

CARIBBEAN NATURAL RESOURCES INSTITUTE
(CANARI)

**MARINE PROTECTED AREAS IN THE
EASTERN CARIBBEAN:**
A Tourism Market Study

Prepared in collaboration with
The French Mission for Co-operation and Cultural Affairs
in the Lesser Antilles
and the
Parc National de la Guadeloupe

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October 1998

CANARI Technical Report N° 251

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ACKNOWLEDGMENTS

The study was carried out on behalf of the Caribbean Natural Resources Institute (CANARI) and the French Mission for Technical Cooperation and Cultural Affairs in the Lesser Antilles, with funding from the “*Fonds Interministériel de Coopération Caraïbe-Guyane*”, as part of the project called “*Appui au développement des Aires Protégées Marines aux Petites Antilles*”. The consultant wishes to acknowledge the collaboration of many persons and institutions who contributed significantly to the completion of this study. Among them were: the French Mission representatives, **Wilfrid** Fousse, **Stéphane** Gilbert and Paul Chabre; the personnel at the CANARI offices in St. Croix and St. Lucia: Yves Renard, Tighe Geoghegan, Nicole Brown, **Allan** Smith and all the secretarial staff, the MPA Managers and staff in the different islands visited, as well as staff of Fisheries Departments and Tourism Boards. Gratitude is due to George Tyson for his thoughtful suggestions and editing assistance. Special thanks to Tom **van't** Hof, Nicholas Drayton, Edward L. Towle, Kai Wulf, Joseph Simmonds, Klaus de Albuquerque and Jose Miguel Perez for sharing their time and insights. Finally, my appreciation to the dive and tour operators, and to the people from the different places visited. They all made the task an enjoyable and fruitful one. Thank you.

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1. INTRODUCTION

General objectives of the study

The Caribbean Natural Resources Institute (CANARI) was asked to conduct a tourism market survey of marine protected areas (hereafter MPAs) in the Eastern Caribbean countries on behalf of the French Mission for Cooperation and Cultural Affairs in the Lesser Antilles. This report, prepared by consultant Maria Eugenia Bacci, summarizes the results of the survey and offers recommendations on how to better manage and market Eastern Caribbean MPAs for tourism.

The responsibilities of the consultant were: 1) to review the relevant literature and prepare a bibliography of selected materials on tourism and MPAs; 2) to develop an inventory of the existing MPAs in the region under study; 3) to review current mechanisms, policies and approaches to the promotion and use of MPAs for tourism; 4) to prepare a general overview of the place of MPAs in the tourism product of the region; 5) to conduct a visitor survey for selected MPAs; 6) to formulate recommendations on strategies, programmes and policies that can enhance the contribution of MPAs to tourism development in a manner that is fully compatible with the management objectives of these areas.

The study area includes the countries of the Organization of Eastern Caribbean States (OECS), plus Barbados, Guadeloupe, Martinique, Saba, Sint Eustatius, Sint Maarten, the U.S. Virgin Islands, and the British Virgin Islands.

The study was conducted over a four-month period (January-April 1997) involving extensive desk research at the libraries of CANARI, Island Resources Foundation (IRF) and the Caribbean Conservation Association (CCA), collection and analysis of the tourism promotional material from the different islands, and on site interviews with MPA managers, users, tourism officials and other stakeholders around the region. A review meeting, where preliminary findings of the research were presented and discussed, was organized at the end of the fieldwork.

Literature review

A survey of the existing literature shows that the relationship between MPAs and tourism has been the subject of a considerable amount of research and analysis in recent years. Appendix 1 contains a bibliography of 91 studies written between 1973 and 1996. (Numbers in brackets refer to Appendix 1.)

Many papers deal with management aspects of Caribbean MPAs (Ref. Nos. 1,6,7,8-11, 13-15, 17,23-26,28,37, 40,45,53-55,57,61,65,67,68,75-77, 81-84, 87-90). Most of these papers stress the importance of cooperative management involving different sectors of society, including the private and scientific, research sectors. Another important management element is community participation (Ref. Nos. 3, 15,26,36).

Tourism's contribution to revenue enhancement and self-financing is discussed in several papers (Ref. Nos. 23,29, 32,8, 1,84, 85). The impacts of tourism in the MPAs on local communities have been considered by a number of writers. These impacts can be environmental (Ref. Nos. 2, 10, 11, 15,35,42-45,52,57-60,63,64,67,84), as well as social and economic (Ref. Nos. 10-12, 15-17,32,35,36,55,63,75,80,85, 89,90). One of the more serious environmental impacts is the destruction of the coral reefs by divers (Ref. Nos. 2,3,7, 10, 11,45,49,58,60,62, 65,66,67). Some authors discuss "carrying capacity" as a visitor control technique (Ref. Nos. 34,42,45, 75, 81). A few MPAs in the region have been the subject of in-depth study. These include the Saba Marine Park (Ref. Nos. 11, 12, 15, 17,47,81,82,85, 87,89) and the Soufriere Management Area in St. Lucia (Ref. Nos. 3,7,27,53,68,

70, 84). Outside the study area, the Bonaire Marine Park's experience has been a source of information for the MPAs of the region (Ref. Nos. 10, 11, 12,63,75,87, 88).

The characteristic of some of the markets for the Caribbean, such as diving and snorkeling (Ref. Nos. 10, 17,22, 48,60,68,78,79,83), yachting (Ref. Nos. 9, 17,29,48,68), cruising (Ref. Nos. 2, 17,29,35,48,60) and boating (Ref. Nos. 39,43,60) are commented on in several papers. There are also articles about visitor profiles for specific destinations in the study area (Ref. Nos. 5, 17,22,25,29,34,60,9 1). However, there is a need for further research on MPAs visitor profiles, needs and expectations, as well as MPAs tourism marketing approaches.

Some authors are noteworthy for the quantity and quality of papers and articles written about Caribbean MPAs. Doubtless, the most important and prolific is the scientist and consultant Tom van't Hof, who has conducted research projects and provided technical assistance in Caribbean MPAs since 1973. He has been involved in the planning, establishment and management of several marine parks (Ref. Nos. 10-12,63,77-90). Other important authors are Tighe Geoghegan of CANARI (Ref. Nos. 9,23-26), and Caroline Rogers of the U.S. National Park Service (Ref. Nos. 45,56-60,66).

There are also some regional and international organizations that focus on MPAs in the Eastern Caribbean. These include the Organization of American States (Ref. Nos. 28,3 1,50-5 1), the French Mission for Cooperation (Ref. Nos. 19,21,29), ECNAMP/CANARI (Ref. Nos. 7,8,38,62), the Island Resources Foundation (Ref. Nos. 5, 14, 37,52,73-74,76) and the United Nations Environmental Programme (Ref. Nos. 75-76). Only two consulting firms were found as authors: Gardner Smith Associates (Ref. No. 22) and Simmons & Associates (Ref. No. 64).

Eastern Caribbean MPAs inventory

The MPAs included in this study are those already declared or formally proposed, that are currently being used as part of the tourism product of their respective countries. For the purposes of the study only those MPAs that include an underwater component were included. Coastal areas and cays, such as wildlife refuges, were not included in the sample.

Thirty-four sites in eleven Eastern Caribbean countries were identified and inventoried. These are shown in Figure 1. Twenty-two of these sites have been declared as protected areas, while twelve sites are in the process of acquiring protection status. Their sizes and shapes vary from very small to large areas covering an extensive portion of the island.

The MPAs are organized into ten different management classifications: Marine Park, National Park (with a marine component), Marine Reserve, National Marine Park, Marine Management Area, Nature Reserve, National Monument, Marine Protected Area and Marine Sanctuary. The following list shows the sites for each category:

Marine Parks

- Wreck of the RMS Rhone Marine Park. British Virgin Islands
- Saba Marine Park. Saba
- Palaster Reef Marine Park. Barbuda
- Sandy Point Marine Park (Proposed). St. Kitts
- South East Peninsula Marine Park (Proposed). St. Kitts
- Sandy Island Marine Park. Anguilla
- Dog Island Marine Park. Anguilla
- Prickly Pear Marine Park. Anguilla
- Island Harbour Marine Park. Anguilla
- Carlisle Bay Marine Park (Proposed). Barbados
- St. Eustatius Marine Park. St. Eustatius
- Mohnere Marine Park. Grenada

National Parks with a marine component

Cabrits National Park. Dominica
Nelson's Dockyard National Park. Antigua
Virgin Islands National Park. U.S. Virgin Islands
The Baths National Park. British Virgin Islands
Devil's Bay National Park. British Virgin Islands
Spring Bay National Park. British Virgin Islands

Marine Reserves

Scotts Head Marine Reserve (Proposed). Dominica.
Barbados Marine Reserve. Barbados
White and Saline Islands Marine Reserve. Grenada
Saint Barthelemy Marine Reserve. St. Barths

National Marine Parks

Tobago Cays National Marine Park (Proposed). St. Vincent and the Grenadines
Diamond Reef National Marine Park. Antigua

Marine Management Area

Soufriere Marine Management Area. St. Lucia

Natural Reserve

Grand Cul de Sac Marin Natural and Biosphere Reserve. Guadeloupe
La Caravelle Natural Reserve. Martinique
Pigeon Islets Malendure Natural Reserve (Proposed). Guadeloupe

Marine Natural Reserve

Sint Maarten Marine Natural Reserve. St. Maarten

National Monument

Buck Island Reef National Monument. St. Croix, USVI

Marine Protected Area

Great Bird Island Marine Protected Area. Antigua
Clarke's Court Bay-Woburn Marine Protected Area. Grenada

Marine Sanctuary

Cades Reef Marine Sanctuary. Antigua

Marine Historical Site

Bianca C. Marine Historical Site. Grenada

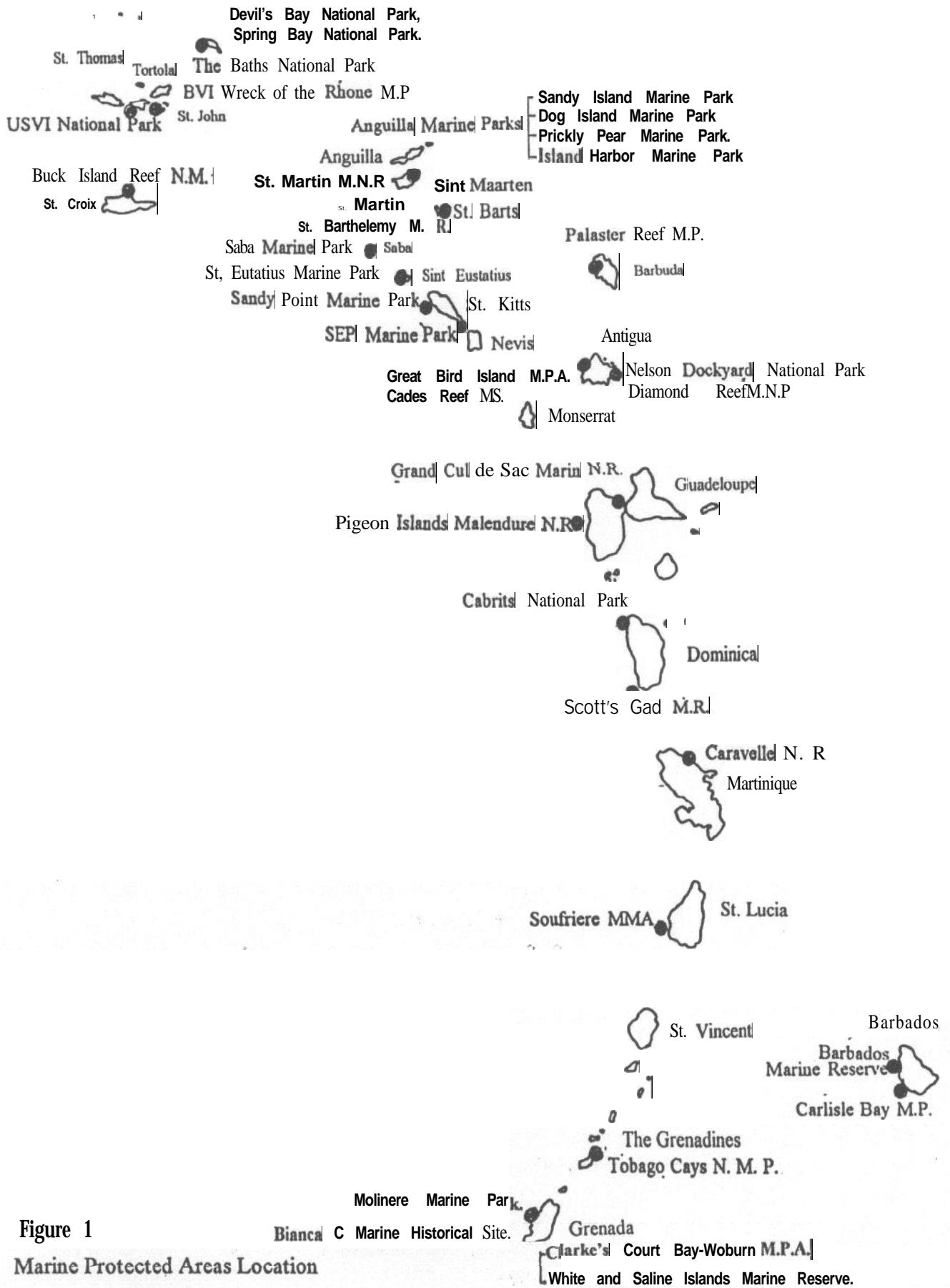


Figure 1
Marine Protected Areas Location

Table 1 summarizes the information on the location, size, year of declaration, current management status and the main features related to tourism.

TABLE 1: INVENTORY OF EASTERN CARIBBEAN MARINE PROTECTED AREAS

NAME	LOCATION	AREA	YEAR	MANAGEMENT AGENCY	FEATURES/ACTIVITIES
Sandy Island Marine Park	Anguilla	NA	1993	Department of Fisheries	Being developed for tourism.
Dog Island Marine Park	Anguilla	NA	1993	Department of Fisheries	Pristine site; visitation is discouraged by the Department of Fisheries to maintain the system intact for comparative purposes. No monitoring is undertaken.
Prickly Pear Marine Park	Anguilla	NA	1993	Department of Fisheries	Includes the Seal Island reef system.
Island Harbour Marine Park	Anguilla	NA	1993	Department of Fisheries	Includes development for tourism.
Nelson's Dockyard National Park	Antigua	4.128 ha	1984	Management in place for inland area only	Dive trips in the English Harbour area. Dive operators on site: Dockyard Divers. Mainly a yachting centre.
Diamond Reef National Marine Park	Antigua	2.000 ha	1973	None	NA
Cades Reef Marine Sanctuary	Antigua	NA	Proposed	None	Protected by dive shop operators.
Great Bird Island Marine Protected Area	Antigua	NA	Proposed	Proposed by OAS	Snorkeling and yacht activities in place. 4 snorkel boat operators, day charter operators, 1 dive operator.
Barbados Marine Reserve (Folkestone Marine Reserve)	Barbados	250 ha	1980	National Conservation Commission	Sunken freighter for dive sites, snorkeling, glass bottom boat trips. It has a visitor and interpretation centre, mainly educational.
Carlisle Bay Marine Park	Barbados	NA	Proposed	None	Located in a heavily used tourism area.
Palaster Reef Marine Park	Barbuda	500 ha	1973	None	Shallow patch reef with turtle nesting.

Wreck of the RMS Rhone Marine Park	British Virgin Islands	320 ha sea and island 13.6 ha	1980	National Parks Trust	Yachts anchor at Lee Bay and transfer by dinghy. Very popular site for diving and yachting.
The Baths National Park	British Virgin Islands	27.6 ha.	1990	National Parks Trust	Permanent moorings established by the diving community.
Devil's Bay Marine Park	British Virgin Island	232 ha	1964	National Parks Trust	Terrestrial and marine portions.
Spring Bay National Park	British Virgin Islands	22 ha	1964	National Parks Trust	N A
Cabrits National Park	Dominica	531 ha	1986		There used to be an underwater trail. Popular yachting and cruise ship site.
Scotts Head Soufriere Marine Reserve	Dominica	N A	Proposed	None	Underwater peak and hot springs. Installation of permanent moorings with the collaboration of the diving community. Yachts not allowed.
Bianca C. Marine Historical Site	Grenada	N A	Proposed	None	NA
Molinere Marine Park	Grenada	N A	Proposed	N A	N A
White and Saline Island Marine Reserve	Grenada	N A	Proposed	N A	NA
Clarke's Court Bay-Wobun Marine Protected Area	Grenada	N A	Proposed	N A	N A
Grand Cul d Sac Marin Natural Reserve	Guadeloupe	3.700 ha	1987	Parc National de la Guadeloupe	Recreational activity, pedal boats especially designed to tour the mangrove areas. Brochures available.

Pigeon Islets - Malendure Natural Reserve (Underwater "Cousteau" Park)	Guadeloupe	NA	Proposed	Proposed to be managed by the Parc National de la Guadeloupe.	Glass-bottom boats and snorkeling trips from Malendure Beach. Underwater interpretation signs, moorings. Tourism information centre at Malendure. 6 dive operators and 3 glass -bottom boats.
La Caravelle Nature Reserve	Martinique	517 ha	1976 Marine portion proposed.	Terrestrial portion managed by the Parc Naturel Regional	Peninsula with cliffs, beaches and reefs, as well as historical sites and buildings.
Saba Underwater Park	Saba	870 ha	1987	The Saba Conservation Foundation	Permanent mooring buoys, decompression chamber for 4 persons, information office at Fort Bay, slide show. Brochure with regulations available.
Saint Barthelemy Marine Reserve	Saint Barthelemy	1.200 ha.	1996	NA	Tourism use areas: Colombier Bay, Fourchue Islands Bay, Pain de Sucre and Gros Islet. Scuba diving activity.
St. Eustatius Marine Park	Sint Eustatius	NA	1996	STINAPA. Implementation started Feb. 1997	
Buck Island Reef National Monument	St. Croix, USVI	356 ha.	1961	US Park Service	Underwater trail, scuba diving area, land trail, beaches, moorings buoys. Six concessionaires handle tourism activities.
Virgin Island National Park and Biosphere Reserve	St. John, USVI	6.073 ha	1993	VI National Park	Receives an average of one million visitors per year, most arriving in cruise ships or small boats. Mooring buoys and limits on the size of vessels are in place.
Sandy Point Marine Park	St. Kitts	N A	Proposed	None	Two reefs: Paradise and Anchors Away. Great possibilities of connecting with inland attraction.
South East Peninsula Marine and Recreation Park	St. Kitts	N A	Proposed	None	It functions as a fish nurturing area. 2 catamaran boats offering day charters.

Soufriere Marine Management Area	St. Lucia	NA	1995	Soufriere Dev. Foundation, Dept. of Fisheries	There are 14 dive sites in four marine reserve areas. Catamarans bring cruise ship passengers daily. Diving. Yacht moorings available.
Sint Maarten Marine Natural Reserve	Sint Maarten	NA	Proposed	None	The proposed area includes Tintamarre Island and all the area along the coastline at Oriental Bay.
Tobago Cays National Marine Park	St. Vincent and the Grenadines	50 km, four small islands	1987	Proposed Fisheries Division	Activities: yachts, Scuba, camping, cruise ships, day charters, snorkeling, picnicking. 4 dive shops.

In most MPAs, marine resources are currently under stress, not only from periodic natural events, such as hurricanes and coral diseases, but also from a growing variety of human activities, such as ocean-borne pollution, excessive runoff from uncontrolled upland development, over fishing and coral reef damage from increased recreational boating. Tourism, particularly mass tourism, is also beginning to impact negatively on some MPAs, through increased diving, snorkeling, anchoring and insensitive resort development. MPAs lacking clearly defined tourism management strategies are most vulnerable to this kind of pressure.

Park managers have pointed out the antagonism between tourism development and scientific management in MPAs across the region. They have seen that tourists can overwhelm an area by sheer numbers, or by lack of familiarity with resource protection needs and regulations. And they have come to understand that for tourism to be beneficial within the framework of scientific and community development objectives, it must be carefully managed.

2. THE CURRENT TOURISM PRODUCT

Study areas

In order to determine the nature and quality of the tourism product offered by MPAs, the consultant visited several sites around the region, surveyed MPA visitors, interviewed site managers and reviewed the existing promotional literature.

Five study areas were selected in order to analyze in more detail the ways that MPAs are being used for tourism. The selection was based on tourism use and level of development. Three different types of sites were considered: those with a well established system for tourism and currently receiving large amounts of visitors - The Wreck of the Rhone Marine Park and Buck Island Reef National Monument; those in an intermediate stage with a marine protected area already in place and moderate but growing tourism use - Soufriere Marine Management Area and Saba Marine Park, and one proposed protected area already getting some tourism use -Sandy Point Marine Park.

Wreck of the Rhone Marine Park

The Wreck of the Rhone Marine Park was established in 1980. Active management began in 1984, largely in response to growing pressure by user groups concerned about the need for conservation and regulation of marine reserves. Located in the British Virgin Islands, which is comprized of many islands and keys, this marine park protects the small area surrounding a historic ship wreck. The waters of the British Virgin Islands are among the most heavily used marine recreational areas in the Caribbean, and the Wreck of the Rhone Marine Park is the most popular dive site in the BVI.

Buck Island Reef National Monument

Buck Island Reef National Monument, located half a mile off the north coast of St. Croix, United States Virgin Islands, has a total area of 356 ha, with a combination of marine and island environments, including an underwater trail. It was established in 1961 as a National Monument by the United States Government and, as such, it is included in, and managed by, the U. S. National Park Service System, whose main purpose is to preserve the site for scientific interest, educational value and recreational use by the residents of the Virgin Islands. The National Park Service also manages the Christiansted National Historic Site in St. Croix and the Virgin Island National Park in St. John.

Soufriere Marine Management Area

Located in the island of St. Lucia, the Soufriere Marine Protected Area (SMMA) extends for 11 km along the coastline from Anse **Jambon** in the north to Anse L'ivrogne in the south. It covers a diversity of near-shore, coastal environments with different user groups and water-related activities. The Soufriere Marine Management Area protects the marine resources contiguous to one of the most spectacular terrestrial landscapes in the Caribbean - the **Pitons**. It provides a rare example of a successfully managed marine protected area located in an independent Caribbean country.

It was established in 1995 under the 1984 Fisheries Act and the Parks and Beaches Commission Act, 1984, after a process of negotiation and participatory planning among hoteliers, fishermen, yacht charter companies, dive tour operators, community groups and government departments.

The primary purpose of this MPA is to solve the conflicts among the different users of the resources and ensure that all economic activities can prosper without damage to the people and their **environment**. SMMA **seeks** to manage and develop its marine and coastal resources in a sustainable way.

Saba Marine Park

The Saba Marine Park (SMP) is located in the island of Saba, in the Netherlands Antilles. SMP covers 870 ha of the island's **underwater** surroundings. It is the only MPA in the region that is self-financed. Its mission is to protect the marine **environment** while contributing to tourism development as an important source of income for the people in Saba.

The park is managed by a non-government organization called the Saba Conservation Foundation, through an agreement with the Saba government. Among the elements that helped SMP to established a successful management system were the unspoiled state of the resources and a close linkage and shared vision between the community and decision makers.

Sandy Point Marine Park (Proposed)

The proposed Sandy Point Marine Park is located in the southwest corner of the island of St. Kitts, close to Brimstone Hill National Park and the Sandy Point fishing village. Its development is being planned in close consultation with the local community and various user groups.

The Park's size is still being discussed with the different users, but it will protect the two major reefs currently being used by divers and fishermen: Paradise Reef and Anchors Away Reef. Another important reason for the protection of the sites is the existence of numerous historic shipwrecks, some of them closely linked to the island's history. It is considered a unique and world-class dive site.

The Government of St. **Kitts-Nevis** is currently in the process of declaring the Sandy Point Reef as its first marine park as part of a general strategy of marine conservation areas. A marine park in the South East Peninsula is also under consideration. In the case of Sandy Point, it is part of an overall tourism development plan for the area focusing on both terrestrial and marine attractions.

Under the Fisheries Division, a consultation on the development of the park was done at the end of 1996, followed by the preparation of a draft park management plan that benefits the community, the fishermen and the tourism diving sector, and assures the protection and enhancement of the natural and cultural resources. The National Conservation Committee is the authority with the responsibility to establish the Park and decide who will manage it. There is an advisory committee for Sandy Point, consisting of representatives **from** the Fisheries Division, the Environment Department, Coast Guard, Dive Operators, St. Christopher Heritage Society, South East Peninsula Planning Unit, Tourism Ministry and the Sandy Point Fishermen Cooperative.

General product assessment

The overall result of the survey shows a good relation between product offered and client satisfaction. The vast majority of the respondents appreciated the fact that there were measures in place to protect what they had come to see, and they identified themselves with the management efforts and special quality of the sites, offering suggestions that could improve the visitor experience and therefore improve the tourism product.

The visitor survey showed a nearly unanimous consensus that the existence of a marine protected area is good for their tourism experience and helps visitors to know what to expect from the “product”. For most tourists, **MPAs** are the trademark of an ideal marine environment. From the tourists’ perspective, **MPAs** are expected to contain one or all of the following characteristics:

- cleanliness of water and beaches
- no fishing
- lots of fish
- healthy reefs
- trained park rangers
- visitor information services
- environmentally-oriented facilities
- use of alternative energy sources and quality of operation
- family facilities
- good underwater visibility

Visitors suggested more detailed information on the sites, enforcement of anchoring prohibitions and facilities for children. Some specific recommendations for each site were also presented.

Site managers and professionals interviewed agree that the main aspects of the product **MPAs** offer to tourists are:

- relatively pristine environment
- a unique activity and experience
- an educational opportunity
- the possibility of contact with the local community

They also identified important elements related to management and planning that could adversely affect the quality of the MPA tourism product, such as:

- lack of effective management and in some cases, loss of credibility and public support by delays in planning and implementation
- under funding, which lowers the quality of the product offered, which in turn, affects visitor quality
- lack of a regular monitoring and maintenance programme, which can cause the decline of the facilities and degradation of the resource with a loss in the quality of the experience offered
- insensitive development of the coastal area where tourism services for **MPAs** are located, such as clearing of vegetation, intrusive constructions, runoff and sewage disposal in the sea
- under staffing
- weak or non-existent institutional structures and legislation

- user conflicts between fishermen and tourism activities, which negatively bias the local community towards tourists and tourism
- over fishing

There is a widespread perception among MPA managers that the relationship between MPAs and tourism is currently based mainly on diving. Other activities, such as catamaran day cruises with snorkeling activity, yachts (charter and privately owned yachts), local boat people, sea kayaking, windsurfing, and small and big cruise ships in nearby ports, are often not taken into account in management planning and decision-making, even though their impact and educational importance can be as important as diving. The BVI National Parks System offers a good example of an integrated approach to product development and marine **environment** planning and management dealing **with** all aspects of tourism activity.

Generally, there is poor co-ordination between tourism authorities and park management bodies. The tourist boards are doing island tourism promotion with little or no input from the marine park personnel. Consequently, tourism product development and promotion do not incorporate sufficiently the views of the conservation agencies, and MPA management agencies do not fully integrate the concerns and needs of the tourism sector.

Tourism product analysis in study areas

Four of the live study areas have been used for tourism in both large and small scale for a long period of time. Therefore, it is important to look at the way they have been dealing **with** managing their visitors and promoting themselves as a tourism product.

Buck Island National Monument

Buck Island National Monument management policy is based on an unique system of concession companies permitted to operate at the Monument, which the park started in 1977 to deal with increasing number of companies using the park without control. Park managers saw the need to implement a more organized system where only regular and good quality service would remain. As a result, the number of companies has been reduced from about twenty-five to six concessionaires.

The concessionaires offer several means of transportation, including large motor vessels with glass bottom viewing, motor boats without glass bottoms and sailing boats. They are inspected four times per year and they are required to have an insurance that covers the National Park. Passenger capacity ranges from 6 to 52 people per boat. Concessionaires offer both half-day (9am to 12 noon and 1pm to 4pm) and full day (9am to 2pm) trip. There are 10 moorings at the underwater trail.

The carrying capacity is controlled to the maximum capacity of **the** concession boats, which is around 200 persons at a given time. As stated by the Superintendent, there is no current need for new concessionaires because **the** existing ones are not running at full capacity. Only when it can be proven that the existing concession boats cannot handle the needed capacity, or that there is a product that existing concessionaires cannot provide, would an opening for another concessionaire be made available.

Thus, the tourism market is a very important factor in the management of the area and changes would respond to the market needs until it tops out the maximum carrying capacity of the site. Buck Island is one of the most significant visitor experiences in St. Croix, with high standards of operation by **the** concessionaires, who provide boat orientation, site overview, snorkel lessons, trips to the beach and guided snorkeling through the underwater trail. All trips offer some refreshment, but food is disallowed on board. Some concessionaires offer a beach barbecue outside the Monument in their package.

Visitors recommendations were: increase time at the park; a dock at the beach; more historical information about the place and information on the reef system, and more services in the park.

Wreck of the Rhone Marine Park

Another example of a high use tourism MPA is the Wreck of the Rhone. The BVI National Parks Trust manages the site through a mooring system, user fees and boat patrols. The mooring system is part of a broader reef protection programme designed to safeguard the Territory's marine resources for all users. Under this programme, some 200 moorings have been installed in 17 locations throughout the Territory. Of this number, 29 moorings are in the Rhone Marine Park.

The user fee system, in the form of a "conservation fee", gives the purchaser a permit to use a mooring. Income generated from the fees is put directly back into the maintenance and operation of the park areas. Mooring permit holders are given a conservation certificate, which states that they have contributed to the Trust's reef protection efforts in the British Virgin Islands. There is strong support by local resource users for the mooring and fee system. Commercial users, dive and bare boat operators, have been consistently recognized as key stakeholders by park planners and managers.

Monitoring and enforcement is a problem, since there is only one boat available for a vast territory. Despite the diligent work of one park ranger and two officers, there is a need for more staff and equipment to meet the requirements of the whole marine system. The Rhone Marine Park lacks a visitor centre or special exhibit site. The National Parks Trust office in Tortola serves as an information centre.

Although the Rhone Marine Park is not plagued by land-based pollution problems, commercial fishing in the mooring areas and the heavy use inflicted on the site through the years have resulted in the deterioration of the integrity of the wreck through pilferage of artifacts, degradation of coral reefs and sea grass beds from anchoring, and declining marine life. Safety is also a potential problem given the large number of boats and swimmers using the popular dive site at peak times.

Community involvement in the park's management comes through the active participation of the commercial users. The area is isolated and only few fishermen were using the site when it was declared, so it was easy to continue allowing them to do so.

Soufriere Marine Management Area

The case of the **Soufriere** Marine Management Area is a very interesting one in terms of the overall approach to the creation and management of the site. The management strategy is based on user activity zoning defined through a participatory process involving all the stakeholders. The SMMA is divided into five zones: Marine Reserves, Fishing Priority Areas, Yacht Mooring Areas, Recreational Areas and Multiple Use Areas. Four marine reserves were designated: Anse Chastanet, Rchette Point, Petit **Piton**, Gros **Piton**. A total of fourteen dive sites have been identified within the marine reserves, and all tourism and recreation activities are regulated. An annual and a daily dive fee are required in order to use the moorings at the marine reserves. Permits are available from dive operators, the Department of Fisheries or the SMMA office in Soufriere.

There are four yacht mooring areas: Anse Chastanet to Anse Mamin, Soufriere Jetty, Malgretoute Beach and Beausejour Area. The use of these moorings requires a conservation permit depending on the size of the yacht and the duration of the stay. The SMMA has placed signs along the shoreline indicating the fishing and dive sites and has set demarcation buoys for the marine reserves.

Currently there is a problem of overcrowding in the Anse Chastanet Reef, mainly because it is well known and tourists are asking dive operators from Castries to go there.

A visitor centre is planned to open by the end of 1997. And, with the help of the French Mission, the SMMA is currently developing a Web site oriented to reach the specialized clientele.

Community participation is a key element in the development of **the** current tourism product. People living in the town of Soufriere and other nearby towns are identified as the main beneficiaries in economic activities related directly or indirectly to the SMMA.

Visitors surveyed recommended educating the police, the local people and the visitor; keeping boats out of dive areas; allowing only guided scuba tours; and stopping the harassment of visitors.

Saba Marine Park

The Saba Marine Park is unique, being the only self-sustaining site. Its operating income derives from visitor fees, souvenir sales, yacht anchoring fees (based on number of passengers and gross tonnage) and donations and grants raised through an organization called Friends of the Saba Marine Park. Its management plan designates the zoning for **the** different activities. Visitation is managed through a visitor's fee and a well established mooring system for the different users of the park

The mooring system includes forty-one **permanent** moorings available for the various user groups, of these, **twenty-four** buoys are for small dive boats up to 50 ft., which are allowed to be occupied for a period of two hours; twelve buoys are for large dive boats up to 110 ft. and live buoys are for yachts less than 50 ft., which can be occupied for a period of seven days.

In a **recent** study done for the park agency (Framhein, 1995), the park's contribution to the tourism activity in Saba was pointed out as a very important element in the local tourism product, being seen as complementary to the image of tranquillity and low scale tourism which the island uses to promote itself. Visitors to the park have increased over the years in contrast with a decline in total visitors to the island in recent years which shows the growing role the park has in the overall tourism product.

Three dive-operators are located on the island. They employ a total of six boats, with an average capacity of 10 people per boat. They offer 2-3 dives per day and also night dives. Interestingly, one dive operator recently moved to Saba because it is protecting the marine environment, is not overrun with competition and is well marketed. Other commercial enterprises based in St. Maarten use the park especially live-aboard boats **that** combine the Saba Marine Park with sites in Statia, St. Kitts and St. Barths.

There is a small gift shop in the park office at Fort Bay. One popular practice is a slide show by the Marine Park management authorities at a hotel every week to greet the divers and inform them about the Park.

The visitors surveyed in this park made the following recommendations: provide a good dinghy landing at Ladder Bay and Wells Bay; improve appearance of **the** harbor; increase the number of dive sites; and provide a visitor centre accessible to divers and **other** tourists, as well as displays at the airport, Windwardside and the Harbor.

Sandy Point Marine Park (Proposed)

Tourists are using the proposed Sandy Point Marine Park in St. Kitts. Three dive operators and one **live-aboard**-diving boat operate within the proposed Sandy Point Marine Park. The latter has a maximum capacity of sixteen passengers and visits the site weekly year round. They are using two dive sites at Sandy Point: Paradise Reef and Anchors Away.

A group of divers interviewed in a survey coordinated by the Fisheries Division in cooperation with **the** French Mission in 1996 indicated that measures should be taken to protect the marine environment at Sandy Point Reef. The divers said they would readily pay a fee to cover monitoring, information services and enforcement of the rules and regulations. **They** anticipate that its establishment and **the** installation of permanent moorings will help solve conflicts that currently exist between themselves and fishermen from Sandy Point.

Visitors interviewed during this study recommended: cleaning up beaches; ensuring reefs are protected; offering glass bottom boats and preventing trapping and excessive fishing.

Promotion of MPAs tourism product

Most MPAs have developed some material, such as brochures and videos, to promote themselves to tourists. Good examples are the SMMA in St. Lucia, Buck Island in St. Croix and Saba Marine Park. This literature generally does a good job of describing the MPAs, highlighting their best features and explaining their mission, rules and regulations. However, the existence and message of the MPAs gets little or no attention in most regional tourist literature, and is usually treated superficially in national promotional material. For example, only the MPAs in Bonaire and Curacao are specifically mentioned in the Caribbean Tourism Organization (CTO) publication *The Caribbean - Where To Go*, which otherwise gives much attention to the Caribbean marine environment, coastal attractions, and sun, sea and sand activities.

The coverage in most national tourism publications is equally limited. It can also be misleading. For example, the tourism literature shows the MPAs at Sandy Point, St. Kitts and the Tobago Cays in the Grenadines as already in place. This misleading information may drive the more serious visitors away when they find out there is no management in place. The product loses credibility.

Another issue identified in relation to the product in some of the generic promotional material reviewed is the encouragement of tourism behavior that is inconsistent with the conservation concerns of the MPAs, as, for example, evidenced by pictures of tourists emerging from the sea with seashells or coral in their hands. Such messages can be confusing to tourists, and serve to undermine all efforts to develop a more sustainable tourism product.

Appendix 2 lists the promotional material reviewed for this report. MPA managers should take note of it and endeavour to secure reliable coverage of their product. They may also want to place ads in these publications.

3. TOURISM MARKET DEMAND

Case study of visitor's preferences and expectations

In order to obtain detailed information about the tourists currently visiting the five study areas, a questionnaire was applied randomly to tourists at the end of their visit. The questionnaires were distributed to a set number of people in each Study Area. The number of completed questionnaires differed from site to site, but the whole provides a convenient sample that allows for generalizations about visitor considerations on MPAs. While the questionnaire was targeted at all user groups, nearly all of the responses came from tourists who had come to dive or snorkel at the site. Respondents were a mix of stay-over visitors, cruise ship passengers and day-trippers.

A total of 131 visitors were surveyed in the five case study sites: Buck Island National Monument in St. Croix (42 respondents), Wreck of the Rhone Marine Park in the British Virgin Islands (8 respondents), proposed Sandy Point Marine Park in St. Kitts (28 respondents), Saba Marine Park (35 respondents) and Soufriere Marine Management Area in St. Lucia (18 respondents).

For eighty percent of the respondents, the existence of a marine protected area was either very important (52 percent) or important (29 percent) in the selection of the destination.

A vast majority (85 percent) of the tourists declared their experience as a highlight in their trip, followed by thirteen percent, who thought it was a good experience. Only two people defined it as just another tour.

Snorkeling and boating were the two most frequent activities mentioned as being done while at the MPA, followed by scuba diving and swimming. Sixty-eight percent of the divers rated this activity outstanding, twenty-six percent

found it very good and sixteen percent thought it average. In the case of snorkeling, sixty-eight percent thought it outstanding and twenty-six percent as very good.

The boat ride was defined as outstanding by sixty-five percent of the respondents, while twenty-eight percent found their experience very good. More than eighty percent thought swimming and sunbathing to be outstanding or very good at the sites visited.

When asked what they liked the most, their answers were as follows:

Resources	Untouched reefs, abundance and diversity of marine life, clear, blue, warm water, quality and variety of dives sites, the scenery of the Pitons in the case of SMMA, the historic wreck at Wreck of the Rhone
Activities	Snorkeling, scuba diving, meeting people
Services	Cleanliness, friendly staff, well organized diving
Carrying Capacity	Few people, not overdeveloped
Management	The presence of moorings

Least liked elements included poor visibility and, at some sites, fewer fish than expected. Some respondents mentioned over-crowding, the presence of fish traps, difficult accessibility and the lack of activities for special groups, such as families with small children and retired people. This last element becomes a very important issue when we consider that seventy percent of the respondents were traveling with families, while twenty-two percent were traveling with friends.

The majority of the respondents (seventy percent) were in the 46-55 years of age bracket, with high educational levels beyond college. Most came **from** the USA, followed by Europe, which accounted for less than twenty percent.

Sixty-seven percent of the respondents were making their first visit to a marine protected area. Seventy-two percent said they had obtained some information before traveling: brochures in forty-two percent of the cases, followed by **Internet** with thirty percent and specialized magazines with twelve percent. Other sources of information mentioned were videos, books, travel guides and cruise ship information.

Despite these concerns, ninety-eight percent of the respondents declared that they would come again or recommend that their friends come, a clear indication of overall satisfaction with the product being offered by the **MPAs**.

Current and potential demand segments

Worldwide trends and projections in tourism growth in the next twenty years are positive despite some factors affecting the world economy and political and security problems. Currently, the Caribbean receives some 14 million stay over visitors and 9.76 million cruise passenger visitors.

As shown by Table 2, MPA users come from a very wide variety of market segments: sun, sand and sea, diving, yachting, day charters, cruise ships, specialty travel (heritage and eco-tourism). Generally, visitors are **difficult** to categorize because they can be attached to two or more market segments depending on the activities they do while on vacation. The main motivation to travel to the destination will define the market segment, and the other activities done while in the site will be complementary activities.

TABLE NO. 2: CURRENT TOURISM MARKETS PER SITE

NAME OF MPA	MARKET SEGMENTS					Heritage/Ecotourism
	Diving	Sun/sand/sea	Yachting	Cruise ship	Day Charters	
Saba Marine Park	X		X	0	0	X
Wreck of the Rhone M.P.	X	0	X	0	0	X
The Baths National Park	0	X	X	0	X	X
USVI National Park	X	X	X	X	X	0
Soufriere MMA	X	X	X	0	X	0
Buck Island Reef N.M.	0	X	0	X	X	
Barbados Marine Reserve	0	X		0		
Tobago Cays N. M. P.	X	X	X	X	X	
Scotts Head M.R.	X	0	0	0	0	
Grand Cul de Sac Marin N.R.		X		0	0	0
Pigeon Islands Malendure N.R.	X	0	X	0		
Sandy Point Marine Park	X	0	0			0
SEP Marine / Recreation Park	0	X	X	0	X	
St. Eustatius Marine Park	X	0				X
Cabrits National Park		0		X		X
Nelson Dockyard National Park			X			X

X = Very Important. 0 = Complementary

A brief description of the current and potential situation of the main market segments identified for the MPAs is presented below, in order to assess the different alternatives for the different MPAs in the region.

“Sun, Sand and Sea”

Despite a growing trend toward specialized tours in the Caribbean, enjoyment of **the** beach, sun bathing, swimming and relaxation are still the main holiday motivations in the region. The Caribbean is known primarily as a sun, sand and sea destination, supplemented by natural, historical and cultural attractions. The marine environment and water sport activities are particularly important to this market segment, Consequently, some of **these** tourists go to MPAs seeking a “soft” recreational experience to supplement their vacation. They expect comfort and service; but are not particularly interested in the resource *per se*. The main activity offered to this group are half or full day cruises in catamarans or glass-bottom boats, lots of rum, music, relaxation and a beach barbecue. Snorkeling usually forms part of the package.

Although this segment seems fairly homogenous, when analyzed in depth there are some sub-segments, like families with children, couples, retirees and the handicapped, which provide challenges and opportunities for MPAs. It is in these areas that the MPAs have the potential to diversify and complement their tourism product, with the segmentation of this market into more specialized segments.

The MPAs whose product is most appealing to this market are the Virgin Islands National Park in St. John, Buck Island National Monument in St. Croix and Soufriere Marine Management Area in St. Lucia. It is not coincidental that these MPAs are under the greatest stress from tourism.

Day charters

A sub-set of the sun, sea and sand market is the activity of day-charters. This market includes the people who travel to a MPA from another island for a single day visit. They are taken to the MPA for the day, returning to their base destination in the evening. In this case, the MPAs function as complementary attractions for consolidated mass tourism destinations. This demand will be most important in MPAs located close to main tourism destinations and its growth has to be carefully coordinated to plan for availability of space and control of benefits to the site.

Almost 25,000 tourists travel to the southern Grenadines from Martinique, St. Lucia, Grenada or Barbados for day visits. The same situation is found in the Saba Marine Park, which tour operators from Sint Maarten offer as a complementary attraction. The Virgin Islands National Park caters to thousands of stay-over visitors from nearby St. Thomas and Puerto Rico, while the BVI marine park system attracts smaller numbers from the same islands.

Diving

This segment consists of dedicated divers, who visit the MPAs with high expectations in terms of the quality of the resource, underwater visibility, and safety of the dive operation at the site. Divers are among the most frequent users of MPAs, and they are considered a natural market segment because they generally sympathize with the goals of managed conservation.

While the water sports market (which includes diving, fishing and sailing) currently comprises less than one percent of the international travel market, it is an important and lucrative segment. Diving holidays, according to experts in the travel trade, are in the situation now that characterized skiing 25-30 years ago. Modern teaching methods, safer, easier-to-use equipment, more fashionable clothing and specialized holiday packages are combining to make diving an area of dynamic growth. The water sports holiday market could expand by between two and a half and five times by the end of the century (Smith and Jenner, 1994).

According to the Diving Equipment and Marketing Association of the U.S. (DEMA), there are an estimated six million certified divers and over ten million active snorkelers in the U.S. (active is defined as having made one dive within the past 12 months). The estimated revenue generated by dive travel sales (including airfare, hotel and diving services) totaled \$1.7 billion in 1996. The estimated number of all dives made by U.S. divers is twenty million dives (DEMA 1997). These people are obviously a very important market for MPAs.

A 1991 survey by *Skin Diver Magazine*, which has the largest circulation of any American dive magazine, showed that 63.4 percent of the magazine's readers took a dive trip in the Caribbean, expending an average of US\$ 3,150 on their dive vacations during the year. The most popular dive destinations for the USA dive market are: Mexico, the Bahamas, Cayman Islands and Bonaire. Honduras and Jamaica also receive a sizable share of this market.

The European dive market shows an interesting profile as well. According to a recent Caribbean Tourism Organization study, *European Dive Travel Market for the Caribbean (1994)*, there are an estimated 1.6 million scuba divers in Europe as a whole. This figure includes all types of divers from the keen, frequent, dive club member to the holiday-only diver. France, Germany and Italy are the main markets, followed by U.K. The estimated number of diving holidays is 220,000 per year.

According to the same study, there is increasing concern among divers for the diving environment. Divers want to go to places where the underwater world is still unpolluted and undamaged. The creation of a marine park, with enforced resource protection, such as bans on touching the coral, shell collecting and spear fishing, creates a favourable impression. Destinations that do not show signs of caring for their marine environment will increasingly be avoided.

The characteristics of the European diver varies, but the majority of those who dive on holidays abroad are in their late 20's to early 40's. **They** are drawn from a broad social spectrum, but usually have a reasonably high disposable income. They tend to be self reliant and **independent** minded. The changes foreseen in the dive holiday market point to an increase in older divers, more diving by couples before marriage and more diving for families where the husband and wife take turns diving and staying with the children.

The **CTO** study further identifies 4 types of European divers:

1. Cheap and **carefree** segment- mainly young friends or couples who usually organize their own low-cost holiday. This type of diver is attracted to **MPAs** with easy accessibility and low cost.
2. Dive Fanatic- Short-haul destination - travel only for diving, usually in groups from clubs or friends. Factors like proximity and convenience in air connections make it easy for them to expend short vacations in different destination in the Caribbean. All ages/groups from clubs/friends/couples.
3. Dive Fanatic- Long-haul destination - well off, keen to dive during a long-haul holiday or travel long-haul just to dive. This type combines a vacation in the Caribbean with diving activities. Generally coming from the former colonial metropolis, they are attracted by warm weather, language and knowledge about the destination. Very well off individuals.
4. "Sideliner" diver - combines diving with a family holiday or holiday with non-divers and buys a dive package generally when in destination or as part of their overall package **from** a tour operator in their country.

There is a general impression among dive operators that dedicated divers seem not to care much if it is a marine protected area as long as the condition of the reef is good and it is clean. Also, they think the level and professionalism of the dive operation can count for a very important percentage of the total experience of the client and that the personalized service can overcome a lot of the other deficiencies.

According to the **CTO** study, Caribbean diving faces product development difficulties in the case of Europeans, who tend to **rate** the region below the Red Sea, the Maldives and Thailand as a preferred dive destination. The Caribbean is regarded as offering poor value for money. Other factors affecting the choice in destinations are: price, airline connections, ease of travel, quality of accommodation, lack of knowledge about the destinations, and language problems.

Diving does not have the same **seasonality** problems that plague the Caribbean tourism industry as a whole. Divers come year around. European divers, in particular, come in large numbers during their summer holidays, attracted by cheap charter flights and lower accommodation rates. This brings an added advantage to the activity in terms of the overall tourism strategy for Caribbean islands.

Yachting

This segment has an important place in the uses of **MPAs** in the region. Most of the **MPAs** provide opportunities for the needs of this growing market. The market consists mainly of three types of users: **bareboat** charters, **crewed** charters and private yachts.

It is very difficult to make an accurate estimate of the charter segment of the market, and most operators talk of totals that are unrealistically low. The problem lies in assessing the “grey” and “black” operators which are small companies not belonging to any trade associations and private owners who allow a few charters for cash as a way of offsetting their own sailing costs (Smith and Jenner, 1994).

In 1990, according to a CTO report, the Caribbean region had a total of 1,193 sailing boats for charter. These were located mainly in The Bahamas, St. Thomas, British Virgin Islands, St. Maarten, Guadeloupe, Martinique, Antigua, St. Lucia and St. Vincent and the Grenadines. Of this total, the British Virgin Islands concentrated the largest amount of charter boats (372), with thirty-two percent of the total number of boats. St. Thomas (228 boats) and St. Maarten followed, with twenty-eight and twenty percent respectively. St. Lucia hosted eight percent of the charter boats, Martinique seven percent, Guadeloupe five percent and St. Vincent, Grenada and Antigua with less than three percent each. The August 1996 issue of *Cruising the World* showed the B.V.I. charter fleet to have grown to 633 boats and the U.S.V.I. as dropping to 98 boats.

The main motivation of this segment is related to sun, sea and sand relaxing vacation, looking for good and unspoiled beaches, good water sport and inland activities and availability of good, as well as secure mooring and docking services. Some sailors are dedicated divers, who, along with private yacht owners, tend to be concerned with the protection of the marine environment.

The main yachting destinations in the Eastern Caribbean are Bequia and Tobago Cays in St. Vincent and the Grenadines (ninety percent of the boats leaving St. Lucia, Saint Vincent and Grenada go to the Grenadines), British Virgin Islands (ninety percent of the boats leaving St. Thomas go to BVI), Antigua, Martinique and St. Lucia.

MPAs either have all-inclusive marinas within their boundaries, as in the case of Nelson’s Dockyard National Park in Antigua and the U.S.V.I. National Park in St. John, or nearby, as in the case of Buck Island National Monument and Soufriere Marine Management Area. In other cases, MPAs offer “parking lot” moorings for boats cruising the different islands. In these cases, the mooring systems existing in some of the MPAs are very popular among the tourism yachting industry.

Cruise ship passengers

The cruise industry is the most dynamic growth category in the entire leisure market. Since 1980 the industry has had an annual increase of 7.6 percent per annum, with over seven million passengers expected to take a cruise by the year 2000. The Caribbean represents the premier destination for the cruise industry, receiving over 50 percent of all passengers, according to research by Cruise Lines International Association (CLIA).

Tremendous growth potential exists for the cruise industry. In the next five years, CLIA estimates the cumulative market potential at \$54 to \$87 billion. Within the next four years, the industry estimates over \$7 billion in current new build orders, representing 24 very large new ships with a total of 40,000 new berths. If deployed along the same lines as the industry’s development over the last five years, at least 50 percent of this new capacity will cruise the Caribbean. This will mean incremental advertising and promotions to ensure that all of those new berths are filled every single week (Page, 1997). It will also mean increasing levels of demand for the MPAs product.

The Florida-Caribbean Cruise Association (FCCA), with its 13 member lines, accounts for over ninety percent of cruise vessels and cruise berths sailing to the Caribbean. According to an industry study, the cruise industry spends over \$300 million annually just in the United States to generate awareness, create demand and produce passengers for Caribbean cruises. The additional cost of reaching international markets brings the total marketing effort to over half a billion dollars. The basis of this continued effort is to ensure that the needs and expectations of cruise passengers are met and exceeded. The CLIA Market Profile study indicates that cruising ranks number one versus other vacation options in customer satisfaction, with 36 percent of passengers being “extremely satisfied”.

Cruise ship passengers are regular visitors to **MPAs** throughout the region. There is a wide variation within this segment, ranging from those passengers, generally found on large ships, who are seeking the standardized relaxation, shopping and touring, to more adventuresome, active travelers, generally found on small ships offering a specialized experience while visiting carefully selected destinations.

Despite these ranges, every cruise ship has some passengers who are interested in sampling the MPA product. Some may only want a “soft” experience, such as a glass bottom boat, or snorkeling. Others are scuba divers, who are seeking good, safe diving. Nearly all, however, put a higher priority on comfort and service than on experience.

Cruise lines offer package trips to most **MPAs** in the region as part of their shore excursion programme. Passengers sign up for packages offered by local tour and dive operators, which include transportation from and to the ship. Cruise ship passengers arrive at the MPA in large numbers and frequently overwhelm both the site and the service providers. Their stay is invariably short, as their ship is seldom in port for more than twelve hours.

Specialty travel (heritage tourism and ecotourism)

Heritage Tourism and Ecotourism are specialty travel segments, which focus on the unique natural, historical and cultural attributes of a destination. These tourists usually come to experience a distinct product, such as the Dominica **Rainforest**, or a cluster of products, such as offered by the VI National Park. Excluding the VI National Park there is no MPA in the Eastern Caribbean of sufficient scale to attract large numbers from this market segment, although some like the Saba Marine Park the Soufriere Marine Management Area and **Scotts** Head Marine Reserve, have the potential to combine surrounding attractions into an integral product.

Nature and heritage tourism is a significant and rapidly growing segment of the tourism sector. Exact statistics of the size of the market do not exist. However, U.S. tour operators report that each year from 4 million to 6 million people travel from the U.S. overseas for nature-related trips. Nature and heritage tourism will add on to the tropical beach leisure vacation, to provide balance, variety, and relevance to the tourist stay.

Most members of this market segment visit **MPAs** as part of their overall vacation experience. These are generally well educated, up-scale travelers with a strong conservation ethic, an interest in outdoor activities and in the acquisition of knowledge. Like most divers and yacht people, they are looking for pristine locations and are appreciative of resource management and protection. They also want to learn about underwater natural history and historic facts of an area where the MPA is located, share the traditional productive activities done by the local communities, or simply coexist with the coastal way of life.

Travel industry research has demonstrated that this type of visitor can make a significant contribution to economic and community development. Specialty travel is rapidly becoming a big business throughout the world. It is estimated that this type of tourism now counts for approximately seven percent of all international travel expenditures. Recent research by the travel industry shows that the number of specialty tourists is increasing by around twenty percent per annum – the fastest growing segment of the world market. Studies have shown that this type of tourist stays longer, spends more and is more respectful of local cultural traditions and the environment than other tourists.

Some of the **MPAs** in the region offer a good mix of historical, natural and cultural experiences as part of their tourism product. But much more needs to be done to improve the product to meet the needs of this important segment of the market.

Current demand to MPA case studies

Demand data for Caribbean **MPAs** is not available for all the sites. In order to realistically assess demand, data for the five case studies has been compiled and analyzed below.

Wreck of the Rhone Marine Park

It has been estimated that over 30 yachts and 6 dive boats visit the Wreck of the Rhone Marine Park daily, and as many as 100 divers may be at the site at the same time. Dive operators, who run some 20 boats with an average capacity of 10 divers per boat, average 6-8 dives per week in the Park. Teaching involves 10-20 percent of their business. Most of the tourists are **from** yachts or hotels. Dive operators also bring a few certified divers from cruise ships.

Buck Island Reef National Monument

Visitation figures to Buck Island National Monument have shown ups and downs, specially after hurricane Hugo in 1989. In 1993, visitation went up to 60,240 visitors, keeping steady for the next two years, then dropped to 49,665 in 1996. This last figure represents 16.8 percent of total tourist visitation to St. Croix. Most private visitation is on locally owned private boats on weekends. The U.S. National Park Service has no control over the number of private boats visiting the Monument daily.

According to National Park statistics, the concession companies carried 57.4 percent of all 1996 visitors, and 60 percent for the two preceding years. The highest visitation months are from December to April, which is the high tourism season for St. Croix. The visitors mainly come to do snorkeling and spend the day at the beach. There is little SCUBA diving.

Visitors to Buck Island come mainly from cruise ship passengers who take half a day or a one-day tour to Buck Island. This tour is one of the most popular ones among cruise passengers and is mainly sold as a day at the beach in a clean and protected environment. Hotel and stay-over tourists visit the site to a far lesser degree. In this group are those that take a trip to Buck Island as another beach experience, while others want to visit it because it is a protected area.

Soufriere Marine Management Area

The **Soufriere** Marine Management Area receives a sizable share of the total number of the average 400,000 cruise ship passengers and 250,000 hotel tourists visiting the island per year. Diving is a very important segment of their market, with an average of 60,000 divers per year. Although there is not an exact figure for the percentage of this market that visits the **SMMA**, one local dive operator calculated an average of 100 divers per month from one cruise line, some 3,000 certified divers, and between 1,500 and 2,000 beginner divers per year.

Saba Marine Park

In the case of the Saba Marine Park, according to marine park statistics, the number of divers has almost doubled over a period of eight years: **from** 2,601 divers in 1988 to 4,428 divers in 1996. Visiting yachts have increased from 131 boats in 1990 to 442 in 1996.

Their **average** client profile is the sophisticated, upscale traveler, seeking value for money. Seventy percent of the Park's visitors come **from** the USA, 15 percent from Europe and 15 **percent** are day tours from nearby islands. Dive operators said their customers come to Saba to dive because there is a marine park, and they understand and appreciate the product. The most frequented dive sites are Ten Reef, Diamond Rock and Third Encounter. The majority of visitors are stay over tourists.

Sandy Point Marine Park (Proposed)

Due to the early stage of development of the Sandy Point Proposed Marine Park, information on visitation is not available. In 1996, St. Kitts received a total of 169,954 tourists, equally distributed between air and sea arrivals. According to dive operators interviewed, only a small percentage of this total visit the Sandy Point Reef.

4. POLICY DIRECTIONS AND RECOMMENDATIONS

Marketing policy directions

Tourism is proving to be a good source of income for MPAs, as well as surrounding communities. The activity also serves as an important medium for the educational and environmental messages of the MPAs. Nevertheless, there is not a type of tourist, or market segment, without some negative impact on the area that it uses. Therefore, MPA managers must take care to understand and carefully control the activity to ensure that it will benefit rather than harm their site. The key to successful tourism development is systematic planning and management.

The design of a marketing strategy for MPAs must be guided by four main principles:

Quality over quantity: numbers are not the objective *per se* but rather ensuring that the profile of the tourist is appropriate for protected area objectives and beneficial to host communities.

Diversification of the product: this involves the use of other natural and cultural resources located in the MPAs or in their vicinity in order to give the visitor an experience of quality and at the same time to release the pressure of use of the diving and snorkeling sites. It includes the use and interpretation of the cultural and historical resources in order to enrich the visitor's experience and contribute to their education on the marine environment.

Collaborative approach to marketing: due to the increasingly competitive tourism business environment, marketing must be done as a collaborative effort and MPAs must act as partners in the promotion and image development in the region. MPAs should also collaborate to use technology and other means to access priority markets efficiently.

Community involvement through education and training: marketing and promotion of MPAs must involve the participation of the host community in areas such as product development, interpretation, image creation and operational activities. Tourism development in MPAs must meet the priority needs of host communities. Marketing of these areas must contribute to the strengthening of cultural identity and self-esteem.

Other recommendations

The following set of recommendations and actions has been developed to help MPA administrators better manage tourism for the sustainable development of their sites and local communities. The underlying management goal must be quality rather than quantity, for it must be clearly recognized that over-use of sites will eventually degrade the tourist experience as well as the site itself, thus undermining the goal of sustainability.

Product Development

- Prepare an inventory and assessment of the different resources which could be available to diversify the product, incorporating the natural and cultural environment, such as oral history, gastronomy, music and other related themes.
- Incorporate all the actors in MPAs tourism product management, such as taxi drivers, tourism guides, small enterprises in handicrafts, traditional food, music, etc.
- Standardize the designations. Seven different names are being used to identify the MPAs in the region. However, the most used and better understood denomination for the tourism sector is Marine Park or National Park. The designation "Marine Park" is recommended as the standard designation in promotional literature.

- Incorporate training and education as part of the product development strategy to assure community involvement in all phases of the tourism activity.
- Implement a strategy for the development of small business with grassroots participation, analyzing the whole tourism product offered to find opportunities for local involvement.
- Take immediate steps to determine the carrying capacity for each market segment, control tourist flow by activity, and put limits on the overall number of site visitors.
- Develop amenities to service the needs of specific users, in order to attract those who are more suitable to the uniqueness of the resources and the objectives of conservation.
- Enrich the visitor experience. This can be achieved through the following actions:
 - Prepare a fact sheet or brochure providing prospective visitors with basic information about the site, as well as airline connections, accommodations and tour/dive operators. This information should be prepared with different market segments in mind.
 - Establish or upgrade visitor **centres**, making sure that they are staffed and provide some sort of welcome and site orientation.
 - Enhance educational **programming**, not only to enrich the tourist experience, but also to educate visitors about the responsible use of the site. Minimally, sites should have an exhibit and some educational material for distribution. Ideally, there should also be some educational activities geared to children and adults.
 - Establish a quality review-monitoring programme with input from visitors and tourism partners.
- Upgrade promotional activities, through the production of brochures, videos, presentations and advertising in local and regional tourism publications. Care must be taken to match promotion with the reality of the resource base and the experience.
- Establish training programmes for tour guides and other site operators.
- Establish contact with the regional and international organizations, such as the Sierra Club and Earth Watch, that provide opportunities for tourists to participate in research and monitoring programmes.
- Base the Eastern Caribbean MPA tourism product on a small number (no more than 25) of high-quality, unique sites, with at least one MPA in every country. Priority should be given to establishing the proposed **MPAs** in St. Kitts, Dominica and St. Vincent and the Grenadines as these have considerable potential for enhancing the tourism product of their respective countries and for protecting resources critical for sustainable economic development.
- In the selection of new MPA sites, give particular attention to wreck diving as well as natural areas, since shipwrecks are one of the primary marine assets of the Caribbean, are in need of protection, and are of considerable interest to divers and tourists generally.
- Involve tourism planners in the development of all new **MPAs** to ensure that tourism concerns are adequately considered and addressed, and that tourism benefits flow widely to local communities.

Marketing

- Establish a destination image or “position” in the mind of potential visitors.

- Given the importance of **the** diving market, give special attention to advertising in international diving publications and to having **those** magazines develop articles featuring the **MPAs**.
- Establish WEB pages for individual **MPAs** to promote themselves.
- Engage in personal “selling” at travel industry events.
- Prepare well organized familiarisation trips for tour operators and tourism advertising agencies.
- In each MPA, target specific market segments that are particularly suited to its tourism product and to its carrying capacity. Particular attention should be paid to attracting low-impact segments that tend to be sensitive to the conservation objectives of **the** MPA.

Partnerships

- Improve the working relationships between **MPAs** and their tourism industry partners, such as dive and tour operators, hoteliers, airline and cruise ships, taxi drivers and national tourism agencies, that connect them with their markets. Specific actions should include:
 - incorporate these partners in **the** planning and decision-making process.
 - use these intermediaries to help develop and disseminate educational and promotional material.
 - involve dive and tour operators in site monitoring and product improvement activities.
 - help cruise lines, hotels and dive operators teach safe and responsible diving practices.
 - provide periodic educational outreach to all industry partners.
 - coordinate promotional and marketing activities with tourism boards.
 - provide training and incentives to help residents of local communities establish tourist related businesses and services.
- Improve the relationship with grassroots community organizations such as fishermen cooperatives, environmental organizations, crafts organizations, small business groups, youth clubs, etc, with the following actions:
 - organize special group visits to the site from these community organizations. It is important to segment the users groups within these groups.
 - provide schools and youths organizations with material promoting the **MPAs** to locals.

Regional Collaboration

- **MPAs** should collaborate in the promotion and marketing of their products. One effective step in this direction would be the joint production of a Guide to regional **MPAs**. **MPAs** might also cooperate in the creation of an advertising booth that could be placed in international dive market exhibitions.
- A regional workshop should be convened to focus on tourism-related challenges and opportunities. This gathering could also serve as a platform for initiating collaborative activities.

- The French Mission for Cooperation should assist **MPAs** develop an integrated MPA tourism product through the following actions:
 - Produce a regional brochure or guide incorporating all the **MPAs**. The outstanding Gallimard Guides and **Parc National de la Guadeloupe** materials could serve as models.
 - Provide technical assistance to **MPAs** with respect to the development of promotional materials and marketing strategies.
 - Help **MPAs** establish basic standards for product development, facilities design, services and educational programming.
 - Promote regional and national courses for MPA employees in hospitality and tourism services to prepare them to receive tourists and develop standards.
 - Help **MPAs** create visitor survey and monitoring programmes.
 - Assist **MPAs** in the development of tourist related educational tools for specific market segments, such as brochures, videos, **signage**, booklets, cartoons and web pages.

5. REFERENCES AND SOURCES

Archer, E. 1985. Emerging environmental problems in a tourist zone: the case of Barbados. *Caribbean Geography* 2(1): 45-55.

Blommestein, E. 1993. Sustainable tourism in the Caribbean: proposals for actions. Economic Commission for Latin America and the Caribbean.

Blommestein, E. and R. Williams. 1993. Critical issues in environmental health and sustainable tourism development in the Caribbean. Regional Conference on Environmental Health and Sustainable Tourism Development. Nassau, Bahamas.

Brown, N.A. 1995. Revenue generation for marine protected areas: the mooring system in the British Virgin Islands (BVI). Case study prepared for the Workshop on Revenue Generation for Protected Areas. Saba, Netherlands Antilles, 5-6 June 1995, CANARI Technical Report no. 105: 17 pp.

Cameron, S. 1997. Caribbean islands handbook with the Bahamas. Footprints Handbooks.

Ceballos- Lascurain, H. 1996. Tourism ecotourism and protected areas. IUCN, The World Conservation Union, Gland, Switzerland. 301 pp.

Coral Reef Alliance (CORAL). 1995. CORAL/PATA sustainable diving checklist. Presented by the Coral Reef Alliance to the UN Conference on Sustainable Tourism, Dominican Republic, and the International Coral Reef Initiative Workshop, The Philippines.

Coulianos, K.E. 1980. Concepts for ecodevelopmental tourism for small Caribbean islands. Masters Thesis. School of Natural Resources, University of Michigan. 149 pp.

Cunningham, C.M. 1993. Pelagic piracy: a Caribbean response. Paper presented at The Third Caribbean Conference on Eco-Tourism, **Cayman** Islands, May 4-7, 1993.

De Albuquerque, K. and J. McElroy. 1992. Tourism development in small Caribbean islands: lessons from St. **Maarten**/St. Martin and Bermuda. Revised version of paper prepared for the Inaugural British-Caribbean Geography Seminar, University of the West Indies, Mona, Kingston, Jamaica, August 17-21, 1992. 26 pp.

De Albuquerque, K. and J. **McElroy**. 1993. Alternative tourism and sustainability. Paper prepared for the Second Island Tourism International **Forum**, Competitiveness Challenges for Islands Destinations in the 1990s, Bermuda College, Bermuda, May 16-19, 1993. 17 pp.

DEMA. 1997. General US diving market data. Diving Equipment & Marketing Association. CA, USA.

Fodors. 1997. Worldwide cruises and ports of calls.

Foster, N. and H.M. **Lemay**. 1989. Managing marine protected areas: an action plan. U.S. Man and the Biosphere Program Publication 9673, Washington, D.C., USA. 63 pp.

French Mission for Cooperation. 1995. Study on the yachting activity in the Tobago Cays and the Grenadines. Ministry of Foreign Affairs and Tourism. St. Vincent and the Grenadines.

Gardner Smith Associates. 1994. European dive travel market for the Caribbean. Caribbean Tourism Organization, Barbados. 71 pp.

Geoghegan, T. 1983. Guidelines for integrated marine resources management in the Eastern Caribbean. Report on **the** Workshop "Planning for Marine Resource Development". Caribbean Conservation Association, Caribbean Environment Technical Paper No. 2:52 pp.

Gleason, B. 199 1. The ecological diver. Skin Diver Magazine.

Hall, M. C. 1994. Tourism and politics: policy, power and place. Wiley, England.

Hawkins, L. and C. M. Roberts. 1992. Effects of recreational scuba diving on fore-reef slope communities of coral reefs. *Biological Conservation* 62: 17 1- 178.

Horwith, B. and L. Cavelle. 1996. Management plan for the Bird Island Marine Reserve. Island Resources Foundation, St. John's, Antigua.

Ingram, C. and P. Durst. 1989. Nature-oriented tour operators: travel to developing countries. *Journal of Travel Research* 28(2):11-15.

Iniama, E. 1993. Tourism and sustainable development in the Caribbean: trade offs and complements. *Caribbean Perspectives*.

Jackson, I. 1987. Integration of tourism and environment through resource planning and management. Pages 47-55 *in* F. Edwards, *Environmentally Sound Tourism Development in the Caribbean Workshop*. The University of Calgary Press, Calgary, Alberta, Canada.

Johnston, B. 1990. Save our beach dem and our land too!: the problems of tourism in "America's Paradise". *CS Quarterly* 14(2): 3 1-37.

Kaye, E. 199 1. Eco-vacations: enjoy yourself & save the earth. Blue Penguin Publications.

Lynn, W. 1992. Tourism in the peoples interest. *Community Development Journal*. 27(4): 371-377.

Marler, G and L. 1978. *The Royal Mail Steamer Rhone: a diving guide and brief history of the British Virgin Islands*. Marler Publisher Ltd.

Masterton, A.M. 1993. Protecting precious resources. *Island Destinations*. 8-12.

McElroy, J. and K. de Albuquerque. 1989. Tourism styles and policy responses in the open economy-closed **environment** context. Paper prepared for the Caribbean Conservation Association Conference on Economics and the Environment, Barbados, Nov. 6-8, 1989. 18 pp.

McElroy, J. and K. de Albuquerque. 1994. Island tourist profiles across the destination life cycle. *Insula: International Journal of Island Affairs* 3(1).

Page, M. 1997. Cruising into the year 2000. *The Virgin Islands Business Journal*. April-May 1997.

Ray, G.C. 1976. Marine parks and reserves. An International Conference on Marine Parks and Reserves. IUCN Publication New Series No. 37:54-56.

Roberts, C. and J. Hawkins. 1994. Report of the status of Bonaire's coral reefs: effects of diving on coral reefs of Bonaire and status of the island fish communities. University of the Virgin Islands and Eastern Caribbean Center. 31 pp.

Rodriguez, A. 1981. Marine and coastal environmental stress in the wider Caribbean. *Ambio* 10 (6): 283-294.

Sadler, B. 1987. Sustaining tomorrow and endless summer: on linking tourism and environment in the Caribbean. Paper presented at the Environmentally Sound Tourism Development in the Caribbean Workshop, Barbados, April 1987. The Banff Centre School of **Management/CIDA**.

Sethna, R. nd. The Caribbean tourism product: an appraisal. In J. Holder (**comp.**) Caribbean tourism policies and impact; selected papers. CTCRC.

Showker, E. T. Steward and Chang. 1989. *The Outdoor Travelers Guide*.

Skin Diver. 1991. *The Skin Diver Reader Survey*

Smith, A. 1994. Community involvement in coral reef monitoring for management in the Insular Caribbean. Pages 59-67 in A.T. White, L. Z. Hale, Y. Renard and L. Cortesi Collaborative and community-based management of coral reefs. Kumarian Press, West Hartford, CT., USA.

Smith, C. and P. Jenner. 1994. Market segments: water sports holidays. EIU Travel & Tourism Analyst No. 5. The Economic Intelligence Unit Limited.

Sorensen, L. 1993. The special-interest travel market. *The Cornell H.R.A. Quarterly* 24-30.

Stanley, S.. 1995. Marine Region 7 - Wider Caribbean. *In* A global representative system of marine protected areas. Vol. II. Great Barrier Reef Marine Park Authority. The World Bank, IUCN.

Sweeting, J. nd. Marine ecotourism information package. The Ecotourism Society, MA, USA.

VI Bureau of Economic Research, Department of Tourism. 1997. USVI Annual Economic Indicators, March 1996 - March 1997 Statistical Report, BER, USVI, St. Thomas.

Watkins, M. 1994. *Diving guide to the Eastern Caribbean*. **McMillan** Press, London,

Weaver, D. 1994. Ecotourism in the Caribbean Basin. Pages 159-176 in E. Cater and G. **Lowman** (eds.) *Ecotourism: a sustainable option?* John Wiley and Sons Ltd.

Wight, P. 1993. Ecotourism: ethics or eco-sell. *Journal of Travel Research* 3-9.

Wight, P. 1993. Improved business positioning: environmentally responsible marketing of tourism. Paper presented at 24th Annual TTRA Int. Conference, Whistler, June 14.

Wight, P. 1994. Environmentally responsible marketing of ecotourism. Pages 39-56 *in* E. Cater and G. Lowman (eds.) *Ecotourism: a sustainable option?* John Wiley and Sons Ltd.

Wright, P. 1993. Sustainable ecotourism: balancing economic, environmental and social goals within an ethical framework. *Journal of Tourism Studies* 4(2):54-66.

W.T.O. nd. Guidelines: development of national parks and protected areas for tourism. World Tourism Organization and United Nations Environment Program. Technical Report Series no. 13

APPENDIX 1: SELECTED BIBLIOGRAPHY FOR TOURISM AND MAPS IN THE EASTERN CARIBBEAN

1. A marine park and recreation plan for south-east peninsula of St. Kitts; draft. 2 1 pp.
2. Allen, W. 1992. Increased dangers to Caribbean marine ecosystems: cruise ship anchors and intensified tourism threaten reefs. *Bioscience* 42(5):330-335.
3. Brown, N. A. 1996. The Caribbean Natural Resources Institute: working towards participation and collaboration in the Caribbean. *Islander* 2: 1 1- 15.
4. Brown, N.A. 1995. Revenue generation for marine protected areas: the moorings system in the British Virgin Islands (BVI). Paper presented at the Workshop on Revenue Generation for Protected Areas. Saba, Netherlands Antilles, June 1995. 10 pp.
5. **Bunce**, L. 1996. Usage patterns and user perceptions, marine resource characterizations and **waterflow** patterns of the Northcoast Management Area. IRF, St. John, Antigua.
6. Cambers, G. 1992. Coastal zone management: case studies from the Caribbean. Latin America and Caribbean Technical Department, Regional Studies Program Report no. 26: 52 pp.
7. CANARI. 1992. Coral reef monitoring in the Soufriere area, St. Lucia, 1991. CANARI Technical Report no. 67:8pp.
8. Clarke, N. 1984. Rhone Marine Park • draft management plan. CANARI Technical Report 34:41 pp.
9. Clarke, N. and T. Geoghegan. 1986. North Sound: a guide for yachtsmen and explorers. British Virgin Islands: BVI National Park Trust. 36 pp.
10. Dixon, J., L. Scura and T. van't Hof. 1992. Meeting ecological and economic goals: the case of marine parks in the Caribbean. Washington, DC. USA. 21 pp.
11. Dixon, J. A, L. Scura and T. **van't** Hof. 1995. Ecology and microeconomics as “Joint Products”: The Bonaire Marine Park in the Caribbean. Pages 127- 125 in **Perrings** et. al. (eds). Biodiversity Coalition. Kluwer Academic Publishers.
12. Dixon, J. and T. van't Hof. 1996. Caribbean parks rate preservation. *Forum for Applied Research and Public Policy*. (In press).
13. **Drayton**, N. 1993. Marine Parks and Protected Areas Management Network Semi-Annual Report. CCA.
14. Ennis, S. 1990. Marine resource management in the BVI, St. Thomas, USVI. IRF. 57 pp.
15. Fernandes, L. 1995. Integrating economic, environmental and social issues in an evaluation of Saba Marine Park. Netherlands Antilles, Caribbean Sea.

16. Ferrance, W. and D. Russell. 1991. Nelson's Dockyard National Park, Antigua, WI: a case study in economic diversification. Pages 3 1-52 *in* Proceedings of the Regional Symposium on Private and Public Cooperation in National Park Development, Tortola, British Virgin Islands, 23-25 August 1991.
17. Framhein, R. 1995. The value of nature protection: economic analysis of the Saba Marine Park, Summary for the Government of Saba; draft.
18. France, L. 1997. An overview of tourism in the Caribbean. United Kingdom Centre for Travel and Tourism. 37 pp.
19. French Mission for Cooperation. 1994. Case study on coastal and marine ecosystems of St. Vincent and the Grenadines with special emphasis on the Tobago Cays National Park. Paper prepared for the Workshop on Coastal and Marine Ecosystems, Union Island, 2 1-23 March.
20. French Mission for Cooperation and Ministry of Foreign Affairs and Tourism. 1995. Survey of the yachting activity in the Tobago Cays and The Grenadines.
21. French Technical Mission. 1993. Action plan for the Tobago Cays National Marine Park. St. Vincent and the Grenadines.
22. Gardner Smith Associates. 1994. European dive travel market for the Caribbean. Caribbean Tourism Organization. Barbados, W.I.
23. Geoghegan, T. 1994. Financing strategies for protected areas in the insular Caribbean. *Parks* 4(2): 28-38.
24. Geoghegan, T. 1989. Management plan: RMS Rhone Marine Park. CANARI Technical Report no. 63: 34 pp.
25. Geoghegan, T. 1989. The role of commercial users in protected area management: RMS Rhone Marine Park British Virgin Islands. Case study prepared for the XXIII Annual General Meeting of the Caribbean Conservation Association, Technical Session.
26. Geoghegan, T., Y. Renard and A. Smith, 1991. Community participation in protected area management: some cases from the Caribbean Pages 53-59 *in* G. Cambers (ed.) Proceedings of the Regional Symposium on Private and Private Cooperation in National Park Development, Tortola, British Virgin Islands, 23-25 August 199 1.
27. George, S. 1994. Coastal conflict resolution: a case study of Soufriere, St. Lucia. 14 pp.
28. Green, K. M. 1989. National park planning for tourism development and co-ordination guidelines: a case study from OAS experience in St. Lucia. OAS Dept. of Regional Development. 17 pp.
29. **GSVG/French** Mission for Cooperation. 1995. Survey of the yachting activity in **the** Tobago Cays and the Grenadines. French Mission for Cooperation, Kingston, St. Vincent. 19 pp.
30. Hart, C. 1989. The Caribbean: caught in a tourist trap? *World Development* 2(6).

31. **Heyman**, A.M., T.J. Riegert., A. Smith., T. Shallow and J.R. Clarke. 1988. Development of the Tobago Cays National Park. Government of St. Vincent and the Grenadines and Organization of American States. 94 pp.
32. Hoagland, P., Y. Kaoru and J. **Broadus**. 1995. A methodological review of net benefit evaluation for marine reserves. The World Bank. Environmentally Sustainable Development Paper no. 027.
33. Homer, F. 1996. Marine parks and protected areas programme. End of programme report. Caribbean Conservation Association. Barbados.
34. Howell, C. nd. Tourism in Tortola, BVI: perceptions toward land carrying capacity. Survey to visitors.
35. Ishmael, L. 1993. The social and natural implications of cruise ship tourism in the Caribbean. Paper presented at the Third Caribbean Conference on Ecotourism, **Cayman** Islands, May 4-7, 1993.
36. **Ishmael**, L.M. 1994. St. Lucia, **Soufriere**, & The **Pitons**. The price of development: is no price too high? Consortium of Caribbean Universities for Natural Resource Management, University of the Virgin Islands, St. Thomas, Virgin Islands. 33 pp.
37. Island Resources Foundation. 1996. Guidance for best management practices for Caribbean coastal tourism. St. Thomas, USVI. Unpublished.
38. Jackson, I. 1982. Marine tourism, fisheries and development of parks and protected areas in the British Virgin Islands. St. John's, Antigua and Barbuda. ECNAMP. 13 pp.
39. Jackson, **Y**. 1981. Study of the pleasure boat industry in the British Virgin Islands with emphasis on charters boats. 89 pp.
40. Jackson, I. 1988. Integration of tourism and environment through resource planning and management. in Center for Continuing Education. Environmentally sound tourism development in the Caribbean.
41. Kreuzer, T. 1997. A balancing act. Caribbean Travel & Life: 50-55.
42. Lewsey, C. 1978. Assessing the environmental effects of tourism development on the carrying capacity of small islands systems: the case of Barbados. Cornell University Coastal Pollution.
43. Lund H., M. Anderson, E. Gladfelter and M. Davis. 1986. Trends in recreational boating in the BVI: a preliminary assessment of impact from human activities on anchorages and development of a monitoring program for safe anchorages. St. Thomas, USVI IRF.
44. Marion, J. 1990. Ecological impacts of nature-dependent tourism. Pages 243-249 in Travel and Tourism Research Association. **Proc.** Twenty-first Annual Conference on the Tourism Connection: Linking Research and Marketing.
45. Marion, J. and C. Rogers. 1994. The applicability of terrestrial visitor impact management strategies to the protection of coral reefs. Ocean & Coastal Management 22: 153-163.

46. Meganck, R. 1991. Coastal parks as development catalysts: a Caribbean example. *Oceans and Shoreline Management* 15:25-36.
47. Merrifield, M. 1993. Saba Marine Park: a case of sustainable development through ecotourism. 18 pp.
48. Nijkamp, H., R. Djohani and E. Meersters. 1995. The marine environment of St. Maarten: optimizing use and protection of the island's marine resources. AID Environment and EcoVision Report. St. Maarten.
49. O'Marde, C. 1992. Diamond and Palaster Reef, Marine reserves, Antigua and Barbuda, W.I. St. John's: Antigua and Barbuda Fisheries Division. 3 pp.
50. OAS. 1986. Marine protected areas of the OAS Caribbean member states; preliminary version. Washington, D. C. 55 pp.
51. OAS. 1988. Inventory of Caribbean marine and coastal protected areas. Department of Regional Development and Office of International Affairs, Organization of American States, Washington, D.C. 146 pp.
52. Potter, B. 1996. Tourism and coastal resources degradation in the Wider Caribbean. IRF. Unpublished.
53. Renard, Y. and S. Koester. 1995. Resolving conflicts for integrated coastal management: the case of Soufriere, St. Lucia. *Caribbean Park and Protected Area Bulletin* 5(2):5-7.
54. Roberts, C., J. Hawkins and J. Nowlis. 1995. Marine resource management. *In* F. Mills (ed.) *Caribbean Perspectives*. Eastern Caribbean Center, St. Thomas.
55. Roberts, C., J. Hawkins and J. Nowlis. 1995. Economic and social benefits of marine resource management in the Caribbean. Pages 3-8 *in* F.L. Mills (ed.) *Caribbean Perspectives*. Eastern Caribbean Center, St. Thomas.
56. Rogers, C. and R. Teytaud. 1988. Marine and terrestrial ecosystems of the Virgin Islands National Park and Biosphere Reserve. U.S. Department of the Interior (National Park Service). Virgin Islands Resource Management Cooperative.
57. Rogers, C. S. 1991. Balancing adverse effects of marine-based tourism with marine resource protection in Virgin Islands National Park, St. John, US Virgin Islands. Pages 102-119 *in* Proceedings of the Regional Symposium on Private and Private Cooperation in National Park Development, Tortola, British Virgin Islands, 23-25 August 1991.
58. Rogers, C. S., L. MacLain and E. Zullo. 1988. Damage to coral reefs in the Virgin Islands National Park and Biosphere Reserve from recreational activities. *Proc. 6th Int. Coral Reef Symp.* Vol. 2:405-410.
59. Rogers, C. S., L. McLain and C. Tobias. 1990. Damage to marine resources in Virgin Islands National Park: out of sight, but no longer out of mind. Pages 132-137 *in* Miller M. L. and J. Auyong (eds.) 1991. *Proc. of the 1990 Congress on Coastal and Marine Tourism*. Vol. 1. (25-31 May 1990, Honolulu, Hawaii, USA). Newport, OR. National Coastal Resources Research & Development Institute. 561 pp.

60. Rogers, C. S., L. MacLain, and E. Zullo. 1988. Recreational uses of marine resources in the Virgin Islands National Park and Biosphere Reserve: trends and consequences. Biosphere Reserve Report no. 24: 29 pp.
61. Salm, R. V. and J.R. Clark. 1984. Marine and coastal protected areas: a guide for planners and managers. IUCN, Gland Switzerland.
62. Salm, RV. 1980. Anguilla: coral reefs and the marine parks potential. CANARI Technical Report no. 6:21 pp.
63. Scura, L. F. and T. van't Hof. 1993. The ecology and economics of Bonaire Marine Park. The World Bank, Environment Department. Divisional Paper no. 1993-44.
64. Simmons & Associates. 1994. The impact of tourism on the marine environment of the Caribbean. Pages 15-40 in *Developing Ecotourism: balancing dollars and sense*, proceedings from the Fourth Caribbean Conference on Ecotourism, May 22-27, 1994. Bonaire, Dutch Caribbean.
65. Smith, A. 1993. Monitoring and management of Caribbean coral reefs, in collaboration with the sport diving community. Paper presented at the Third Caribbean Conference on Ecotourism, Cayman Islands, May 4-7, 1993.
66. Smith, A., C.S. Rogers and C. Bouchon. 1997. Status of Western Atlantic Coral Reefs in the Lesser Antilles. Pages 35 1-356 in H.A. Lessios and I.G. Macintyre (eds.) *Proceedings of the 8th International Coral Reef Symposium*. STRI, Balboa, Panama.
67. Snow, J. 1990. Tourism and sustainable management of coral reefs: the Barbados Marine Reserve Case. in M. Millert and J. Auyong (eds.) *Proceedings of the 1990 Congress on Coastal and Marine Tourism*. Vol. 1. Honolulu, Hawaii.
68. Soufriere Regional Development Foundation, 1994. Soufriere Marine Management Area, agreement on the use and management of marine and coastal resources in the Soufriere region. Soufriere, St. Lucia. 25 pp.
69. Stewart, K. and J. Stewart. 1988. Creating an undersea park. *Oceans* 049:50-57.
70. St. Lucia National Trust. 1991. Report on a parks and protected areas workshop at Soufriere, St. Lucia. Parks and Protected Areas Workshop, Soufriere, St. Lucia. 33 pp.
71. Strickland RS., N.J. Quinn and L. Hinkey-McDonald. 1994. A survey of marine recreation services in the U.S. Virgin Islands. Eastern Caribbean Center, University of the Virgin Islands. Publication no. UPRSG-G-49.
72. Sybesma, J. and T. van't Hof. nd. Guide to the Curaçao underwater park. STINAPA Series 3 1: 67 pp.
73. Towle, E. 1973. Marine industries: problems and opportunities. The Marine Technology Society Ninth Annual Conference and Exposition on The Role of the Travel-Tourism Industry in International Marine Recreation Development. Washington D.C.

74. Towle, E.L. 1973. The role of the travel-tourism industry in international marine recreation developments. Paper presented at the Marine Technology Society Ninth Annual Conference and Exposition, September 11, 1973, Washington D.C. 6 pp.
75. UNEP. 1994. Ecotourism in the Wider Caribbean Region- An Assessment. CEP Technical Report no. 3 1. UNEP Caribbean Environment Programme, Kingston.
76. UNEP. 1996, Guidelines for integrated planning and management of coastal and marine areas in the Wider Caribbean region. **UNEP/Island** Resources Foundation.
77. **van't Hof**, T. 1993. Caribbean Marine Parks: improving their management. Paper presented at the Third Caribbean Conference on Ecotourism, **Cayman** Islands, May 4-7, 1993.
78. **van't Hof**, T. 1989. Dive tours and relations with tourism industry. Project development for National Parks and Protected Areas. Dominica, March 6-14. 9 pp.
79. van't Hof, T. 1989. Buoys, moorings and underwater trails. Project Development for National Parks and Protected Areas. Dominica, March 6- 14.
80. **van't Hof**, T. 1986. The economic benefits of marine parks and protected areas in the Caribbean region. National Oceanic and Atmospheric Administration, Sanctuary Programme Division, Washington, D.C. Unpublished manuscript.
81. **van't Hof**, T. 1989. Making marine parks self-sufficient: the case of Saba. Conference on Economics and the Environment, Barbados, **W.I.**
82. **van't Hof**, T. 1991. Guide to the Saba Marine Park, Saba, Netherlands Antilles. Saba Conservation Foundation. 102 pp.
83. **van't Hof**, T. 1992. Caribbean marine protected areas: their ecotourism product and potential. Paper presented at the Second National Parks Workshop. Portland, Jamaica. June 18-20, 1992.
84. **van't Hof**, T. 1992. Resolving common issues and problems of marine protected areas in the Caribbean. Paper presented at the **CCA/CIDA/UNEP** Workshop on Strengthening Management Capability for Marine Parks and Protected Areas. St. John, US VI, November 16-24, 1992.
85. **van't Hof**, T. and K.C. Buchan. 1995. A self financing marine park: The Saba case. Short case study prepared for the CANARI Workshop on Revenue Generation for Protected Areas, Saba, NA. June 5-9, 1995.
86. van't Hof, T. 1989. Making marine parks self sufficient: the case of Saba. Mimeo. Saba, Netherlands Antilles.
87. van't Hof, T. 1991. Marine Parks in the Netherlands Antilles: lessons from ten years of experience. Unpublished Conference Paper. Tobago.

88. **van't Hof, T.** 1996. A new management structure for the Bonaire Marine Park. Advice to the Island Government of Bonaire. 15 pp.
89. van't Hof, T. nd. Saba Marine Park: a proposal for integrated marine resource management in Saba. 25 pp.
90. van't Hof, T. 1992. Coastal and marine protected areas in the Caribbean: How can we make them work?. *Parks* 3(1).
91. Weaver, D. 1994. Ecotourism in the Caribbean Basin. Pages 159-176 *in* Cater, E. & G. **Lowman** (eds.) *Ecotourism, a sustainable option?*. Wiley in association with the Royal Geography Society.

APPENDIX 2: LIST OF TOURISM PUBLICATIONS REVIEWED

Antigua & Barbuda Adventure Tourist Guide Vol. 7, 1997.
STATIA Dutch Caribbean, The Caribbean's Hidden Treasure.
Tourist Guide Visions St. Lucia. Vol. 7, No. 1, 1996-97.
St. Vincent and the Grenadines Escape Tourist Guide. Vol. 6, 1997.
St. Vincent and the Grenadines, Exclusively Caribbean.
Discover Dominica, The Natural Island of the Caribbean.
Destination Dominica (no date).
The British Virgin Islands The Welcome Tourist Guide, Vol. 26, March 1997.
The British Virgin Islands Dive Guide, Nature's Little Secrets.
The BVI Marine Guide Nineteen 97/98
1997 Inns & Outs of Barbados
Guadeloupe Antilles, Guides Gallimard.
Ecotourism in Basse-Terre, by the Parc National de la Guadeloupe.
St. Maarten Events, 38th Edition 1996/97.
Discover St. Martin-St. Maarten. Culture, History, Tourism. 1997.
The Greetings Tourist Guide. Vol. 9, 1997. Grenada.
Discover Grenada, Carriacou and Petit Martinique. 1997.
Grenada, Carriacou and Petit Martinique, the original Caribbean. Grenada Tourist Board.
Virgin Islands Playground. 1997 Edition.
What to do in St. Thomas and St. John. 1997.
St. John Guide Book. 1997.
St. Croix This Week.
United States Virgin Islands. St. Croix, St. John, St. Thomas Dive Guide.
St. Kitts & Nevis Visitor. 1996-1997, the official Magazine of the St. Kitts and Nevis Hotel & Tourism Association
Winair Behind the Scenes, Summer 1996
LIAT Islander. The magazine of LIAT/ The Caribbean Airline.
Tropical West Indies No. 2, 1996-97 published by NECTA North Eastern Caribbean Tourism Alliance, **Winnair**
and Liat.
Sailors Guide to the Windward Islands. Chris Doyle 8th edition
Cruising Guide to the Leeward Islands, Chris Doyle, 4th edition.
Adventuring the Caribbean. Sierra Club Travel Guide.

APPENDIX 3: LIST OF RESOURCE PEOPLE

<i>country</i>	Company	Name Person Contacted	Mailing Address	Tel/Fax/E-Mail
SABA	Sea Saba Dive Center	Lynn Constenaro	P.O. Box 530 Windwardside, Saba, NA	62246 62362
	Saba Deep Scuba Diving Center			
	Saba Reef Divers	Chuck Tongren / Nancy Mulvihill	Windwardside, Saba, NA	62541 62653 sabareef@aol.com
	Conservation Foundation	Tom van't Hof	Marine & Coastal Resource Management. The Bottom, Saba, NA	0 1 1-599-4-63348 63299 vanthof@megatropic.com
	Saba Marine Park	Percy ten Holt Assistant Park Manager	Fort Bay, P.O. Box 18 The Bottom, Saba, NA	62295 63435
	Saba Marine Park	Kenneth Buchan	Fort Bay, P.O. Box 18 The Bottom, Saba, NA	62295 63435
	Saba Tourism Board			6223 1
BVI	BVI National Parks Trust	Nicholas Drayton Director	P.O. Box 860 Road Town, Tortola	809-494- 390412089 809-494-2069 bvinct@caribsurf.com
	The BVI Tourist Board	Keith Dawson Information Manager	P.O. Box 134 Road Town, Tortola	809-494-3 134 809-494-3866
	Baskin in the Sun	Sue Thompson	P.O. Box 108 Road Town, Tortola	809-494-2858 800-233-7938 809-494-5853
	Rainbow Visions	Jill Scheiner Photography, Video Productions	Box 680 Road Town Tortola	809-494-2749
	Dive BVI	Not Contacted	Box 1040 Virgin Gorda, BVI	809-495-5513 809-495-5347

Country	Company	Name Person Contacted	Mailing Address	Tel/Fax/E-Mail
	Blue Water Divers	Not Contacted	Box 846 Road Town, Tortola	809-494-2847 809-494-o 198
	Underwater safaris	Kenrick Grant	Box 139 Road Town, Tortola	809-494-3235 800-537-7032 809-494-5322
	Kilbride's Underwater Tours	Not Contacted	Box 40 Virgin Gorda, BVI	809-495-9638 809-495-9369
	Trimarine Dpt. D.O. Dive Yacht	Not Contacted	Box 632 Road Town, Tortola	809-494-2490 809-948-3393
	Yacht Promenade	Not Contacted	Box 3 100 Road Town, Tortola	809-494-3853/6020 809-494-5577
		Nancy Woodfield		(H) 809-495-4088 (W) 809-495-4088 FAX 44565
ST. KITTS	French Mission	Stéphane Gilbert National Service Volunteer	P.O. Box 960 Basseterre	Tel/Fax 869-466-7445 (H) 869-466-46 12
	Fisheries Department	Joseph Simmonds		869-465-8045
		Nikki Sinibaldi Dive Instructor	P.O. Box 1208 Basseterre	869-465-1 950 sharons@caribsurf.com
	Leeward Islands Charter	Tim Leypold / Larry Garret	P.O. Box 586 Basseterre	869-465-7474
		Roger Brisbane Producer	P.O. Box 688 Bank Street, Basseterre	869-465-0706 869-466-5287
	Explorer Ventures	Luc Callebaut Jackie Lee	P.O. Box 3 10 Mills, WY 82644	1-800-322-3577 307-235-0683 307-235-0686 ces@megtropic.com
Kenneth D Shop	Kenneth Dive Shop	Kenneth Samuel	Box 826 Bay Road Newtown, St. Kitts	869-5-465-2670/7043 1-800-329-8388 869-465-6472

Country	Company	Name Person Contacted	Mailing Address	Tel/Fax/E-Mail
	Department of Tourism	Hillary Watley, Aurelie Lam Cruise and Marketing Officer		
	St. Kitts Scuba	Dermis Flemming		869-465-1 189
	Pro-Divers	Ausin McCloed		869-465-3223
	Scuba Safaris Nevis	Ellis Chadderton Not Contacted		869-469-95 18
	St. Christopher Heritage Society	Jacque Armony Executive Director		869-465-5584
	Ministry of Tourism, Culture and Environment	Randolph Walters Director		
GUADELOUPE	Parc National de la Guadeloupe	Maurice Anselme	Habitation Beausoleil, Montéran F 97 120 Saint Claude	19-590-802425
	Centre International de Plongte CIP			590- 9881721987723 590-987433
	Aux Aquanautes Antillais		Plage de Malendure 97 125 Bouillante	590-988730 590-901185
	Chez Guy et Christian		Plage de Malendure 97 132 Pigeon	590-988243 590-988284
	Les Heures Saines		Rocher de Malendure	590-988730 590-907776
DOMINICA	National Development Corporation	Sheridan G. Gregoire General Manager	P.O. Box 293 Valley Road, Roseau	767-448-2045 767-448-5840 ndcpiperc@tod.co m
	ENCORE Project	David Williams Coordinator		767-448-4577
	Anchorage Dives	Andrew Armour	P.O. Box 34 Roseau	767-448-2638 767-448-5680
	Dive Dominica	Derek Perryman Managing Director President Dominica Water sports Ass.	Castle Comfort Lodge P.O. Box 63 Roseau	767-448-2 188 767-448-6088

Country	Company	Name Person Contacted	Mailing Address	Tel/Fax/E-Mail
	Nature Island Dive	Simon Walsh (Vivian Moise Manager)	P.O. Box 2354 Roseau	767-449-8 18 1 767-449-8 182
	French Mission	Paul Chabre		
	Fisheries Dept.	Andrew Magloir Fisheries Officer		
	Forestry Ministry	Colmore Christian talked by phone		
ST. LUCIA	St. Lucia Tourist Board	Felix Finisterre	P.O. 221	FAX 758-453-1211 758-452-4094
	Scuba St. Lucia	Michael Allard	Anse Chastanet Hotel P.O. Box 7000 Soufriere, St. Lucia	758-459-7000/7755 758-459-7851
	Soufriere Water Taxi Association			
	French Mission	Wilfrid Fousse	P.O. Box 937 Castries	758-452-3890 758-453-1572
	Fisherman's Cooperative	Julian Alexis Edward Mongroo		
	SMMA	Kai Wulf , Manager	Box 272 Soufriere	758-459-7200/5500 758-459-7999
	CANARI	Allan smith	Clarke Street Vieux Fort	758-454-6060 758-454-5 188 canari@candw.lc
USVI	USVI National Park	Dr. Caroline Rogers	P.O. Box 710 St. John, USVI 00830	
	USVI National Park	Rikki Grober	P.O. Box 710 St. John, USVI 00830	340-693-8950 viisresourcemanagement@nps.gov
	USVI National Park	Chuck Weikert Park Ranger	P.O. Box 710 St. John, USVI 00830	340-776-620 1
	Buck Island Reef National Monument	Joel Tutein (Superintendent Zandy Hillis Biological Technician)	P.O. Box 160 Christiansted, St. Croix USVI 00821-0160	340-773-1460 340-773-5995

Country	Company	Name Person Contacted	Mailing Address	Tel/Fax/E-Mail
	Big Beards Adventure		P.O. Box 4534 Christiansted, St. Croix USVI 00822	340-773-4482
	Charis	Llewellen Westerman Tel Contacted	Yacht Club, St. Croix	340-773-9027
	Milemark Charters, Inc.	Miles Spencer	P.O. Box 3619 C'sted, St. Croix 00821	340-773-2628
	Diva	Francis Walters Tel. Contacted, Green Cay Marina	P.O. Box 1850 Kingshill, St. Croix 0085 1	340-778-4675
	Clyde Inc.		P.O. Box 25690 Gallows Bay Station St. Croix 00824	340-773-8520
	Teroro	Hanes Puncenberger	P.O. Box 288 1 C'sted, St. Croix USVI 00821	340-773-3 161
	Island Resources Foundation	Edward Towle	6296 Estate Nazareth No. 11 St. Thomas USVI 00802-1 104	340-774-6225 340-779-2022 Wash. Office: 202-265-97 12
	CANARI	Tighe Geoghegan Nicole Brown		340-773-9854 340-773-5770
BARBADOS	Caribbean Conservation Association	Glenda Medina	Savannah Lodge The Garrison, St. Michael	246-426- 53731963519633 246-429-8483 cca@caribsurf.com
	Caribbean Tourism Organization	Heather Waithe Library Officer	Sir Frank Walcott Building, 2nd Floor, Culloden Farm, Complex, St. Michael, Barbados	246-427-5242 246-429-3065 cto@caribsurf.com

Caribbean Natural Resources Institute

The Caribbean Natural Resources Institute (CANARI) is a regional non-governmental organisation concerned with issues of conservation, environment, and sustainable development in the insular Caribbean.

CANARI's mission is to create avenues for the equitable participation and effective collaboration of Caribbean communities and institutions in managing the use of natural resources critical to development.

The Institute has specific interest and extensive experience in the identification and promotion of participatory and collaborative approaches to natural resource management.

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