation.

3. Develop an anchorage policy towards control of impacts from waste discharge on yachts, which will establish guidelines for evaluating on a bay-by-bay basis, selective restriction on anchorage areas.

4. Conduct an audit of the existing information systems and streamline information requirements for management information and control of the sector.

5. Establish a core yacht sector team for Tobago with representation from the public sector, NGOs and industry which will take on board all other divisional and community inputs and technical evaluations before finalising recommendations to the THA Executive Council.

6. Consider appropriate policy/incentives to target private sector investment for planned development of the sector.

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