

**POINTE SABLE ENVIRONMENTAL PROTECTION AREA
MANAGEMENT PLAN 2009-2014**



**Ministry of Physical Development, Environment, and Housing
Government of Saint Lucia**

March 13, 2009

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List of Acronyms

CAP	Conservation Action Planning (Process)
CDO	Community Development Officer
DCA	Development Control Authority
EIA	Environmental Impact Assessment
EPA	Environmental Protection Area
ESDU	Environment and Sustainable Development Unit
GPS	Global Positioning System
IAS	Invasive Alien Species
IUCN	International Union for the Conservation of Nature
LAC	Local Advisory Committee
MCE	Management Coordinating Entity
MPDEH	Ministry of Physical Development, Environment and Housing
NCA	National Conservation Authority
NDC	National Development Corporation
OECS	Organisation of Eastern Caribbean States
OPAAL	OECS Protected Areas and Associated Livelihoods Project
PPDD	Physical Planning & Development Division
PSEPA	Pointe Sable Environmental Protection Area
SAVE	Schools Advocating to Value the Environment
SLASPA	Saint Lucia Air and Sea Ports Authority
SLNT	Saint Lucia National Trust
STDC	Southern Tourism Development Corporation

1. INTRODUCTION

This document is to be referred to as the Pointe Sable Environmental Protection Area Management Plan 2009-2014.

The purpose of the Management Plan is to articulate the objectives for which the protected area was designated and provide guidance on how the designated area and associated resources are to be managed. Though there are different definitions of a management plan, the various definitions include the following components as important elements of the management plan:

- Statement of management objectives;
- Description of the area/resources to be managed;
- Strategies for achieving objectives;
- Management actions;
- Identification of required resources; and
- Stated time frame for action.

There is growing recognition of the fact that it is difficult to adequately provide both long-term strategic guidance and detailed operational guidance in the Management Plan. As such, this Management Plan provides strategic guidance, while detailed guidelines to support standardized approaches to site management activities are to be developed as a series of site planning guides, often referred to as Standard Operating Procedures.

1.1 Description of the Boundary of the Pointe Sable Environmental Protection Area

The Gazette Notice, dated August 27, 2007, states that the Pointe Sable Environmental Protection Area (PSEPA) is “...located from Pointe De Caille to Moule A Chique including Savannes and Pointe Sable in the quarter of Vieux Fort ...”. The Gazette Notice provides the detailed land description as a series of Block and Parcel numbers (Appendix 1). The designated area consists of a narrow coastal strip (the Queen’s Chain¹), the Savannes Bay Mangroves and Mankote Mangroves, and adjacent cays (Scorpion Island and Maria Islands).

The seaward boundary of the PSEPA follows the 20-metre depth contour (Figure 1²), running from Pointe De Caille southwards to Moule A Chique. The total area encompasses approximately 1,038 hectares of land and sea.

¹ The Queen’s Chain is a lateral distance of 167 feet inland from the high water mark.

² The current map for the Pointe Sable Environmental Protection Area shows the boundary starting from Saltibus Point instead of Pointe De Caille. The current map is the one that has been used during the public consultations since 2006, including the preparation of this management plan. The map will be revised as part of the update of the legal framework for the PSEPA.

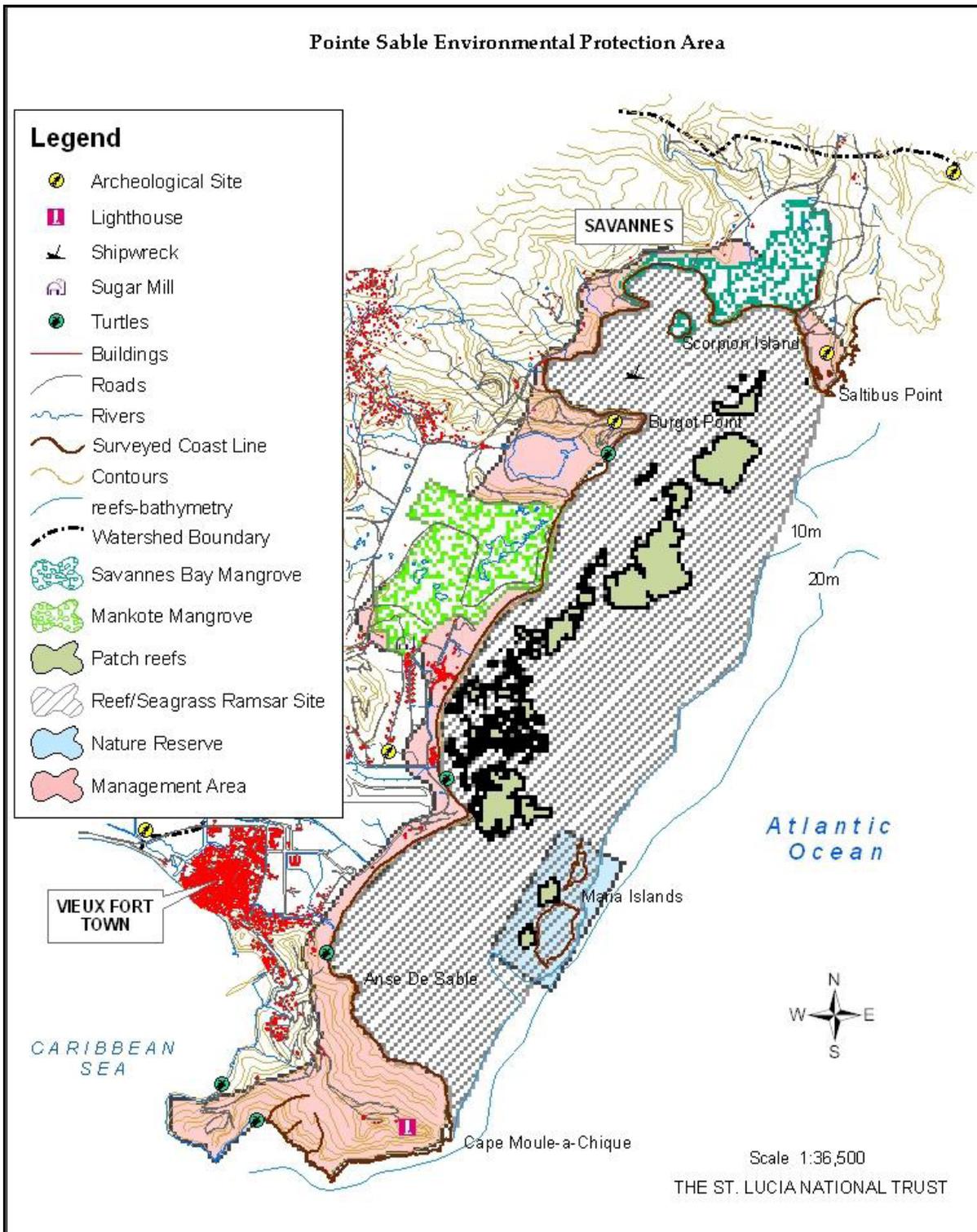


Figure 1: Pointe Sable Environmental Protection Area

1.2 Management Objectives

The primary management objective is provided by the Gazette Notice designating the site a protected area, which states that the site “... *shall be an Environmental Protection Area for the purpose of protecting the natural beauty or interest in the area*” (Appendix 1). Additionally, under the OECS Protected Areas and Associated Livelihoods (OPAAL) Project guidelines, sites designated under the project must have the dual objectives of biodiversity protection and support for community livelihoods. The management objectives identified in the draft management guidelines for the Pointe Sable protected area (Pointe Sable Management Area Planning Committee, 2006), and which were included in the Cabinet submission for designation of the site, were adopted during the management planning process.

Based on the acceptance by the relevant regulatory agencies, policy makers, and local stakeholders, the management objectives for the Pointe Sable Environmental Protection Area are:

- (i) To promote an integrated approach to management of areas within and outside the boundaries of the Pointe Sable Environmental Protection Area so as to reconcile human needs and conservation objectives and goals;
- (ii) To optimize the current and potential uses of natural and cultural assets in ways that benefit the local resource users and the wider population;
- (iii) To promote opportunities for the economic, educational, cultural and inspirational upliftment of locals and visitors;
- (iv) To ensure that sound conservation principles and practices are incorporated into the infrastructure and economic development initiatives within or in the vicinity of the area;
- (v) To provide an aesthetically pleasing environment that contributes to the fulfillment of the recreational needs of locals and visitors;
- (vi) To maintain the critical terrestrial, coastal, and marine habitats and ecosystems for the protection of biological diversity and the maintenance of ecological processes;
- (vii) To protect all endemic, threatened, endangered, and rare species, as well as their natural habitats;
- (viii) To provide appropriate mechanisms for the participation of resource users and local communities in the sustainable use, development, and management of resources;
- (ix) To develop a deeper understanding of, and appreciation for, the natural and cultural environment of the area, and to enhance the ability of all partners to manage the use of the resources;

- (x) To provide a site for demonstrating approaches that integrate conservation and development objectives, and build durable and equitable partnerships; and
- (xi) To lend support to the implementation of regional and international agreements to which Saint Lucia is party.

1.3 Scope of the Management Plan

The management plan seeks to address any activity or issue that affects the resources within the boundary of the PSEPA, whether the activity originates inside or outside the designated area. The geographical areas so proscribed include:

- The environmental protection area, as proscribed in law;
- Lands adjacent to the site; and
- The wider drainage catchment area (watershed).

Additionally, the PSEPA management plan seeks to influence the land management practices, land-use planning process, and development control process within the entire watershed. The scope of the management plan therefore includes:

(a) Pointe Sable Environmental Protection Area (PSEPA)

The natural resources within the PSEPA are critical resources in terms of their biodiversity value, their contribution to the local economy, and their potential contribution to the national development process (Sections 2 & 3). Sustainable utilization of those resources requires the establishment of coordinated and intensive management interventions.

(b) Buffer Zone/Watershed Management

Activities on lands adjacent to the site may generate byproducts that have immediate and direct negative impacts on the resources within the site. Activities within the larger watershed may generate waste, dust, sediment, and other forms of pollution that are transported into the PSEPA by way of air currents or waterways. The PSEPA management process must identify the inputs and their sources, and devise strategies to mitigate any negative impacts. The management plan therefore proposes actions that will improve land management practices within the watershed.

(c) Development Planning and Control Processes

Land use classes and intensity are set through the land-use planning process, and as such, the management plan identifies mechanisms to influence the land-use planning process in order to ensure that land uses that are in conflict with PSEPA objectives are not located adjacent to the site. The “natural beauty” of the area to which the PSEPA contributes is contained not only in specific ecosystems (such as the wetlands or coral reefs), but also in the landscapes formed by the juxtaposition of the visible features of the land (e.g. landforms and flora and fauna), weather conditions, and elements of the built environment. Maintenance of areas of scenic beauty (landscapes

and seascapes) can only be achieved through the development planning and development control processes, and thus the PSEPA Management Plan includes strategies that influence those development processes.

1.4 Authority for Preparation of the Management Plan

The Pointe Sable Environmental Protection Area was declared a protected area under Section 34(2) of the Physical Planning and Development Act (No. 29 of 2001), which provides for the protection of natural areas. The Gazette Notice declaring the area contained a Schedule, which, in addition to listing the land parcels contained within the site, stated the need for the preparation of a Management Plan/Guidelines.

The management plan was prepared through a consultative process that included public sector agencies, non-governmental organizations (including community-based organizations), local business owners, and members of the general public (Appendix 2). The methodology used was the Conservation Action Planning method, which is based on consulting with the relevant institutions and stakeholders for information capture, setting conservation targets, and determination of management strategies.

Decision making during the consultation process was based on existing information, including the results of a site conservation planning process conducted in 2002 using the same methodology (The Nature Conservancy, 2002(a)).

1.5 Policy Considerations

The System of Protected Areas for Saint Lucia (Hudson et al, 1992) does not identify environmental protection area (EPA) as a category of protected area. As such, the guidance provided by the protected areas system plan for each category of protected area (description, management objectives, and criteria for selection) does not exist for the EPA. Section 34 of the Physical Planning and Development Act (2001) suggests that the intent of the designation is to identify areas of “*natural beauty or natural interest*” that require special protection, and to apply special rules in the development control process to ensure that the designated area is not adversely affected by development activities. The designation of an EPA is therefore not meant to prevent development activity within the designated area. Given the fact that Section 34(1) of the Act allows for the incorporation of any area so designated by the St. Lucia National Trust and the National Conservation Authority, the Act can be interpreted as providing protection to all categories of protected areas within the land use planning and development control processes.

The Gazette Notice declaring the PSEPA does not specify the seaward boundary for the site. However, the 20-metre depth contour has been recommended as the seaward boundary, as the boundary so defined encompasses the reef system and the Maria Islands Wildlife Reserve. The finalization of the seaward boundary will be completed in the first year of this Plan Period (2009-2014).

The Physical Planning and Development Act (2001) does not define natural beauty and natural interest, the very values to be protected by the PSEPA. One of the early steps in the stakeholder consultation process used to prepare this management plan was to ask stakeholders to define natural beauty and natural interest. The results (Appendix 3) convey notions of serenity, richness in floral and faunal communities, unspoiled physical environment, and scenic landscapes. The definition of natural beauty and natural interest is of critical importance in the evolving development of the PSEPA, primarily because that definition determines the Focal Conservation Targets, which in turn shape the management strategies.

A further consideration is that, as one of only two environmental protection areas (EPAs) to be designated, the management plan for the Pointe Sable Environmental Protection Area (PSEPA) must provide guidance on more than site-specific issues. In addition to the strategies, actions, and support systems required for effective management of the PSEPA, this management plan also identifies actions that will lead to the development of a clear conceptual framework for EPAs, articulating vision, policy, management objectives and standards, and appropriate support systems.

2. NATURAL AND HISTORICAL RESOURCES

The biophysical environment within the Pointe Sable Environmental Protection Area contains natural resources that support the local and national economy and development process, and some ecosystems are nationally and internationally significant (Clauzel 1997, The Nature Conservancy 2002(b), Ministry of Physical Development, Environment & Housing 2006, Samuel and Smith 2000). Summary information on the critical resources is given below.

(a) Maria Islands

The Maria Islands were vested in the Saint Lucia National Trust (SLNT) on October 9, 1982 (Maria Islands Vesting Order, Statutory Instruments, 1982, No. 53), and later declared a Wildlife Reserve under Section 7 of the Wildlife Protection Act, 1980 (by Order of the Minister of Agriculture, dated November 13, 1982).

The two islands are home to seven (7) species of reptiles, five (5) of which are endemic. The endemic species are the Saint Lucia Whiptail Lizard³ (*Cnemidophorus vanzoi*), the Saint Lucia worm snake⁴ (*Leptotyphlops breuli*), the Saint Lucia racer (*Liophis ornatus*), a tree lizard (*Anolis luciae*), and the dwarf gecko (*Sphaerodactylus microlepis*). The Saint Lucia racer is classified as endangered on IUCN's Red List of endangered species, and the Saint Lucia Whiptail Lizard is classified as vulnerable. The rock gecko (*Hemidactylus palaichthus*) is also found on the larger island (also referred to as Maria Major). Though the rock gecko is not an endemic species, Saint Lucia is the only island in the Greater and Lesser Antilles that has records of this reptile.

Liophis ornatus is not only endemic to Saint Lucia, but endemic to Maria Major alone. *Cnemidophorus vanzoi* is endemic to four offshore islands (Maria Major, Maria Minor, Praslin, and Rat).

The importance of the islands, particularly Maria Major, is underscored by the fact that Saint Lucia has more endemic reptile species than any other island state in the Eastern Caribbean, and Maria Major (which has 63% of all Saint Lucia's endemic reptiles) has by itself more endemic reptile species than two-thirds of any of the other Eastern Caribbean states (Matthew Morton, Durrell Wildlife Conservation Trust).

There are also two globally endangered ecosystems on Maria Major, the Windward Island xeric scrub (classified as vulnerable), and the Windward Island dry forest (classified as critically endangered).

The 1981-82 study that recommended the establishment of the Maria Islands Wildlife Reserve, titled "Study of the Conservation and Development Requirements for the

³ The Saint Lucia Whiptail is known locally as Zandoli Tè.

⁴ The Saint Lucia Worm Snake (threadsnake) is known locally as Kouwès.

South-East Coast” also recommended that the Maria Islands should be managed within the larger context of the wider area (Vieux Fort), regarding:

- Landscapes – The islands are part of a larger scenery that includes the peninsula of Moule à Chique and a large part of the south-east coast.
- Avifauna – Several bird species travel between the islands and the mainland (especially Moule à Chique and Mankote Mangroves), and their overall protection requires protection on the mainland.
- Pollution – Due to the nature of the coastal currents, it is likely that any pollution occurring on the south-east coast, especially in the area between Moule à Chique, Pointe Sables, and the Maria Islands, could have an impact on the marine environment around the islands.

(b) Mankote Mangroves

The Mankote Mangroves is the largest mangrove forest on the island, encompassing 63 hectares. The mangrove area was declared a marine reserve in 1986 under the Fisheries Act (1984). The international importance of this mangrove forest was confirmed with its declaration under the RAMSAR Convention on Wetlands as a RAMSAR Site in 2002.

The site supports the local fishery, and seventeen (17) species of fish have been observed in the wetland (De Beauville-Scott, 2001). The site also functions as a habitat for several species of crabs and birds.

The mangrove forest has always been a source of natural resources for the local economy, starting with fuelwood for the sugar plantations in the mid-18th century. Production of fuel continues to be the largest use of the Mankote Mangroves, with charcoal production reaching 35 tonnes in 1997, accounting for approximately 30% of the charcoal sold in Vieux Fort at that time (Samuel and Smith, 2000). The site also supports a range of other extractive, recreational, and educational uses (Section 3).

A small freshwater wetland, dominated by reeds, is found along the north-western edge of the Mankote Mangroves. The existence of this feature indicates that the wetland provides other ecological services, such as filtering and retaining surface runoff during rainfall events.

(c) Savannes Bay Mangrove and Scorpion Island

Savannes Bay contains large fringing stands of red mangroves, which are said to be the most productive area for fisheries in Saint Lucia, producing the largest volume of lobster on the island. The Bay is characterised by an extensive area of seagrasses, and the juxtaposition of these two systems makes the area of significant ecological value, primarily as a nursing ground for juvenile lobsters and other marine species.

The area encompassing Savannes Bay and Scorpion Island was declared a Marine Reserve in 1984, and Savannes Bay was designated a RAMSAR site under the Convention on Wetlands in 2002.

Scorpion Island is used as a picnic site, primarily by residents.

(d) Dry Forests

The remnants of dry forest vegetation are found on the peninsulas, along the north-western edge of the Mankote Mangroves, and on Maria Major. This forest type is not considered to be in a state of good health within the PSEPA. However, it is also not a unique vegetation type in Saint Lucia.

(e) Coral Reefs

Coral reefs in the PSEPA exist as a narrow band of patch reefs extending from Saltibus Pointe to Maria Islands. The current status of the reefs in this area is unknown, though a mapping project is currently underway. The area is fished extensively by pot fishers and skin divers.

(f) Fishery Resources

Fishery resources in the PSEPA area consist of a variety of finfish⁵, conch, sea urchin, lobster, crab, and sea moss. Sea moss farming (mariculture) takes place mainly along the northern portion of Bois Chadon Beach.

(g) Historical Resources

Historical sites of significance found within the PSEPA include:

- Amerindian sites at Pointe de Caille and Anse de Sable;
- Ruins of factories and buildings associated with sugar cultivation;
- Ruins and structures remaining from the US military base established during the Second World War; and
- Moule a Chique Lighthouse.

The historical resources are under significant threat from natural forces and vandalism.

⁵ Fisheries data provided by the Fisheries Department indicate that the fish species landed at Vieux Fort include dolphin, wahoo, snapper, shark, tuna, and reef-dwelling species.

(h) Beaches

Recreational activities take place on all the beaches in the area, though the Anse de Sable Beach supports particularly intensive use. Beach recreational activities include bathing, snorkeling, wind and kite surfing, swimming, horseback riding, beach parties, kayaking, walking, and running (Section 3). The beaches also function as turtle nesting sites, and provide educational opportunities.

The floral and faunal resources found in the PSEPA are more extensive than noted above. The Interpretation and Education Plan for the PSEPA (Satney and Chase, 2008) lists 56 families of plants, many of which are used for construction, ornamental, fruit/food, and medicinal purposes. The report also lists 166 species of birds, 6 of which are endemic species.

3. SOCIO-ECONOMIC CONTEXT

The information presented in this section focuses on the Vieux Fort District, one of the ten (10) administrative districts into which Saint Lucia is divided (Figure 2). However, it should be noted that there are areas in Micoud and Laborie that are closer to the Pointe Sable Environmental Protection Area (PSEPA) than the north-western portions of the District of Vieux Fort. Additionally, recreational users travel from the north of the island to the Vieux Fort area, and that internal movement will not be reflected in the demographic information presented below.



Figure 2: Electoral Districts of St. Lucia

3.1 Profile of Adjacent Communities

The Pointe Sable Environmental Protection Area (PSEPA) covers 1,038 hectares, 350 hectares of which is terrestrial space containing resources used by the adjacent communities. There are approximately ninety four (94) electoral divisions in the Vieux Fort District, but only thirteen (13) divisions contain populations larger than one hundred (100) households.

Of those, the largest communities adjacent to the PSEPA are Bellevue, Bruceville, LaRessurce, Vieux Fort Town, and Pierrot.

The 2001 population and housing census places the total population of Vieux Fort at 16,333, distributed as 4,586 households, with an average household size of 3.6 (Government Statistics Department, 2001). Unemployment in the District averaged 16.1%, with different rates for males (15.1%) and females (17.4). The 2001 census report does not provide data on level of employment by sector. Vincent-Mark (2002) reports that the sector that employed the largest number of workers in Vieux Fort in 1991 was the agriculture sector⁶, which formed the base of the local economy.

The 2001 census data indicate that the local population has increased access to some social services, such as water (Table 1). However, improved water supply was not accompanied by increased connections to central sewerages. As a consequence, 86.5% of the households in the District in 2001 utilised septic tanks or pit latrines as toilet facilities, up from 82.4% in 1991 (Table 2).

Table 1: Source of Water Supply for Households in Vieux Fort 2001

Source of Water Supply	1991	2001
Piped into dwelling	39.40	55.00
Piped into yard	22.90	25.60
Private catchment	2.00	0.60
Public standpipe	26.50	8.10
Public well or tank	0.60	0.10
Other	8.50	10.60

Table 2: Households with Toilet Facilities in Vieux Fort 2001

Toilet Facilities	1991	2001
Linked to sewer	3.10	1.50
Septic tank	29.20	46.30
Pit latrine	53.20	40.20
Other	1.00	1.50
None	13.60	9.70
None stated	-	0.90

The census data shows that the population increased in Vieux Fort between 1999 and 2001. Though the current population data is not available, the 2006 Annual Statistical Digest showed an increase in population density in the District from 340.3 persons/km² in 2002 to

⁶ In the 2001 census, the sector is classified as Agriculture, Hunting and Forestry.

364 persons/km² in 2006 (Central Statistical Office of Saint Lucia, 2006). With the exception of charcoal and wood (Table 3), there is no clear indication of the change in demand for natural resources in the general area.

Table 3: Fuel Used for Cooking by Households in Vieux Fort 2001

Fuel Type	1991 (% of households)	2001 (% of households)
Charcoal	15.6	4.6
Wood	11.9	5.6
Gas/LPG	69.5	86.8
Kerosene	1.6	0.1
Electricity	0.6	0.3
Other	0.8	1.2
Not stated	-	1.2

3.2 Resource Uses in the Pointe Sable Environmental Protection Area

The current literature presents an incomplete picture of resource uses within the PSEPA. There is substantial information on the use of a small number of ecosystems (such as the Mankote Mangroves), but even that information is dated. Information on the current uses and user groups (Table 4, Figure 3, and Appendix 4) was provided by the stakeholders, mainly during public meetings on September 25, 2008 and October 22, 2008.

(a) Beaches

Beach-going is a popular recreational pastime in Saint Lucia, and takes place throughout the PSEPA. The beaches most heavily used are Bois Chadon and Anse de Sable (Appendix 4). Recreational activities include bathing, windsurfing, parasailing, snorkeling, horseback riding, barbeque, beach parties, jogging, football, cricket, and sunbathing. Vending takes place to take advantage of the presence of the recreational users. Extractive uses include sand mining, collection of seagrass that is deposited on the beach by wave action (for use as mulch), and harvesting of seagrapes by school children. The schools also use the beaches for field trips for science classes. Bois Chadon is also used by fishers for hauling seine nets.

Anse de Sable is the most heavily used beach, and the intensity of the use sometimes creates use and user conflicts. One such conflict is the use of jet skis and motor boats in the nearshore area in front of the beach on public holidays, when the beach is most heavily populated (see also Appendix 4).

Table 4: Main Resource Use Locations in the PSEPA

Location # (Figure 3)	Resource Use
1	Elkhorn coral reef – supports pot fishing
2	Islet north – pot fishing and spear fishing throughout area, northward to hotel
3	Coconut Bay Hotel
4	Northern end of Bois Chadon – location of seamoss farms
5	Cast net fishing (mostly for sardines)
6	Savannes Bay fish landing site
7	Fish landing site (Lobster Pot/Beach Café)
8	North corner of Savannes Bay – tie-up area for some fishing boats. Access pathway to the bay.
9	Bois Chadon Beach – windsurfing, horseback riding, seine net fishing
10	Anse de Sable Beach
11	Maria Islands. Important biodiversity site. Used by fishers for net casting. Undesirable use impacts include littering and lighting of fires.
12	Boreil Pond
13	Bois Chadon Beach – confirmed (active) turtle nesting area
14	Anse de Sable – reported case of leatherback turtle nesting
15	Area adjacent to Maria Island – fishers use nets to catch ballahoo, sardine, and jack (August –November). Small mesh size producing by-catch of very small fish.
16	Scorpion Island – kayak tours launched from Savannes Bay fish landing site. Users are mainly Saint Lucians.
17	Bois Chadon – horseback tours along beach, into mangroves, and up to the ridge.
18	Mankote Mangroves – white and buttonwood mangroves harvested for charcoal production and construction materials. Coconut Bay Hotel had an agreement with the Aupicon Charcoal Producers Association to conduct tours in the mangroves. Status currently uncertain.
19	Anse de Sable Beach – very heavily used for recreational activities
20	Lobster Pot Restaurant/Beach Café – discharge point for storm drain/stream from the northern-eastern part of the airport and industrial zone.
21	Anse de Sable – discharge point for storm stain from Vieux Fort
22	Bruceville – storm drain
23	Bruceville – storm drain
24	Drain from landfill into herbaceous wetland bordering Mankote Mangroves
25	Drain south of aggregate storage facility (in front of Payless Tyre Service)
26	Drain/stream at Palmis (close to fish landing site at Savannes Bay)

Source: Stakeholders - Public Meeting October 22, 2008

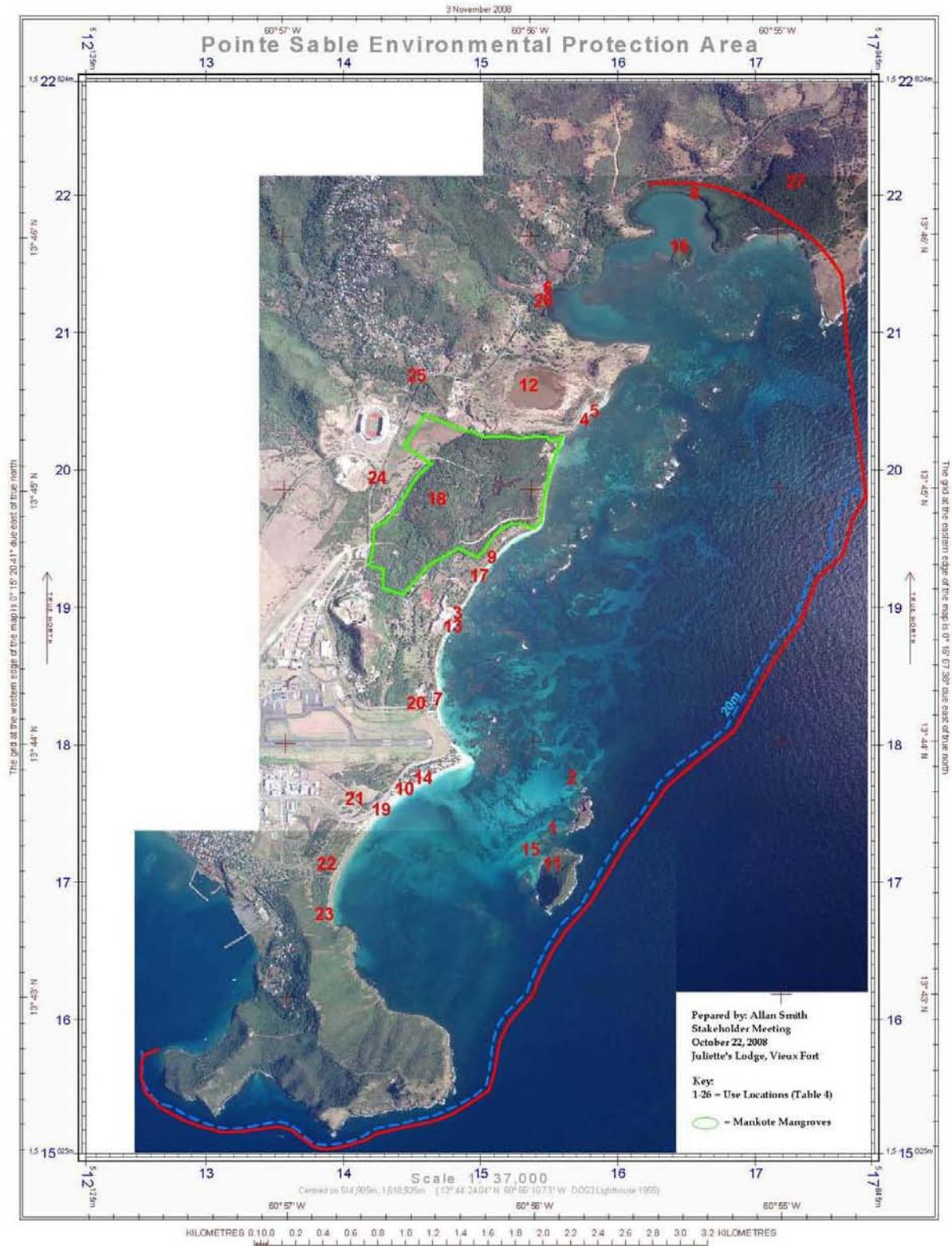


Figure 3: Selected Resource Use Locations in the PSEPA

(b) Fisheries Resources

There are two small fish landing sites within the PSEPA, at Savannes Bay and at Bois Chadon (adjacent to the Lobster Pot/Beach Café). However, most of the fishers in the Vieux Fort area use the main fish landing site at the Saint Lucia Fish Marketing Corporation's complex. Though data on fish landings focus on finfish, mainly pelagics, fisheries resources are harvested throughout the PSEPA. Species harvested within the PSEPA include sardine, lobster, sea urchin, conch, crab, ballahoo, jack, a variety of reef fish, and turtle eggs. Sardines, ballahoo, and jack are seasonal, and are caught off Maria Islands with the use of cast nets.

Seamoss farming takes place at the northern end of Bois Chadon Beach. The farming intensity has decreased in recent years, due to the inability of the farmers to access known markets to sell either the raw (dried) material or the processed products.

In addition to overfishing and inadequate fishing practices, the major issues of concern for the fisheries within the PSEPA are:

- Land-based sources of pollution;
- Loss of mangroves and seagrass beds;
- Threats from incompatible developments; and
- Lack of enforcement capacity.

(c) Mangrove Wetlands

Two large mangrove stands are located at Mankote Mangroves and Savannes Bay, and both provide social and economic benefits to the community (Appendix 4). The Mankote stand is the more heavily used, supporting recreational activities and significant resource harvesting. Recreational uses (by residents and visitors) include hiking/nature tours, horseback riding tours, kayaking (Savannes Bay), and bird watching. Resource extraction includes catching crabs, logging for construction materials, cutting for tanning of leather, cutting for construction of fish pots, cutting for firewood for baking, and cutting for charcoal production. Though the total volume of wood currently being extracted is unknown, anecdotal information provided during the stakeholder sessions indicate that the major form of resource extraction is cutting for charcoal production. The Compendium of Environmental Statistics (Government Statistics Department and Sustainable Development and Environment Department, 2001) states that charcoal production at Mankote Mangroves in 2000 was 30,041 Kg. Charcoal production from Mankote Mangroves is said to have represented 30% of the charcoal sold in Vieux Fort during the late 1990's (Samuel and Smith, 2000). The mangroves are also used for educational purposes, with secondary schools in the area using the sites for research projects, and by university students occasionally conducting graduate research.

Monitoring of the extraction for charcoal production was halted in 2001, and the current level of use for all purposes is undocumented.

(d) Coral Reefs

Coral reefs in the PSEPA exist as a narrow band of patch reefs extending from Saltibus Pointe to Maria Islands. Uses include: free-diving/snorkeling; fishing (spear fishing, pot fishing); extraction of coral (hard and soft), shells, and sponge for craft items; seamoss harvesting (from natural stocks on dead reef and rock pavement); harvesting of sea urchins (on a seasonal basis for eating); harvesting of whelks; and undertaking research (Appendix 4). Both the current status of the reef system and the level of extraction are unknown.

(e) Cays

Maria Islands and Scorpion Island provide venues for recreational tours. Tours to the Maria Islands are regulated by the Saint Lucia National Trust, and fishers occasionally take residents and visitors to the islands. A tour operator currently conducts kayak tours to Scorpion Island, departing from the fish landing site at Savannes Bay. The level of use of Scorpion Island is not known by the regulatory agencies.

Vincent-Mark (2002) documents the perceptions, attitudes, and practices by the communities concerning the environment in the Vieux Fort/Pointe Sable area. The report noted that one of the reasons why some inappropriate practices continue is because there is a distrust of government. As a result, people may not want to listen to or believe the information provided by government agencies (e.g. the supply of fish is being depleted as a result of destructive fishing practices). Examples of inappropriate practices based on a belief system (identified in the report) include the following:

- (i) Some farmers use incorrect amounts of chemicals on their crops because some believe that the more chemicals that are used, the better it will be for agricultural production.
- (ii) When land is cleared, it becomes more fertile. Hence shift cultivation is encouraged.
- (iii) In the Vieux Fort area, people dump garbage in the mangrove because it is out of sight (not an area that is highly visible), and because it was once used legally as a dump, people have not broken the habit. Dumping in rivers and the sea may also result from the perception that the river is the place to dump wastes because the "sea and rivers can clean anything."

Vincent-Mark (2002) suggested that a "... *strategy of community participation and involvement may be one of the most effective ways to have communities take ownership and claim a stake in the protection of the natural resources*" (page 25).

A survey of environmental awareness in the six member States of the OECS (Chambers and Smith, 2007) found that 24.4% of households in Saint Lucia were "very familiar" with environmental issues. With reference to protected areas, 10.8% of respondents to the survey

said they heard about protected areas everyday, 27.5% said they had heard about protected areas during the past month, and 33.3% were not sure when last they had heard anything about protected areas. While the report does not deal specifically with Vieux Fort and the PSEPA, it provides an indication of the level of effort that will be required to effectuate broad public engagement in support of the PSEPA.

4. PRIORITY ISSUES TO BE ADDRESSED

Pursuit of the dual objectives of protecting biological diversity and supporting community livelihoods requires the establishment of a management framework that incorporates the appropriate legal and policy underpinnings, facilitate collaborative arrangements among a range of public, private, and civil society institutions, and support focused management interventions for ensuring threat reduction and maintenance of ecosystem integrity. The main factors that will influence the success of management interventions, and must therefore be addressed by this Management Plan, are discussed below.

4.1 Existing Legal Framework

The legal framework for management of the land and other natural resources in the PSEPA include several laws, administered by a number of institutions. These are:

(a) Physical Planning and Development Act, 2001

This Act is one of the most critical legal instruments for the management of the PSEPA, not only because the site was designated using its provisions, but more so because it provides the basis for land-use planning and development control throughout the entire watershed that has the potential to generate threats to the PSEPA resources. Specifically, the Fourth Schedule of the Act requires environmental impact assessments for development activities in EPAs. The Act will also apply to other matters in the management of the PSEPA, such as the size and placement of commercial signs.

(b) Saint Lucia National Trust Act, 1975

The Act established the Saint Lucia National Trust, and set as its objects the promotion and protection of Saint Lucia's natural, historical, and archeological resources, including areas that are submarine and subterranean. This Act provides the basis for the management of areas of interest, declared under other laws, to be vested in the Saint Lucia National Trust, hence the management of the Maria Islands Wildlife Reserve by the Trust.

(c) Wildlife Protection Act, 1980

The Wildlife Protection Act provides for the protection, conservation and management of wildlife in Saint Lucia. Under this Act, the Minister responsible for matters relating to wildlife (currently the Minister for Agriculture, Fisheries and Forestry) may, by Order, "*declare any area of land or water to be a wildlife reserve*". The Maria Islands Wildlife Reserve, which is managed by the Saint Lucia National Trust, was declared under this Act.

(d) Fisheries Act, 1984

The Fisheries Act (1984) makes provision for the "*...promotion and regulation of fishing and fisheries in the fishery waters of Saint Lucia ...*". The Act also provides for the declaration of marine reserves for a range of purposes, including (i) protection of breeding grounds for aquatic life, (ii) providing special protection for flora and

fauna in danger of extinction, (iii) allowing for regeneration of depleted species, (iv) promotion of scientific study and research, and (v) preservation of areas of natural beauty. The Mankote Mangrove Marine Reserve and Savannes Bay Marine Reserve were declared in 1986 under this Act.

(e) National Conservation Authority Act, 1999

The Act focuses on the provision and management of recreational facilities, and as such, the functions of the Authority include protected areas designation and management, development and management of beaches and associated facilities, beautification of public recreational places, and advising the Minister on matters related to beach management and coastal protection. No protected area has been declared under this Act, but the provisions of the Act are applicable to the management of a range of recreational activities and areas, notably the beaches in the PSEPA.

(f) Supplementary Legislation

A wide range of regulatory functions provided by a number of institutions are supported by various legal instruments. These regulatory functions include:

- Solid waste management;
- Licensing of commercial water craft;
- Operation of restaurants and other similar establishments;
- Pollution control;
- Sand mining;
- Installation of marker and mooring buoys; and
- Enforcement.

There are a number of gaps in the legal framework that need to be addressed during this Plan Period (2009-2014). These gaps include:

- (i) Lack of national designation for the Ramsar sites, including boundary description;
- (ii) Absence of regulations for the protection of marine archeological sites;
- (iii) Absence of any description of the seaward boundary for the PSEPA; and
- (iv) Absence of boundary descriptions for the Mankote Mangrove and Savannes Bay Marine Reserves.

4.2 Existing Institutional Framework

Several institutions currently have regulatory responsibilities for resources within the PSEPA, including:

- **Physical Planning and Development Division** – The Division has responsibility for land use planning, and in that capacity, has to approve any change in land use proposed by any other government agency or private sector interest. The Division is currently in the process of preparing a new land use plan for the Southern Quadrant, which includes Vieux Fort and the PSEPA. The Division also functions as the Secretariat for the Development Control Authority, in which capacity it coordinates

the processing of development applications, including the environmental impact assessment process.

- **Saint Lucia National Trust** – The Trust has been coordinating the planning for the PSEPA under the OPAAL Project. The Trust is also responsible for the management of the Maria Island Wildlife Reserve. The plans for the Trust in the Vieux Fort area include obtaining management responsibility for the historical sites in the area.
- **Department of Fisheries** – In addition to its general mandate of development of the fisheries sector, the Department has management responsibility for the two marine reserves within the PSEPA, the Mankote Mangrove and Savannes Bay Marine Reserves. As such, monitoring of extractive uses within the mangroves is the responsibility of the Department. Monitoring of fishing activities elsewhere in the PSEPA is also the responsibility of the Department. One of the development activities undertaken by the Department is the support of the seamoss farming at the northern end of Bois Chadon Beach.
- **Department of Forestry** – The Forestry Department maintains regulatory responsibility over the Maria Islands Wildlife Reserve. The Department undertakes monitoring activities and conducts wildlife studies as part of its conservation management programme for the islands. The Department functions as the National Focal Point for the Ramsar Convention, and as such, has an interest in the Mankote Mangroves and Savannes Bay Mangroves, as the two Ramsar Sites within the PSEPA. The Permanent Secretary in the Ministry of Agriculture, Fisheries and Forestry is the National Focal Point for the Convention on Biological Diversity, and thus the Department is responsible for addressing issues related to invasive species management within the PSEPA. The Ministry (of Agriculture) is also the national focal point for the Convention on International Trade in Endangered Species.
- **National Conservation Authority (NCA)** – The NCA falls within the Ministry of Social Transformation, and its programmes focus mainly on development and maintenance of amenity areas. Its programme within the PSEPA is focused on beautification of the Anse de Sable Beach. The NCA regulates some activities that take place on the beach (such as horseback riding), but does not exercise authority over the beach. The agency intends to re-establish its own enforcement unit, in order to address the need for deployment of enforcement personnel at specific activities or to specific locations.
- **National Development Corporation (NDC)** – The NDC was established to facilitate development of state-owned lands in Saint Lucia. Large parcels of land in the PSEPA are vested in the NDC, including the Anse de Sable Beach and the Mankote Mangroves. As such, all development (by private or public entities) in the PSEPA is likely to be on lands managed by the NDC. The NDC is currently preparing a land-use plan for the greater Vieux Fort area, including the PSEPA.

- **Ministry of Social Transformation** – In addition to the role of the NCA, the Ministry of Social Transformation plays a role in the management of the PSEPA through the work of the Community Development Officer (CDO). Within the PSEPA, the CDO functions to support community-based organizations, such as the Aupicon Charcoal Producers Association. The CDO also works with communities when construction of a major new development project is pending, and this function will be exercised in the PSEPA as necessary.
- **Saint Lucia Royal Police Force** – In addition to their regular role of crime suppression, the functions of the Police that are specific to the PSEPA include routine surveillance within the area and the activities undertaken by the Beach Wardens. The Beach Wardens are deployed to the main Anse de Sable Beach, where they function to maintain order and prevent infraction of the various laws.
- **Southern Tourism Development Corporation (STDC)** – The STDC is a non-profit, non-governmental organization with a mission to “... *stimulate and facilitate tourism development in Vieux Fort and its environs...*”. The STDC has been involved in the process for the development of the Pointe Sable area and the planning for the establishment of the PSEPA. Current initiatives of relevance to the PSEPA include; (i) provision of bathroom facilities at Anse de Sable Beach, (ii) promotion of heritage tourism within the area, (iii) preparation of directional and informational signs in the larger Vieux Fort area, (iv) training of tour guides, (v) hosting of an annual kite and wind surfing competition on Anse de Sable Beach, and (vi) working with member institutions/companies to facilitate growth in the nature tourism segment of the industry.
- **Saint Lucia Air and Sea Ports Authority (SLASPA)** – SLASPA is the management entity for the Moule A Chique lighthouse, one of the main historic buildings in the PSEPA. Additionally, the placement of mooring and marker buoys for the marine reserves require the approval of the SLASPA.
- **Aupicon Charcoal Producers Association** – The Association entered into an agreement with the Department of Fisheries in 1997 for the management of the Mankote Mangroves. The current status of the Association and the management agreement is uncertain.
- **Other Institutions**⁷ – A number of institutions provide support functions to initiatives in the area, have been participating in the planning process for the development of the PSEPA, and continue to have roles based on their mandates. These institutions include:
 - ❖ Vieux Fort Town Council,
 - ❖ Saint Lucia Solid Waste Management Authority,

⁷ A large number of stakeholder groups have been supporting the planning for the PSEPA (Appendix 2). The role of stakeholders in the PSEPA management process is addressed in Section 6.

- ❖ Sustainable Development and Environment Section – Ministry of Physical Development, Environment and Housing,
- ❖ Environmental Health Department, and
- ❖ National Emergency Management Organisation.

There are a number of issues related to the institutional framework that need to be addressed in future management arrangements for the PSEPA. The main issues are:

- (i) Current lack of clarity concerning management responsibilities for some critical resources, such as the Anse de Sable Beach;
- (ii) Absence of any institutional coordinating mechanism for programme integration or information/data sharing;
- (iii) Overlapping jurisdictional responsibilities for critical resources (Maria Islands, Savannes Bay and Mankote Mangroves, Anse de Sable Beach);
- (iv) Inadequate institutional capacity for management of existing protected areas and other critical resources;
- (v) Inadequate financial resources; and
- (vi) The roles of important new institutional actors, such as the National Environmental Commission, need to be clarified.

4.3 Planned Development Activity within the PSEPA

The National Development Strategic Goals for Saint Lucia are to be implemented through a process where development projects are to be designed based on development plans for four geographic regions or Quadrants. The “Quadrant Plan” requires the development of master plans for each quadrant/region, based on set objectives for that quadrant. The PSEPA falls within the Southern Quadrant. *“The objective for the Southern quadrant would ultimately be to generate new sources of wealth and employment opportunities in Tourism, Information Communication Technology and Manufacturing. The development of Vieux Fort will seek to address the entire redevelopment of the town while addressing the current socio-economic issues in a comprehensive manner. This master plan will dictate land use for public and private enterprise and serve as a guide to development planning in the south”* (Government of Saint Lucia, 2007-page 27).

The Quadrant Plan identifies the PSEPA as a critical resource that will contribute to the development of the region. The Plan states that while the PSEPA *“... can facilitate a range of activities that can provide direct social and economic livelihoods to the immediate and surrounding communities, it is important that the area be managed in a sustainable manner to ensure its conservation”* (page 33).

The projects identified in the Quadrant Plan that will fall within the PSEPA are the Pointe De Sable Touristic Village (on Anse de Sable Beach) and the Eau Piquant Theme Park (at the Mankote Mangroves).

The Physical Planning and Development Division is in the process of preparing the land use plan for the Southern Quadrant. The National Development Corporation (NDC) has

completed its first draft of the land use plan for the lands under its control within the Southern Quadrant. That land use plan is to be approved by the Physical Planning and Development Division and the Board of Directors of the NDC. However, the preliminary NDC land use plan proposes touristic uses at Anse de Sable Beach, in the general area now occupied by the Coconut Bay Hotel, and along the north-western boundary of the Mankote Mangroves. The Mankote Mangroves itself is retained as a conservation area, though that land use does not exclude the use of the site for tourism-related recreational activities.

With the level of development activity planned in the Vieux Fort area, and the level of stimulus that it will provide for new development by the private sector, it is important that the development guidelines identified in the Management Plan be prepared as early as possible. If the natural beauty of the area is to be protected, guidelines for maintaining the ambiance of the “Greater Vieux Fort Area” should also be developed as part of the master plan (development plan) for the Southern Quadrant.

4.4 Existence of Critical Threats

The Conservation Action Planning methodology used in the preparation of this management plan defines Critical Threats as “... *sources of stress that are most problematic ...*”, while Stresses are defined as “*Impaired aspects of conservation targets that result directly or indirectly from human activities*”.

A Threat Assessment conducted for three protected areas in Saint Lucia in 2002 (The Nature Conservancy, 2002(a)), including the Pointe Sable area, was used as the basis for identification of critical threats to the PSEPA. The critical threats, as confirmed by the stakeholders, are:

- (a) Inappropriate Agricultural Practices;**
 - Inappropriate use of agrochemicals,
 - Inappropriate livestock practices,
 - Inappropriate planting practices.

- (b) Feral Livestock;**
 - Opportunity to graze at low cost,
 - Lack of awareness of environmental impacts.

- (c) Pollution (solid waste, effluents, non-point source pollution);**
 - Illegal dumping of garbage in mangroves,
 - Beach parties,
 - Agricultural wastes,
 - Dumping of garbage at sea,
 - Littering,
 - Non-point source pollution (wastes transported by rivers and drains),
 - Industrial effluents,
 - Disposal of sewage effluent.

- (d) **Inappropriate Fishing Practices;**
- Illegal and unsustainable harvesting methods at sea (e.g. spear fishing and use of gill nets),
 - Inappropriate practices in freshwater (e.g. use of poisonous substances),
 - Inappropriate practices in brackish water (e.g. use of seines and trench digging for crabs).
- (e) **Inappropriate Development Practices;**
- Unplanned residential development,
 - Poor road construction practices,
 - Poor site management practices during construction,
 - Inconsistent application of the development control process.
- (f) **Inadequate Enforcement;**
- Incomplete/inadequate legal framework,
 - Inadequate capacity (manpower, financial resources, transportation, equipment, inconsistent monitoring),
 - Inadequate institutional coordination (communication between agencies, inadequate clarity concerning jurisdiction over specific resources, inadequate knowledge and information on environmental issues),
 - Personal deficiencies (bribery, different interpretation of seriousness of environmental infractions).
- (g) **Inappropriate Extractive Practices;**
- Harvesting of critical resources (seabird eggs, sand, turtles),
 - Over-exploitation and use of incorrect harvesting methods (mangrove, palms, conch, sea urchins),
 - Use of inappropriate gear (seine net for fishing).
- (h) **Invasive Species;**
- The presence of invasive species within the PSEPA is considered to be generally important. However, invasive alien species and fire are considered to be critical threats because they are the primary threats to the Maria Islands. Due to the global significance of the biodiversity resources on the Maria Islands, some stakeholders consider these islands to be the single most important location within PSEPA for biodiversity conservation.

4.5 Selection of Focal Conservation Targets

The Conservation Action Planning Handbook defines Focal Conservation Targets as “A limited suite of species, communities and ecological systems that are chosen to represent and encompass the full array of biodiversity found in a project area” (The Nature Conservancy, 2007).

Given the stated purpose of the PSEPA to protect natural beauty and natural interest, the stakeholders were asked to define the features that constituted natural beauty and natural interest of/in the area. The conservation features so defined (Appendix 3) were grouped into five (5) groups, representing five Focal Conservation Targets. These conservation targets are not focused only on biodiversity (as implied in the definition above), as biodiversity protection is not the only purpose for site designation.

The five (5) Focal Conservation Targets for the PSEPA are:

- (a) Critical ecosystems (Windward Island xeric scrub, Windward Island dry forest, mangrove wetlands, benthic communities, coral reefs);
- (b) Endemic, rare, and endangered species of wildlife;
- (c) Landscapes;
- (d) Historical and cultural resources; and
- (e) Sustainable uses.

The public consultation process was also used to determine which conservation target is affected by the Critical Threats previously identified. The linkages between the two are shown by Table 5 below.

Table 5: Relationship between Focal Conservation Targets and Critical Threats

Focal Conservation Target	Critical Threat
Critical ecosystems	<ul style="list-style-type: none"> • Inappropriate agricultural practices • Pollution • Inappropriate fishing practices • Inappropriate development practices • Invasive alien species
Endemic, rare, and endangered species of wildlife	<ul style="list-style-type: none"> • Feral livestock • Inappropriate fishing practices • Inappropriate development practices • Invasive alien species
Landscapes	<ul style="list-style-type: none"> • Inappropriate agricultural practices • Pollution • Inappropriate development practices
Historical and cultural resources	<ul style="list-style-type: none"> • Inappropriate development practices
Sustainable uses	<ul style="list-style-type: none"> • Inappropriate agricultural practices • Feral livestock • Pollution • Inappropriate fishing practices • Inappropriate development practices

5. MANAGEMENT FRAMEWORK

Management plans for protected areas are meant to provide strategic guidance on achievement of the primary objectives for site designation. Typically, the management planning process identifies the priority issues, and designs interventions accordingly.

The Conservation Action Planning (CAP) process places Focal Conservation Targets as the core of the management plan. The concept is fairly reasonable; that is, if the primary objective of protected areas is the protection of natural resources, then the key conservation targets must be the natural resources themselves, and the management strategies should focus on enhancement of, or reduction of threat to, those resources.

However, the assumption implicit in the CAP process, that the primary, if not singular, objective of protected area designation is natural resources protection, is not correct in the case of the Pointe Sable Environmental Protection Area (PSEPA). Support to the strategic development goals of the country and sustainability of community livelihoods are equally important objectives for the PSEPA.

An important issue that was considered in setting the management strategies is the need for management systems (Appendix 5) that will not only guide the development of the protected area, but also ensure that its management team can consistently and effectively implement the programme as designed.

Based on the above, the PSEPA management plan will focus on three (3) strategic imperatives during the first five (5) years. These are:

- (1) Development of Management Support Systems
- (2) Effective Management of Important Ecosystems and Resources within the PSEPA
- (3) Development of an Appropriate Conceptual Framework for the EPA

Strategy 1: Development of Management Support Systems

Management of land and natural resources within the Pointe Sable Environmental Protection Area (PSEPA) fall within the areas of responsibility of several public institutions. As such, effective management of the PSEPA will require the development of formal mechanisms for institutional coordination. Given the stated purpose of the EPA, civil society organizations must be brought into this management process in a structured manner, and actions must be developed to support their continued participation in the process.

Management Actions under this strategic area will address institutional capacity in the Management Coordinating Entity, mechanisms and support systems for inter-agency collaboration/coordination for PSEPA management, effective public engagement in support

of the long-term objectives and short-term initiatives of the Pointe Sable Environmental Protection Area, and sustained financing for site management.

Strategy 2: Effective Management of Important Ecosystems and Resources within the PSEPA

This strategic area deals primarily with management of the resources within the PSEPA, by focusing on the Focal Conservation Targets. The associated Management Actions are to be undertaken primarily by the various institutions with existing responsibilities for natural resources management, land management, and development control.

Strategy 3: Development of an Appropriate Conceptual Framework for the EPA

The current protected areas system plan for Saint Lucia does not include environmental protection area (EPA) as a category of protected area. As such, effective development and management of this new category of protected area in Saint Lucia requires the development of a clear conceptual framework, articulating vision, policy, management objectives and standards, and appropriate support systems. The development of this conceptual framework is important not only for rationalization of the EPA within the system of protected areas, but also for integrating the PSEPA within the development Master Plan for the Southern Quadrant.

5.1 Management Actions

Not all the Actions to be undertaken under the three strategic areas will necessarily be completed during this Plan Period (2009-2014). Operational Plans (Annual Plans) will be developed by the Management Coordinating Entity (MCE), and the activities to be undertaken by the other management agencies will be integrated into their Annual Work Plans.

5.1.1 Strategic Area 1: Development of Management Support Systems

5.1.1.1 Action 1: Capacity Development for the Management Coordinating Entity

The establishment of an environmental protection area (EPA) is a new experience for Saint Lucia, and to complicate matters, the institution that administers the primary legislation, the Physical Planning and Development Division/Development Control Authority, is not traditionally a protected area management institution. The Management Coordinating Entity (MCE) will be a new institution, created specifically to manage the PSEPA (Section 6.2). Given the daunting task of functioning as a coordinating entity, the MCE should not be hampered by a lack of capacity. As such, adequate support resources will be provided, the

appropriate staff complement will be provided, and standard management systems will be established.

Activity 1: Secure office accommodations and equipment

Given the large number of stakeholders, the imminent development activities, and the need for a coordinating role for the management entity, it is important that office space is provided that becomes the focal point of the management effort.

Activity 2: Hire staff

In addition to a Coordinator (Director), the management team includes a Programme Officer to focus on partnership development and communication; an Environmental Officer/Resource Ecologist to work with the various technical agencies and resource users, to support the outreach effort, and deal with the data management needs of the management entity; and an Office Attendant.

Activity 3: Establish internal management systems

The Government of Saint Lucia will provide a level of financial support to the operations of the MCE. Additionally, the MCE needs to have clear operational goals and be able to report to its partners and funding institutions. As such, the MCE will, as one of the first steps in establishing an office, establish standard internal management systems (such as an annual Operations/Work Plan, data management system [Section 5.2], financial management system). Increasingly, protected areas management institutions are required to demonstrate that management objectives are being achieved, and they are required to conduct an evaluation of management effectiveness. The MCE will develop a management effectiveness evaluation protocol and plan during Year 2 of this Plan Period (2009-2014).

5.1.1.2 Action 2: Update of Legal Framework for PSEPA

Once the management plan is approved, a number of legal issues require further clarification.

Activity 1: Delineate revised boundary for PSEPA

It is very difficult to delineate the landward boundary of the PSEPA based on the listing of parcel and lot numbers. A boundary description that can easily be understood by the general public will be provided in a subsequent Gazette Notice. That Gazette Notice will also include a description of the seaward boundary of the PSEPA.

Activity 2: Draft supporting regulations

Regulations will be required to address the revised boundary, set fees and other charges for resource use/extraction, provide guidance on development activity within the PSEPA, and support the various management initiatives.

5.1.1.3 Action 3: Development of Inter-Agency Coordinating Mechanisms

There are a number of institutions involved in the management of land and other critical resources in the PSEPA. The initiatives and programmes of those institutions should be aligned with the management objectives of the PSEPA. Additionally, there are a number of regulatory agencies that are responsible for permitting or provision of essential services that must also be brought into the management process for the PSEPA. Establishment of an institutional coordinating mechanism, and associated support systems, facilitates information sharing, programme planning, and collaborative decision making.

Activity 1: Establish Local Advisory Committee

The Management Coordinating Entity (MCE) has overall responsibility for the implementation of the management plan. The establishment of a Local Advisory Committee provides the mechanism to ensure that a range of stakeholder groups (public agencies, private firms, and civil society institutions) are consistently engaged in the management process, bringing not only technical input, but also ensuring that management decisions are cognizant of community concerns and aspirations. The establishment of the Local Advisory Committee (LAC) will be informed by the preparation of guidelines for the selection of members and the operation of the LAC.

Activity 2: Establish formal agreements with management institutions

The management plan provides a unified framework to guide initiatives within the PSEPA. Development of formal agreements (between the MCE and the management and development agencies), such as Memoranda of Understanding, provides clarity as to the expectations and roles of the parties, and reinforces commitment to the approved actions and processes.

Activity 3: Develop institutional workplans for PSEPA⁸

This management plan is designed with the assumption that existing regulatory and resource management agencies will continue to manage the resources and/or regulatory processes in their various areas of responsibilities. Those agencies will include in their workplans the elements required for implementation of actions in support of PSEPA objectives.

5.1.1.4 Action 4: Public Engagement

The significant extent to which the natural resources within the PSEPA support community social and economic development requires that the public supports the establishment and management of the PSEPA. This support requires an understanding of the objectives and initiatives articulated by the management plan. Continued support is likely to be based on

⁸ Proposed activities of partner institutions in support of PSEPA objectives are shown in Appendix 6.

serious and consistent engagement of the community in a range of activities and initiatives focused on site development and management.

Activity 1: Develop and implement a Public Engagement Strategy and Action Plan
Public engagement goes beyond the usual outreach and awareness activities typical of traditional approaches to protected areas management. Issues of governance, communication, financial support, activism, participation, and other tenets of public engagement are best articulated in the strategy and action plan.

Activity 2: Establish communication mechanisms
One of the critical requirements for building and maintaining support with the range of stakeholders and policymakers is communication. The mechanisms should support not only a two-way flow of information, but should also be designed to facilitate reporting by the MCE.

Activity 3: Update and approve supporting plans
A Communications/Public Awareness Plan (2005) and an Interpretation and Education Plan (2008) were prepared to support development and management of the PSEPA. Those plans should be revised to reflect the new framework and strategies identified in this management plan.

5.1.1.5 Action 5: Development of Financing Arrangements

Protected areas are generally unable to finance capital and operational costs from entrance fees, merchandising, and other site-specific funding sources. Though the Government of Saint Lucia will continue to provide budgetary support (to the existing management agencies) for the management of the PSEPA, the site management team will develop financing plans and long-term sources of funding.

Activity 1: Prepare Financing Strategy
The provision of financial support for medium to long-term initiatives is best informed by an investment strategy that identifies the demand over time, recognizes the sources of funds, and provides for an appropriate rate of return.

Activity 2: Develop and implement Fundraising Plan
Fundraising for programme support and to meet operational costs is a normal part of protected area management. The Fundraising Plan should be designed to encourage giving from private sources, including the local community (Section 8).

Activity 3: Establish Fund for conservation activities in PSEPA
The establishment of a dedicated fund supports long-term financing of management initiatives. The MCE will work with the relevant government

institution to determine the appropriate structure for such a fund, and to assist in fund establishment and development (Section 8).

5.1.2 Strategic Area 2: Effective Management of Important Ecosystems and Resources

5.1.2.1 Action 1: Establishment of Best Practices for Development Projects

Inappropriate development was identified as a Critical Threat to the PSEPA and associated resources. The MCE will work with the relevant development control agencies, engineering and architectural groups, and relevant civil society institutions to develop and promote the use of best practice guidelines for all facets of the construction phase of development projects. Practices to reduce waste in the operational phase of resorts and other commercial operations will also be encouraged. It is anticipated that best practice guidelines that exist in other jurisdictions will be adapted for Saint Lucia as appropriate.

Activity 1: Adopt Best Practice Guidelines for Construction

There is extensive literature that provides detailed guidance on site clearance, erosion control, sediment control, road design and construction, and other construction-related matters. Those guidelines will be used to produce a manual for use within the PSEPA and Saint Lucia in general.

Activity 2: Adopt appropriate sewage treatment and disposal systems

The use of septic systems generates long-term sources of nutrient contamination of waterways and the nearshore marine environment. Design guidelines for treatment and disposal systems for hotels and commercial operations in coastal areas (re-use of effluent, cromaglass systems, evapo-transpiration beds, etc.) and trails and public remote areas (activated/ventilated/dry pit latrines) will be developed and/or adapted for local use. New designs for septic systems for residential development will be reviewed and adapted as appropriate.

Activity 3: Promote use of water and energy conservation devises in all developments

Water-saving devises reduce the volume of effluent generated and reduce the utility cost of the enterprise. Energy conservation produces savings for the operation, reduces wastes, and supports the climate change obligations of Saint Lucia.

Activity 4: Adopt sustainable site planning guidelines

Site planning guidelines have been developed for the tourism sector in the Caribbean. Such guidelines address issues such as orientation of buildings to maximize natural elements of the environment to assist in lighting and ventilation, minimization of building footprint, and construction best practices. The adoption of such practices will improve land management and

reduce pollutants that can be transported to the PSEPA. Within the PSEPA, such practices will assist in the maintenance of landscape values.

Activity 5: Develop templates for Construction Permits

Development approvals usually contain conditions to be implemented by the developer. In the projects that require an environmental impact assessment (EIA), those conditions often represent mitigation measures. Not only should developers be required to prepare mitigation plans and environmental monitoring plans as conditions of approval, but those plans can be developed as specific permits that contain detailed conditions, standards, and reporting procedures. The MCE will work with the relevant agencies to develop templates for construction permits.

Activity 6: Train EIA reviewers

The ability of community organizations to participate meaningfully in the development control process is often limited by their capacity to review environmental impact assessment (EIA) reports. Training persons in the communities adjacent to the PSEPA, or members of organizations participating in the PSEPA management process, to review EIA reports should reduce conflicts in the development process, and build support for PSEPA objectives. Such training could also allow community organizations to assist the management agencies in the monitoring of construction activities.

5.1.2.2 Action 2: Protection of Existing Landscapes within the PSEPA

Protection of the landscape values within the PSEPA supports the promotion of the Greater Vieux Fort Area as a tourism centre. However, those values have to be protected through the land use and development control processes.

Activity 1: Develop guidelines and rules for maintaining the ambiance of the Greater Vieux Fort Area

The guidelines would address issues such as the location and mix of green spaces, height of buildings, development density, building setback from boundary and beach, verges, types/species of trees used in landscaping, signage guidelines, architectural styles, and other relevant matters.

Activity 2: Delineate seaside parks, scenic lookouts, and other outstanding scenic features

Activity 3: Integrate landscape guidelines in landuse and development plans

Activity 4: Assess feasibility of establish bicycle lanes and hiking trails in the Greater Vieux Fort Area

Establishment of bicycle lanes would increase the potential for new livelihood opportunities through stimulation of bicycle tours. It also contributes to the

efforts of the Government of Saint Lucia to reduce production of green-house gases. Hiking trails exist in a number of forests in Saint Lucia, and as such, establishment of such trails in the PSEPA would simply add to the trail network.

5.1.2.3 Action 3: Protection of Important Historical and Cultural Resources

Historical resources represent one element of the Focal Conservation Targets for the PSEPA, as well as a resource valued by Saint Lucians. There is currently no programme to protect those resources within or adjacent to the PSEPA. Protection of these resources is important for the social development of the community, and contributes to its tourism potential.

- Activity 1: Revitalise Saint Lucia Archaeological & Historical Society*
The Society contains members that possess a wealth of information about the heritage resources in the area, and which could be useful in supporting the promotion of the heritage sites.
- Activity 2: Develop regulations for enforcement actions and investment in restoration⁹*
These regulations would penalise persons for vandalizing properties listed in the Registry, as well as offer tax-related incentives for investment in rehabilitation of listed heritage properties.
- Activity 3: Support promotion of heritage sites*
Activities will be restricted to supporting initiatives by other institutions (such as tourism/tours, curricula in school, printing of brochures, production of postcards, and listing on Tourist Board website).

5.1.2.4 Action 4: Protection of Rare/Endemic/Endangered Wildlife

A number of endemic, rare, and endangered species of wildlife occur in the PSEPA, some of regional or global significance. These are important biodiversity resources that require focused management interventions. There are other floral and faunal species that are important for social or economic reasons, and the use of these species also require attention.

- Activity 1: Identify populations of important species*
Studies of important species have concentrated on the Maria Islands. The geographic area of work on the most threatened species will be widened to the entire PSEPA, and the scope of the studies will be broadened over time to include all important species.

⁹ Section 33 of the Physical Planning and Development Act (2001) deals with preservation of sites and buildings of interest. Other laws may also apply.

- Activity 2: Protect important habitats*
 Species cannot be fully protected without the protection of their habitats. The habitats of all important species will be identified and delineated, with special attention given to the existing reserves. Protection of the species must include protection of all the spaces they need for their life cycle purposes. Once delineated, these important habitats will be included in the land use plan for the area. Two wardens will be hired for deployment within the PSEPA. One warden will be employed by the Forestry Department, and will focus on surveillance and enforcement activities within the Maria Islands Wildlife Reserve. The second warden will be employed by the Fisheries Department, and will focus on the mangrove wetlands and marine resources.
- Activity 3: Develop and/or adopt species management plans*
 A species management plan has been prepared for the St. Lucia Whiptail Lizard. Similar plans will be developed for the other rare and threatened species.
- Activity 4: Undertake research and monitoring on important species*
 Monitoring and research is necessary to understand life cycle processes and monitor health of populations.

5.1.2.5 Action 5: Management of Critical Ecosystems

In addition to the focused management plans to be prepared for the critical ecosystems, those ecosystems have to be protected from external threats, especially those threats that are anthropogenic in origin, and emanate within the watershed.

- Activity 1: Remove/reduce pollution inputs to the PSEPA*
 Pollution sources will be identified, mapped, and a pollution control strategy and plan will be prepared through a collaborative effort with the regulatory agencies and the operators of the pollution sources.
- Activity 2: Develop guidelines and regulations for pollution reduction practices*
 Practices such as the use of silt fence, maintenance of filter strips, using swales rather than concrete drains on properties where applicable, and using debris traps on municipal storm drains will result in the reduction of sediments, solid waste, and other contaminants in surface runoff.
- Activity 3: Develop and implement invasive species management strategy and plan¹⁰*
 A number of invasive alien species have been observed in Saint Lucia (including one species of monkey, a green iguana, and the Giant African Snail), and there is concern that these species could spread to the PSEPA. However, cats, dogs, mongoose, and rats pose immediate threats. The

¹⁰ The Forestry Department has drafted a project proposal for management of invasive alien species in the Maria Islands Wildlife Reserve.

invasive species management strategy and plan will be developed in conjunction with the Biodiversity Section of the Ministry of Agriculture, Fisheries, and Forestry.

- Activity 4: Promulgate regulations to protect critical ecosystems*
Regulations are needed to support the conservation efforts focused on critical resources, including those that support community livelihoods. Regulations will deal with matters such as permitting, research, moorings, use zones and patterns, levels of resource extraction, fees and charges, and other matters relevant to the management of those resources.
- Activity 5: Develop and implement management plans for existing protected areas within the PSEPA*
Two marine reserves, one wildlife reserve, and two Ramsar sites currently exist within the PSEPA. Site Management Plans will be prepared for these sites by the appropriate management institutions (see Appendix 5 for the relationship between the PSEPA Management Plan and the Site Management Plans).
- Activity 6: Develop and implement a watershed management plan.*
Integrated watershed management addresses not only water resources and forestry resources needs, but also a range of environmental management issues, such as pollution control, land management practices, and wildlife management.

5.1.2.6 Action 6: Promotion of Sustainable Resource Use

The PSEPA is required to support community livelihoods, but the derivation of those benefits must be managed in such a way as to ensure the availability of those benefits to future generations. The pursuit of sustainable resource use within the PSEPA will involve the development of techniques and methods to prevent over-exploitation of resources, enable enhancement of resources where necessary, and provide supporting infrastructure where possible.

- Activity 1: Develop a recreation use plan for Anse de Sable Beach*
Anse de Sable Beach supports intensive recreational uses, often resulting in conflict between uses. The recreation use plan will include measures that can be either temporary (based on level of use or a single event) or permanent. Such measures may be applied even without the proposed new development of the beach.
- Activity 2: Develop sustainable harvesting techniques*
Sustainable harvesting methods were developed for selected mangrove species in the Mankote Mangroves. Those methods will be reviewed and reinstated as applicable. Techniques and tools applicable to other harvested species will

be identified or developed as possible. Extraction rates and limits for mangroves and other harvested species will be determined. Where applicable, appropriate equipment to support sustainable harvesting methods will be recommended.

Activity 3: Provide technical assistance to community groups

The cohesion in community groups erodes over time as members and other circumstances change. The community groups that participate in the PSEPA management process, or are organized as resources users, will be provided with training and facilitation services in business development, leadership development, governance, and other group development processes.

Activity 4: Develop new/alternate livelihood initiatives to replace detrimental practices¹¹

Some current uses of the resources within the PSEPA are producing negative impacts. Where uses that support livelihoods have to be discontinued, alternate sources of livelihood will be identified. If practicable, where livelihood activities detrimental to the resources are discontinued, persons will be re-trained to participate in the new opportunities. The first new initiative will be an assessment of the feasibility of operating bicycle tours in the area.

Activity 5: Refurbish Visitor Reception Facility at the Mankote Mangroves

The existing facility was managed by the Aupicon Charcoal Producers Association, and was used to support tours of the Mankote Mangroves. The facility will be refurbished and the interpretative displays replaced. This will be contingent on the restructuring and revitalization of the group.

Activity 6: Support infrastructure development at Savannes Bay Fish Landing Site

The Savannes Bay Fish Landing site serves as the entry point to Savannes Bay and Scorpion Island for tours and other recreational activities. Needed improvements to the infrastructure include construction of a new dock/jetty and refurbishing the existing facilities to include public restrooms.

5.1.3 Strategic Area 3: Development of Conceptual Framework for EPAs

5.1.3.1 Action 1: EPA Framework Development

The conceptual framework provides guidance on the management objectives, standards, and appropriate support systems, and links the category of protected area to the policy framework (the national system of protected areas) and the legal framework (the Physical Planning and Development Act, 2001).

¹¹ The revitalization of activities considered to be sustainable use of the area, such as eco-tours to Maria Islands and Mankote Mangroves, will be actively supported.

5.1.3.2 Action 2: Incorporate EPA Framework into the Protected Areas System Plan

The national protected areas system plan is currently under revision by the Saint Lucia National Trust. The management framework for EPAs should be included in the revised system plan.

5.1.3.3 Action 3: Draft Supporting Regulations

Additional regulations are necessary to support PSEPA management interventions. It may be necessary to ensure that other relevant primary legislation is amended to facilitate/clarify the actions of the regulatory agencies as they pertain to the PSEPA.

5.1.3.4 Action 4: Development of Standard Operating Procedures

Standard Operating Procedures, sometimes referred to as site planning or management tools, provide detailed guidance in order to standardized to standardize selected management interventions, such as surveillance, monitoring, concessions management, interpretation, and enforcement (Appendix 5). Given the large number of regulatory agencies operating within the PSEPA, many of which are already using a variety of methods to support their work, the development of standard operating procedures ensures data compatibility and supports management decision making.

5.2 Data Management

Several agencies currently collect data derived from social surveys, routine environmental monitoring, or research projects that are relevant to the management of the PSEPA. These agencies include:

- Statistical Office (census, tourist arrivals);
- Department of Fisheries (water quality, beach profiles, Reef Check monitoring, fish landings, registered fishers);
- Department of Forestry/Durrell Wildlife Conservation Trust (conservation management);
- Saint Lucia National Trust (survey of wetlands); and
- Environmental Health Department (water quality monitoring).

Additionally, studies are undertaken for specific development projects (e.g. drainage or sewage studies) or by university students as part of a post-graduate degree programme.

The Management Coordinating Entity (MCE) will develop a system to track all relevant monitoring programmes and studies, and make relevant reports available where possible. Mechanisms to share information on relevant reports and studies will include:

- (1) Development of a digital library, to be hosted within the website to be developed for the PSEPA; and
- (2) Development of an Environmental Repository for the PSEPA. The Environmental Repository will be a listing of all reports and studies conducted within the area of interest of the PSEPA (essentially the entire watershed), but which are held in hard copy format by various institutions. The online database will include the name of the report and the name of the host institution.

The Memoranda of Understanding between the MCE and the various institutions will include language dealing with sharing of primary data collected through regular monitoring programmes. The MCE will work with the various institutions to regularize protocols and monitoring stations in order to ensure data compatibility where possible. The MCE will coordinate the establishment of a data management system that will facilitate the collective collection, storage, and sharing of data. The data management system will be designed primarily to support management decision making by the various management institutions. However, if practicable, it will also include features to support the work of other institutions in meeting the range of social (e.g. education/teaching) and economic (e.g. tourism) objectives of the PSEPA.

In developing the data management system, the MCE will ensure that, in addition to the biophysical data, more information will be gathered on types of resource use, user groups, origin of users, patterns and levels of use, use/user conflicts, impact of uses on the resources, and benefits to the community.

6. ADMINISTRATIVE ARRANGEMENTS

The administrative arrangements for the management of the Pointe Sable Environmental Protection Area (PSEPA) links the Management Coordinating Entity (MCE), the regulatory agencies, the development agencies, and the community groups.

6.1 Institutional Arrangements

The institutional arrangement for management of the PSEPA is comprised of a three-tiered structure involving the following groups:

(a) **Resource/environmental Management Agencies, Regulatory Agencies, and Development Institutions**

- Resource management agencies currently responsible for existing critical ecosystems will continue to exercise management responsibility over those resources, and will revise their management interventions in accordance with the PSEPA management plan;
- Regulatory agencies responsible for the various permitting processes (such as health) and provision of social services (such as waste management) will develop work plans to support PSEPA management initiatives;
- Development agencies (public and non-governmental agencies responsible for economic and social development) will design and implement their development plans in a manner that is consistent with the PSEPA management objectives;
- Public institutions that provide a range of services (such as disaster management planning) will assist as appropriate (e.g. in community development, financial management systems, fundraising, education);
- Ministry of Agriculture-Water Resources Management Agency – watershed management.

(b) **Development Control Authority/Physical Planning and Development Division**

- These institutions are responsible for landuse planning, management of the development control process, and administration of the Physical Planning and Development Act (2001). Though they retain control over those processes, it is anticipated that the landuse plan currently being prepared will make adequate provisions for supporting the PSEPA. It is also anticipated that the agencies will refine the development control process within the entire watershed to support PSEPA management objectives.

(c) **Management Coordinating Entity**

- The Management Coordinating Entity (MCE) is responsible for implementation of the PSEPA management plan, providing a coordinating role by ensuring programme integration by the various management institutions (as it relates to the PSEPA), and monitoring the work of the various institutions as it relates to implementation of the PSEPA management plan (Section 6.2). The MCE will

also be designated as a Referral Agency for review of development applications in and adjacent to the PSEPA.

(d) **Community and Stakeholder Groups**

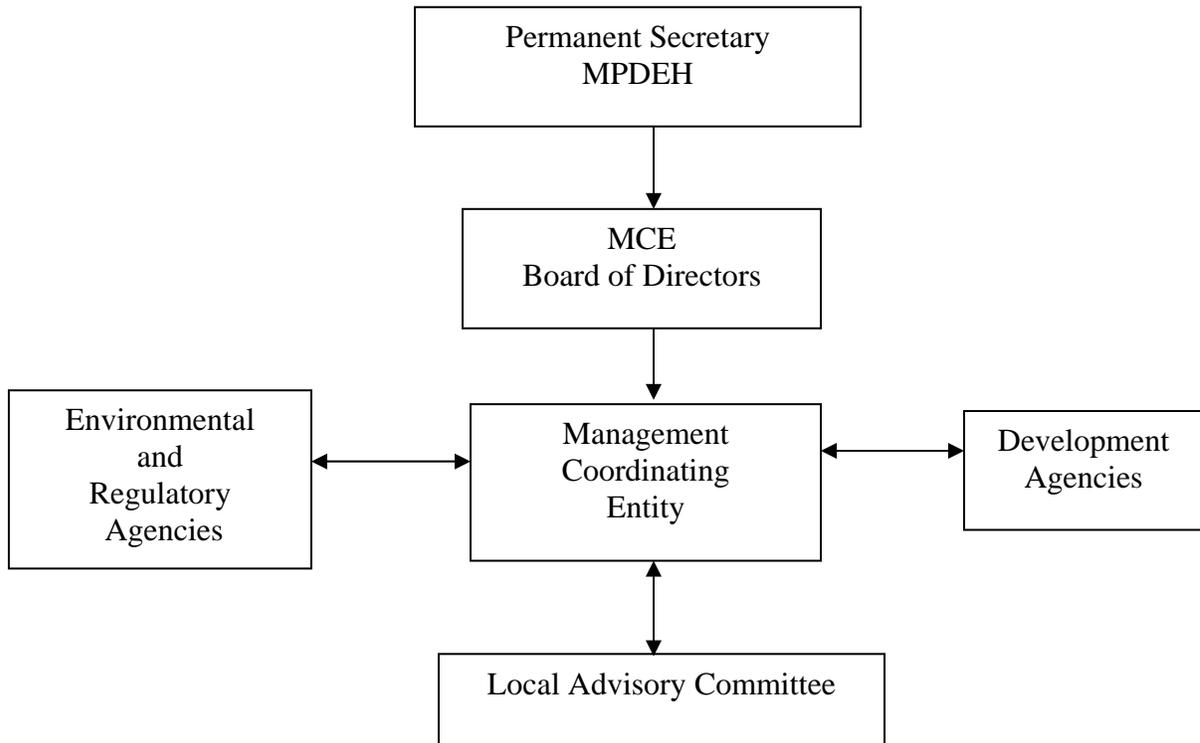
Community groups will participate formally in the management arrangements by appointment to a Local Advisory Committee (LAC), which will also include the management and development agencies. The role of the LAC is to:

- (i) Act as a link between the management institutions and the communities adjacent to and/or affected by the site.
- (ii) Act as a mechanism for the participation of community groups and individuals in all stages of site establishment and management.
- (iii) Review and make recommendations on management plans and operations (annual) plans.
- (iv) Promote appropriate management styles; that is, management approaches that are sensitive to local values and societal norms.
- (v) Provide relevant information to the management institutions, particularly concerning activities/uses to be regulated or permitted within the PSEPA.
- (vi) Make recommendations concerning issues and developments that may affect the PSEPA.
- (vii) Facilitate community awareness of, and compliance with, regulatory and other management measures.
- (viii) Assist the management institution where appropriate with community engagement activities and fund-raising.

The LAC will be appointed by the Permanent Secretary, Ministry of Physical Development, Environment and Housing, on the recommendation of the Management Coordinating Entity. Guidelines for operation of the LAC are shown as Appendix 7. Stakeholder groups that participated in the consultation process for the preparation of this management plan are shown in Appendix 2.

Meetings of the LAC will be convened by the Management Coordinating Entity (MCE), and will be held on a quarterly basis. Programme planning and integration will be facilitated through the preparation of annual work plans.

The reporting relationship between the institutions is shown below.



The roles of the various institutions in implementing the strategic goals and actions in the Management Plan are shown by Table 6.

Table 6: Institutional Roles in Implementation of the Management Plan

Activity No.	Action/Activity	Institutional Responsibilities
5.1.1.1	Strategy 1-Action 1: Capacity Development for the Management Coordinating Entity	
1	Secure office accommodations and equipment	MPDEH
2	Hire staff	MPDEH
3	Establish internal management systems	MCE, MPDEH
5.1.1.2	Strategy 1-Action 2: Update Legal Framework for PSEPA	
1	Delineate revised boundary for PSEPA	MCE, supported by Survey Department
2	Draft supporting regulations	Attorney General's Office
5.1.1.3	Strategy 1-Action 3: Development of Inter-Agency Coordinating Mechanisms	
1	Establish Local Advisory Committee	MPDEH, MCE

Activity No.	Action/Activity	Institutional Responsibilities
2	Establish formal agreements with management institutions	MCE
3	Develop institutional workplans for PSEPA	All agencies
5.1.1.4	Strategy 1-Action 4: Public Engagement	
1	Develop and implement a Public Engagement Strategy and Action Plan	MCE
2	Establish communications mechanisms	MCE
3	Update and approve supporting plans	MCE
5.1.1.5	Strategy 1-Action 5: Development of Financing Arrangements	
1	Prepare financing strategy	MCE
2	Develop and implement fundraising plan	MCE
3	Establish Fund for conservation activities in PSEPA	MCE, MPDEH, Ministry of Finance
5.1.2.1	Strategy 2-Action 1: Establishment of Best Practices for Development Projects	
1	Adopt best practice guidelines for construction	MCE, PPDD
2	Adopt appropriate sewage treatment and disposal systems	PPDD, MCE, LAC
3	Promote use of water and energy conservation devices in all developments	PPDD
4	Adopt sustainable site planning guidelines	PPDD
5	Develop templates for construction permits	MCE, PPDD
6	Train EIA reviewers	MCE, PPDD
5.1.2.2	Strategy 2-Action 2: Protection of Existing Landscapes within the PSEPA	
1	Develop guidelines and rules for maintaining the ambiance of the Greater Vieux Fort Area	LAC, PPDD
2	Delineate seaside parks, scenic lookouts, and other outstanding scenic features	PPDD
3	Integrate landscape guidelines in landuse and development plans	PPDD
4	Assess feasibility of establishing bicycle lanes and hiking trails in the Greater Vieux Fort Area	Relevant agencies
5.1.2.3	Strategy 2-Action 3: Protection of Important Historic and Cultural Resources	
1	Revitalise St. Lucia Archaeological & Historical Society	LAC
2	Develop regulations for enforcement actions and investment in restoration	SLNT, PPDD
3	Support promotion of heritage sites	LAC
5.1.2.4	Strategy 2-Action 4: Protection of Rare/Endemic/Endangered Wildlife	
1	Identify populations of important species	Management agencies
2	Protect important habitats	Management agencies, PPDD

Activity No.	Action/Activity	Institutional Responsibilities
3	Develop and/or adopt species management plans	Management agencies
4	Undertake research and monitoring of important species	Management agencies
5.1.2.5	Strategy 2-Action 5: Management of Critical Ecosystems	
1	Remove/reduce pollution inputs to the PSEPA	Department of Environmental Health
2	Develop guidelines and regulations for pollution reduction practices	Department of Environmental Health
3	Develop and implement invasive species management strategy and plan	Management agencies
4	Promulgate regulations to protect critical ecosystems	Management agencies, Attorney General's Office
5	Develop and implement management plans for existing protected areas within the PSEPA	Management agencies
6	Develop and implement a watershed management plan	Forestry Department/Water Resources Management Agency
5.1.2.6	Strategy 2-Action 6: Promotion of Sustainable Resource Use	
1	Develop recreation use plan for Anse de Sable Beach	NCA
2	Develop sustainable harvesting techniques	Management agencies
3	Provide technical assistance to community groups	CDO
4	Develop new/alternate livelihood initiatives to replace detrimental practices	MCE, LAC
5	Refurbish visitor reception facility at the Mankote Mangroves	MCE
6	Support infrastructure development at Savannes Bay Fish Landing Site	Fisheries Department
5.1.3.1	Strategy 3-Action 1: EPA Framework Development	
5.1.3.2	Strategy 3-Action 2: Incorporate Framework into the Protected Area System Plan	
5.1.3.3	Strategy 3-Draft Supporting Regulations	
5.1.3.4	Strategy 3-Action 4: Development of Standard Operating Procedures	

6.2 Administration

The administrative arrangements for the management of the PSEPA will be provided by the Management Coordinating Entity (MCE). The responsibilities of the MCE¹² are to:

- (a) Ensure coordination of the activities of the management institutions within the PSEPA;
- (b) Encourage government agencies, resource users, and private landowners to act in accordance with the vision, objectives, and programmes of the PSEPA, and to comply with existing legislation;
- (c) Design and coordinate the implementation of the Public Engagement Strategy and Action Plan (training, public awareness, education, and communication programmes);
- (d) Facilitate communication and information sharing among all agencies and groups concerned;
- (e) Coordinate research and monitoring programmes, and ensure that research results are distributed to all stakeholders;
- (f) Support the strengthening of community organisations and groups involved in the management of the area;
- (g) Provide guidance on the development of tourism activities within the PSEPA;
- (h) Provide advice to the Development Control Authority (DCA) on development proposals, and monitor the implementation of DCA guidelines and decisions; and
- (i) Conduct fundraising activities and manage funds placed at its disposal.

The Management Coordinating Entity (MCE) will be established by the Government of Saint Lucia as an independent non-profit institution under the appropriate law, and tasked specifically with the management of the PSEPA. Management responsibility for the PSEPA will be delegated to the MCE by the Ministry of Physical Development, Environment and Housing (MPDEH).

6.2.1 Administrative Structure and Support Systems

The MCE will initially be staffed by four (4) persons:

- Coordinator – responsible for programme planning, programme reporting, management of internal staff (various administrative functions), drafting of

¹² The responsibilities are only slightly modified from the responsibilities as stated in the management guidelines submitted to Cabinet as part of the application requesting declaration of the site as a protected area.

- background documents and guidelines (as identified in the work plan), convening of the Local Advisory Committee, fundraising, and other coordinating functions.
- Programme Officer – responsible for partnership development, communication, community engagement, management of Volunteers, and provision of assistance to the Coordinator.
 - Natural Resource Ecologist – functions as the primary liaison with the various technical agencies and resource users, supports the outreach efforts, manages grants implemented by the MCE, and provides data management support to the management team.
 - Office Attendant – undertakes various support functions as directed by the Coordinator.

It may be necessary to add an Administrative Assistant during the Plan Period. However, based on the fact that the MCE is a coordinating entity, and that most of the management functions will be conducted by the various management agencies, the core staff of the MCE will be kept to a minimum. Where the MCE is required to undertake projects, short-term staff will be hired only for the duration of the project. Such project staff may be technical officers seconded from a government agency or private sector firm, short-term hires, or contractors.

All management systems will be approved by the Permanent Secretary, Ministry of Physical Development, Environment and Housing (MPDEH), and periodic and financial reporting will be in accordance with the guidelines approved by the MPDEH and the Ministry of Finance.

The estimated cost for the MCE to implement actions under Strategic Area 1 for the Plan Period is EC\$2,343,000.00 (Appendix 8). The cost of accommodations, furniture, equipment, supplies, and other operational support for the MCE for Fiscal Years 2009/2010 and 2010/2011 is estimated at EC\$1.2143 million, and will be provided jointly by the Government of Saint Lucia and the OPAAL Project. The Government of Saint Lucia will meet the operational costs of the MCE for the remainder of the Plan Period.

6.2.2 Public Participation

Participation in the Local Advisory Committee will be the most direct way in which stakeholder groups can participate in the management decision making process. However, there are other mechanisms for facilitating public participation in the management of the PSEPA, including involvement in fundraising, surveillance, and sustainable livelihood project planning and implementation.

The work of the MCE will be supported by a team of volunteers, which will be established and managed in keeping with the public engagement strategy to be developed by the MCE.

Examples of structured mechanisms for community support to protected areas were examined during the consultations for the preparation of this management plan. It is anticipated that the LAC will continue the examination of the various models.

6.3 Research and Monitoring

The research objective is to provide information that will result in increased understanding of the species, resources, ecosystems, and ecological processes within the PSEPA, and which will contribute to their effective management. As such, research conducted by the management agencies, or agents acting on their behalf, will focus primarily on resource management needs (e.g. resource harvesting techniques and life cycle processes). However, academic and other applied research will be allowed, especially if such research does not comprise the integrity of the natural resources or the ability of the PSEPA management institutions to effectively discharge their responsibilities.

A Research Agenda will be developed to set the research priorities to support the objectives of the management plan. The Research Agenda will be developed through a collaborative approach that will include the PSEPA management institutions, relevant scientific institutions, and local scientists as invited to the process. The Research Agenda will include:

- Research priorities;
- Guidelines for processing research applications by non-management institutions;
- Repatriation of reports and scientific papers emanating from research conducted by external researchers, or local researchers that publish in refereed journals;
- Guidelines and mechanisms for information sharing and data management;
- Mechanisms for harmonising data collection and analytical methods;
- Collaborative arrangements where possible; and
- Mechanism for technology transfer and training.

The purpose of monitoring is to identify any change in the status of the resources (short-term and long-term), to identify relationships (e.g. use-impact, threat-impact), and provide information to be used in the determination of the effectiveness of the management interventions. An overall Monitoring Plan will be developed for the PSEPA, and will include the monitoring programmes of the management institutions. This will necessarily require programme integration, standardization of methods, agreements to support collaborative efforts, and mechanisms for data sharing.

The MCE will develop a data management system that will not only manage data relevant to the PSEPA, but will also track research and monitoring efforts and results (Section 5.2). This will include archiving of existing research papers, monitoring reports, and other information relevant to the management of the Pointe Sable Environmental Protection Area.

7. EVALUATION OF PERFORMANCE

An evaluation protocol will be one of the management tools developed by the Management Coordinating Entity (MCE). Evaluation for the PSEPA will be an ongoing process that will have two areas of focus:

- (a) Evaluation of short-term results (Outcome Evaluation) – used to obtain data on a project or programme basis in order to support adaptive management decision-making.
- (b) Comprehensive evaluation focused on long-range results of specific programmes or the entire management plan (Impact Evaluation).

Outcome Evaluation will be conducted by the MCE on an annual basis as part of the annual reporting process, and will include the Local Advisory Committee.

Impact Evaluation for specific programmes will be undertaken by an agreed external evaluator, and the timing will be determined at the programme design stage.

Impact Evaluation for the management plan will be based on the management effectiveness protocol and guide developed by the IUCN (Pomeroy et al, 2004). Management effectiveness evaluation is used to determine the degree to which the management actions are achieving the objectives of the protected area. It provides the additional benefit of keeping the management team from becoming distracted from its primary mission, and it demonstrates accountability. Increasingly, funding agencies and private donors are insisting on evaluation of management effectiveness.

The Saint Lucia National Trust tested and used the OPAAL Monitoring and Evaluation Tool for Assessment of the Management Effectiveness in the Pointe Sable Environmental Protection Area in September 2006 and January 2008. However, on approval of this Management Plan, the guidelines produced by IUCN (Pomeroy et al, 2004) will be used as the guidebook for the development of the management effectiveness process for the PSEPA¹³.

The evaluation process will be developed in Year 2 of operations, and the actual evaluation of management effectiveness will take place once every five (5) years. The results will be used to inform the periodic review of the management plan, and the development of strategies and actions for the subsequent plan period.

¹³ The OPAAL Monitoring and Evaluation tool can be used as part of the annual Outcome Evaluation process, as appropriate.

8. FINANCIAL RESOURCES

The financing for the management of the PSEPA for the Plan Period 2009-2014 will be provided in part by the OPAAL Project and the Government of Saint Lucia. It is anticipated that the OPAAL Project will continue until Fiscal Year 2010/2011, and as such, the initial start-up capital and recurrent expenses for the management of the PSEPA will be provided partially by the project and partially by the Government of Saint Lucia. Thereafter, the primary source of financing for recurrent expenses will be the Government of Saint Lucia. The Recurrent (Operations) Budget includes wages and associated benefits, utilities, accommodations¹⁴, supplies, office and equipment maintenance, and other administrative expenses. Capital expenses, especially for infrastructure projects, will be sourced from the government through the Public Sector Investment Programme.

The purpose of the Fundraising Plan and Financing Strategy is to reduce the dependence on the annual budgetary process of the government, by generating revenues from a variety of sources¹⁵. Revenues generated from these sources will be deposited in a special fund to be authorized by the Government of Saint Lucia, and managed independently of the central government financial management system. The timing for accessing those funds, and the rate of drawdown, will be determined in the Financing Strategy and the rules establishing the special fund.

8.1 Budget for Plan Period

As stated above, the recurrent budget for the management of the PSEPA will be provided by the Government of Saint Lucia, until such time as the total costs can be met through the sources of long-term financing. The MCE and the other management agencies will request funding through the annual budget process of their relevant ministries, and that budget will be determined solely by the annual plan (which is derived from the management plan). The MCE and other management agencies will also submit project proposals to external funding sources to finance specific programme elements. All project proposals for the programmes within the PSEPA will be coordinated to prevent duplication of effort and/or multiple submissions to the same potential funding source.

The estimated budget for the Plan Period 2009-2014 is EC\$5,862,800.00 (Table 7)¹⁶.

¹⁴ The allocation in the budget for accommodations for the MCE can either be treated as rent for office space for the five years, or used to refurbish the offices of the Saint Lucia National Trust. If used for the latter purpose, the Trust should be required to provide accommodations (rent free) for the MCE for the Plan Period (2009-2014).

¹⁵ The OPAAL Project is currently funding a study on Sustainable Financing for Protected Areas. The study will examine protected areas financing in OECS Member States, and provide guidance on opportunities for sustainable financing for protected areas.

¹⁶ The supporting information for the budget estimate is shown in Appendix 8.

Table 7: Estimated Budget for 2009-2014 (EC\$,000)

Strategic Focus Area	Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	728.3	486.0	366.2	382.7	380.1	2,343.3
2	862.5	1,412.0	440.0	310.0	335.0	3,359.5
3	0.0	95.0	35.0	25.0	5.0	160.0
Total	1,590.8	1,993.0	841.2	717.7	720.1	5,862.8

8.2 Long-Term Financing

Revenues from fundraising activities will be deposited in a special trust fund to be established by the Government of Saint Lucia. The fund may be a single fund created solely for the purpose of financing the long-term operation of the PSEPA, or it can be one fund within a national endowment for protected areas. The affairs of the trust fund will be overseen by a board of trustees appointed by the Government.

Financing for the trust fund will include the following sources:

- (a) An annual contribution from the Government of Saint Lucia.
- (b) Fees and charges derived from tours into the PSEPA.
- (c) Fees and charges derived from extractive uses of the PSEPA.
- (d) Sale of products/merchandise.
- (e) Special fund-raising events.
- (f) Donations from individuals and private sector entities.
- (g) Penalties and charges resulting from infractions¹⁷.
- (h) Penalties and charges resulting from pollution and other accidents¹⁸.
- (i) Donation boxes placed at the main air and sea ports in the Greater Vieux Fort Area.

¹⁷ The legal framework and support mechanisms to prosecute violations exist within the general public sector management process. As such, only a portion of any penalty or charge for infractions taking place within, or impacting, the PSEPA may accrue to the PSEPA trust fund. The precise formula for allocation of revenues from this source will be determined by the Ministry of Physical Development, Environment and Housing, in conjunction with the MCE and Local Advisory Committee.

¹⁸ See previous footnote (#17).

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Appendix 1: Gazette Notice Declaring the PSEPA

NOTICE

SAINT LUCIA

DECLARATION OF AN ENVIRONMENTAL PROTECTION AREA PURSUANT TO SECTION 34(2) AND (3) OF THE PHYSICAL PLANNING AND DEVELOPMENT ACT NO. 29 OF 2001

And

IN THE MATTER of a Declaration by Cabinet that a section of the Pointe Sable area in the quarter of Vieux Fort in the State of Saint Lucia is to be declared an Environmental Protection Area.

DECLARATION

WHEREAS, Section 34 (1) of the Physical Planning and Development Act No. 29 of 2001 states that the Minister may declare any area to be an Environmental Protection Area for the purpose of protecting the natural beauty or interest in the area and cause a Declaration to that effect to be made.

AND WHEREAS, the Minister considers it necessary that the lands mentioned and described in the Schedule shall be an Environmental Protection Area for the purpose of protecting the natural beauty or interest in the area.

NOW THEREFORE, it is hereby declared by the Minister that upon the publication of this Declaration in the *Gazette*, the lands mentioned in the Schedule shall be an Environmental Protection Area for the purpose of protecting the natural beauty or interest in the area.

SCHEDULE

The lands to be declared an Environmental Protection Area includes:

Block 1821B Parcel 2, Block 1621B Parcels 2,3, 5, 7 and 8, Block 1622B Parcel 22, Block 1420B Parcels 5, 6 and 70, Block 1421B Parcels 55 and 238, Block 1419B Parcels 2,6,8 and 9, Block 1418B Parcels 5,6, 11 and 70, Block 1417B Parcels 1, 2, 3, 5,6,7,9 and 10, Block 1217B Parcel 132, Block 1316B Parcels 36,50,73,74, 106, 107, 124, 125, 151, 174,213,215,217,219,223 and 224 and Block 1315B Parcels 10, 11, 14, 17, 19, 22, 23 and 24 and is located from Pointe De Caille to Moule A Chique including Savannes and Pointe Sable in the quarter of Vieux Fort in the State of Saint Lucia.

- (1) No development activity shall be permitted within the area without the written permission of the Development Control Authority.
- (2) The St.Lucia National Trust shall be a referral agency for the purpose of considering applications to develop land within the area pending the publication of a management plan/guidelines.

Dated this 13th day of August, 2007.

Hon. Keith Mondesir
Minister of Physical Development and National Mobilization

[Second Publication]

Appendix 2: Summary of Consultation Process used in Plan Preparation

The consultation process used in the preparation of the management plan for the Pointe Sable Environmental Protection Area (PSEPA) included meetings with individuals and institutions, public meetings with stakeholders, consultations with the national project (OPAAL) planning team, and consultations with policy makers.

A Yahoo-based listserv was established to support ongoing discussions within the stakeholder group. Community meetings were usually announced by way of circulation of a Notice (usually by email), by news releases, and for the September and October meetings, by using a Town Crier in Vieux Fort. Reports of the community meetings were sent to meeting participants ahead of the subsequent meeting, and at each community meeting, the decisions made at the previous meeting were reviewed.

Consultations with Policy Makers

The stated purpose for designation of the PSEPA, that is, to protect the “... *natural beauty or interest in the area*”, confirmed the intention of the Government of Saint Lucia to integrate environment and development objectives in the management of the PSEPA. As such, it was deemed necessary to obtain general guidance from the policy makers concerning the development of the PSEPA. Two such meetings were held:

- (a) Meeting of the Core Planning Team with the Permanent Secretary of the Ministry of Planning, Development, Environment and Housing in August 2008 – to get general guidance.
- (b) Meeting with the Deputy Permanent Secretary of the Ministry of Planning, Development, Environment and Housing, as well as heads of agencies within the Ministry in February 2009 – to make decisions on site boundary, identification of the PSEPA management institution, and financing for management of the PSEPA.

Consultations with Core Planning Team

The Saint Lucia National Trust, as National Implementation Coordinating Entity for the OPAAL Project, established a Core Planning Team in 2007 to support management planning for the PSEPA. This Core Planning Team supported the plan preparation process by providing:

- (a) Guidance to the management planning process, based on the roles of the agencies they represented, experience with the site, and other technical guidance as necessary.
- (b) Information on the site and its resources.
- (c) Direction and guidance on the practicality of the management interventions.

Stakeholder Consultations

Stakeholder consultations involved the following:

- (a) Meetings with institutions, such the National Conservation Authority, Southern Tourism Development Corporation, National Development Corporation, Physical Planning and Development Division, and Survey Department.
- (b) Informal discussions with individuals in the community (school children, beach users, charcoal burners).
- (c) Town Hall Meetings – This format was used to identify and discuss priority issues, identify and prioritise threats to the PSEPA, identify and discuss desired management interventions, identify and discuss livelihood possibilities, and reach agreement on community inputs to the management process. Four (4) such meetings were held (see table below).
- (d) A Yahoo-based listserv was established to support ongoing discussion of issues and sharing of information, but was not used by the stakeholders (<http://groups.yahoo.com/group/PSEPA>).
- (e) Review of the first and second drafts of the management plan – circulated to thirty seven (37) persons by email.

Groups that participated in the Stakeholder (Town Hall) Meetings were:

- Ministry of Economic Affairs
- Ministry of Tourism and Civil Aviation
- Vieux Fort Town Council
- Saint Lucia National Trust
- National Emergency Management Organisation
- Ministry of Social Transformation
- Vieux Fort Secondary School
- Southern Tourism Development Corporation
- Department of Fisheries
- Villa Caribbean Dream
- Schools Advocating to Value the Environment
- National Conservation Authority
- Knowers Foundation, Ras Tafari
- Hewanorra Organic Agricultural Movement
- Police Marine Unit
- Southern Equestrian Association
- Saint Lucia Marine Terminals Ltd.
- Saint Lucia Solid Waste Management Authority
- Saint Lucia Air and Sea Ports Authority
- Durrell Wildlife Conservation Trust
- Forestry Department

In addition to the institutional stakeholders listed above, a large number of individuals also participated in the meetings. The individuals listed themselves as concerned citizens, fishermen, charcoal burners, and restauranteurs.

Stakeholder Meetings (Town Hall Format)		
Date of Meeting	Tasks/Topics Discussed	Number of Participants
August 11, 2008	<ul style="list-style-type: none"> • Explanation of the CAP process • Definition of the Scope of the EPA Management Plan • Identification of stakeholders • Identification of the elements/factors comprising the "natural beauty" of the area • Definition of "Interest in Area" • Set tasks for Visit 2/Session 2. 	Session 1 = 12 Session 2 = 22
September 25, 2008	<ul style="list-style-type: none"> • Define Focal Conservation Targets • Identify Critical Threats • Conduct Situation Analysis (identification of resources, uses, users, use patterns, current and future demand, threats, regulators, future issues, opportunities) 	18
October 22, 2008	<ul style="list-style-type: none"> • Preparation of the Stakeholder-Situation Diagrams for the new threats. • Completion of the situational analysis. • Discussion of the strategies to address the critical threats. • Discussion of institutional arrangements for PSEPA management, including the role of community groups. 	16
February 4, 2009	Review of the First Draft of the PSEPA management plan	13

Appendix 3: Definition of Natural Beauty and Natural Interest

Participants in two stakeholder sessions conducted on Wednesday August 27, 2008 defined natural beauty and natural interest as shown in the table below.

Natural Beauty	Interest in Area
<ul style="list-style-type: none"> (a) Unspoiled/untouched/pristine. (b) Appealing. (c) No artificial enhancement. (d) Aesthetically pleasing. No cutting of trees. (e) Enjoyment of wildlife. (f) Buildings and development that blend into the environment. (g) Greenery, open spaces, scenic views, variety of plants. (h) Mix of compatible uses/co-existence. (i) Buildings that reinforce natural features/beauty of an area. (j) Richness (not degraded, diverse, not ugly). (k) Richness (diversity, state of health, extent) of living marine resources. 	<ul style="list-style-type: none"> (a) Livelihoods that are compatible with maintenance of natural beauty. (b) Public good benefits (e.g. recreation). (c) Diversity of uses (current and potential). (d) Maintenance (management, monitoring, research) of resources for future uses/generations. (e) Preservation of historical values/resources. (f) Scientific research and education.
<ul style="list-style-type: none"> (a) Litter free. (b) Historical sites/ruins. (c) Original (current) conditions, without too many enhancements. (d) Greenery. (e) Landscape. (f) Seascape/coastal view (especially to watch sunsets). (g) Clean beaches. (h) Serenity. (i) Unrestricted access for recreational activities. (j) Flora and fauna co-existing, diverse plant and animal communities. (k) Undisturbed habitats. (l) Undisturbed underwater/marine heritage. (m) Indigenous flora and fauna. (n) Compatible architecture. 	<ul style="list-style-type: none"> (a) Free recreational access. (b) Public ownership. (c) Resource bounty. (d) Continued educational value. (e) Security of site and resources. (f) Sustained economic use. (g) Recognition of heritage value.

Appendix 4: Resource Uses within the PSEPA

Source: Stakeholder (public) meetings on September 25, 2008 and October 22, 2008

Associated Feature	Resource-Beach
Uses	<ul style="list-style-type: none"> • Bathing • Windsurfing, parasailing • Snorkeling • Horseback riding • Sand mining • Barbeque • Beach parties • Jogging (daily, evenings mainly) • Football, cricket • Sunbathing • Vending • Collection of seagrass that's tossed up on shore (used as mulch) • Education – schools • Harvest of seagrapes – school children
Users	<ul style="list-style-type: none"> • Residents (island-wide) • Tourists • Itinerant Vendors • Restaurants • Farmers – collection of seagrass • School groups – educational tours
Use patterns	<ul style="list-style-type: none"> • Wednesdays (half-day workday) • School vacations • Public holidays – beach parties • Weekends • Evenings – joggers • Daily – sunbathers, swimmers
Threats	<ul style="list-style-type: none"> • Sand mining • Horseback riding – threat to some users • Cars eroding beach • Waste water (includes chemicals) from Winera entering sea. Catering services at airport (organics) => drain/stream at north side of runway • Littering • Sewage effluent from hotels • Lack of public facilities on beach • Future – more construction
Current and future	<ul style="list-style-type: none"> • Current – see uses above • Future – Demand for Pointe Sable seems to be increasing due to loss of

demand	<p>access to beaches in other areas of Saint Lucia</p> <ul style="list-style-type: none"> • Future demand may increase due to planned development of the airport and seaports in Vieux Fort
Regulators	<ul style="list-style-type: none"> • National Conservation Authority • Beach Wardens/Police • Vieux Fort Town Council • Fisheries Department • Development Control Authority • Ministry of Communication & Works
Opportunities	<ul style="list-style-type: none"> • Need to employ lifeguards • Need for rules for use of beach • Monitoring beach profiles – education (schools) and research
Concerns	<ul style="list-style-type: none"> • Current – lack of lifeguards

Associated Feature	Resource – Coral Reefs
Uses	<ul style="list-style-type: none"> • Free-diving/snorkeling • Fishing (spear fishing, pot fishing) • Extraction of coral (hard and soft), shells, sponge – for craft • Seamount harvesting (dead reef and pavement) • Sea urchins – live (seasonal for eating) • Whelks • Research/monitoring
Users	<ul style="list-style-type: none"> • Fishers • Tourists • Residents • Craft vendors • Research/Monitoring – Fisheries Department/local scientists
Use patterns	<ul style="list-style-type: none"> • Fishing priority areas established by Fisheries Department • Pot fish seasonal • Reef monitoring in Maria Island Wildlife Reserve
Threats	<ul style="list-style-type: none"> • Overfishing • Nutrient inputs • Anchoring by yachts (sporadic/no pattern) • Breaking of corals by snorkelers
Future demand	
Regulators	<ul style="list-style-type: none"> • Fisheries Department, Marine Police
Opportunities	<ul style="list-style-type: none"> • Management of endangered species (e.g. elkhorn corals) through PSEPA management
Concerns	<ul style="list-style-type: none"> • Change to drainage through Mankote Mangroves will increase sedimentation in bay.

Associated Feature	Resource-Mangroves
Uses	<ul style="list-style-type: none"> • Charcoal production • Wildlife sanctuary/fish nursery/habitat • Construction materials (posts for scaffolding) • Tanning of leather • Wood for fish pots • Tourism – kayak and nature tours • Recreation by residents • Ecological services – shoreline protection, filtering of runoff, flood protection • Firewood for baking • Educational purposes – secondary schools (research projects), graduate research
Users	<ul style="list-style-type: none"> • Schools (Mankote Mangroves) • CANARI-UK university (Mankote Mangroves) • Residents – recreation and resource extraction • Aupicon Charcoal Producers (Mankote mangroves) – Formal arrangements need to be revitalized • Tourists (supported by horseback riding operators and tour operators) • Fishers
Use patterns	
Threats	<ul style="list-style-type: none"> • Monitoring arrangements for the Mankote Mangroves inactive • Disposal of solid waste • Unregulated extraction • Possible change of use by policy makers • Climate change • Development outside the area that impacts negatively on the area
Current & Future demand	<ul style="list-style-type: none"> • Charcoal production used to be ~ 35 tonnes/year = 40% of demand by Vieux Fort => production may have increased (no monitoring to verify) • Oil cost and contraction in economy may increase demand for charcoal • Population increase in Vieux Fort has increased demand for charcoal. • Need for trails in mangrove • Increased use for fisheries experimentation (oyster farming) • Increased tourism demand from new resorts (e.g. LeParadis)
Regulators	<ul style="list-style-type: none"> • Forestry Department • Fisheries Department • National Development Corporation • Development Control Authority
Opportunities	<ul style="list-style-type: none"> • Revitalisation of the charcoal producers • Rehabilitation of bird watching infrastructure • Research and demonstration of sustained livelihoods from mangroves • Designation as a Ramsar site increases potential for funding from

	Ramsar and other sources
Future concerns	<ul style="list-style-type: none"> • Inappropriate development • Climate change • Lack of monitoring and enforcement of conditionalities of approved developments • Deficiencies in the development control process

Associated Feature	Resource-Heritage Resources (historic & cultural)
Uses	<ul style="list-style-type: none"> • Past tours to old mill (now abandoned)
Users	
Use patterns	
Threats	<ul style="list-style-type: none"> • Not being managed • Stones being removed from Old Mill
Current and future demand	
Regulators	
Opportunities	<ul style="list-style-type: none"> • Tourism use – need rehabilitation • SLNT has active group of members in South interested in historical sites • Good local knowledge of resource – Robert Devaux • Schools can use site to teach social study and history
Future concerns	

Information on Maria Islands submitted by Durrell Wildlife Conservation Trust

Associated Feature	Resource-Maria Islands (Wildlife)
Uses	<ul style="list-style-type: none"> • Wildlife Reserve • 5 endemic species (1 endemic to Maria Major alone) • 2 globally threatened species; 2 others in need of assessment, likely globally threatened • 2 globally threatened ecosystems/habitat types • One of the most important reptile conservation sites on Saint Lucia • The most important migratory seabird conservation sites on Saint Lucia • Study site for peer-reviewed published reptile research for over two decades • Critical strategic site for meta-population conservation management on Saint Lucia • Conservation education (national pride campaign, school visits, teacher training) • Significant elkhorn coral reefs fringe islands • Tour guiding (recent but not consistent) • Ferry services (local fishermen) • Fish landing site • Seabird egg poaching (unsustainable) • Landscape
Users	<ul style="list-style-type: none"> • Conservation managers • Research scientists • Tourists (local and international) • Tour guides • School children • School teachers • Local fishermen • Kite/wind surfers / body-boarders
Use patterns	<ul style="list-style-type: none"> • Tourist uses not currently well organized; ad hoc and infrequent • Conservation management – annually • Seabird monitoring – few days/yr • Lizard monitoring – several months/yr (but not every year) • Islands closed to public May-September annually during seabird nesting (though not enforced) • School term time (education) – occasional • Research – not regular but frequent given small size of site • Fishermen • Recreation
Threats	<ul style="list-style-type: none"> • Invasive Alien Species, especially mammalian (mongooses, rats, cats, dogs, livestock). Currently has no mammalian invasive alien species, but has to be actively managed to maintain this status

	<ul style="list-style-type: none"> • Fire • Climate change, storms (primarily a threat to Maria Minor) • Unsustainable extractive uses (e.g. seabird egg poaching)
Current and future demand	<ul style="list-style-type: none"> • Demand for biodiversity conservation for Saint Lucia is very high – Critical. • Demand for tourism may be higher than supply: in the past there were more guided tours but at present these are not well organized or advertised. May increase with new touristic developments on Saint Lucia’s East Coast. Potential for revenue generation towards site management • Demand for unmanaged recreation seems moderate but may rise if management is inadequate (as is currently occurring on Praslin Island) • Demand for managed recreation (tourism) could likely be increased beneficially, as noted above • Demand for education moderate
Regulators	<ul style="list-style-type: none"> • Saint Lucia National Trust (vested in) • Saint Lucia Forestry Department (technical management) • Durrell Wildlife Conservation Trust (technical assistance, conservation-oriented research) • Marine Police • Fisheries Division
Opportunities	<ul style="list-style-type: none"> • Ongoing conservation of biodiversity • Enforcement – this is probably the single most useful management action to implement: a regular warden to manage human activities, check rat surveillance stations, report incidents, support tour guiding • Increased tourism • Local livelihoods (tour guiding, ferrying) – could be developed, increased (if carefully managed) • Species Action Plan developed/implemented for Saint Lucia racer snake • Continued implementation of whiptail lizard Action Plan • IUCN red list assessment of dwarf gecko, threadsnake and re-assessment of racer snake • Need to restore signage destroyed by hurricane
Concerns	<ul style="list-style-type: none"> • Risk of invasion by invasive alien species (IAS), especially mammalian IASs • Garbage (increases risk of IAS invasion) • Unregulated boat access (increases risk of IAS invasion) • Current lack of warden / regular year-round monitoring (e.g. rat surveillance station monitoring) • Poaching • Picnic fires (not currently practiced on the Maria Islands, but there is an increasing trend of this on Praslin Island)

Appendix 5: Rationale for the PSEPA Management Framework

Introduction

The IUCN Guidelines for Management Planning of Protected Areas (Thomas and Middleton, 2003) provide a number of examples of definitions of the protected areas Management Plan, all of which identify the following components as important elements:

- Description of the area/resources to be managed;
- Management objectives;
- Strategies for achieving objectives;
- Guidelines for management actions;
- Identification of required resources; and
- Stated time frame for action.

The publication also states that management plans are usually accompanied/supported by a number of other documents, including:

- **Operational Plan** (also called Work Plan, Action Plan, and Implementation Plan) – Provide detailed information on specific management actions.
- **Corporate Plan** – Business plan that shows how the management agency will operate, and set performance targets.
- **Business Plan** – Focused on making the protected area financially self-sufficient, by focusing on goods and services, marketing, and other customer-related issues.
- **Zoning Plan** – Sometimes contained within the management plan, zoning plans provide detailed information on how and why different areas of the site are to be managed in different ways.
- **Sectoral Plan** – May be used to provide detailed guidance for different management activities (e.g. visitor management).
- **Development Plan** – Usually used to guide investment and development activities associated with specific projects or parts of the site (e.g. infrastructure development).
- **Site Management Plan** – Usually used to provide guidance on smaller sites within large protected areas that require intensive management interventions.
- **Conservation Plan** – Usually used in reference to restoration/protection activities for cultural heritage resources.

Increasingly, site management activities are being supported by the preparation of a series of site planning guidelines meant to provide detailed guidelines that standardise approaches to selected areas of operation. These guidelines are collectively referred to as Standard Operating Procedures; and may include:

- Health and Safety/Visitor Management;
- Interpretation/Signage;
- Surveillance and Enforcement;
- Disaster/Emergency Management;
- Monitoring and Research;
- Concessions Management/Commercial Services Planning;
- Maintenance; and

- Evaluation.

The development of these supporting plans resulted from a recognition that it is difficult to adequately provide both long-term strategic guidance and detailed operational guidance in the Management Plan.

Management Objectives for Pointe Sable Environmental Protection Area

One of the issues to be addressed in this management plan is the absence of a conceptual framework for EPA management. In Saint Lucia, the current protected areas system plan does not include environmental protection area (EPA) as a category of protected area. As the second EPA to be designated¹⁹, the management plan for the Pointe Sable Environmental Protection Area (PSEPA) must provide guidance on more than site-specific issues. In addition to the strategies, actions, and support systems required for effective management of the PSEPA, this EPA management plan must also include actions that result in the development of a clear conceptual framework for EPAs, articulating vision, policy, management objectives and standards, and appropriate support systems. Additionally, the inclusion of EPAs within the Physical Planning and Development Act (2001) suggests a desire to integrate development planning and natural resources management objectives, and manage both within the development control process.

This raises a second issue, the appropriate institutional framework for management of the PSEPA. The Physical Planning and Development Act is administered by the Development Control Authority/Physical Planning and Development Division, but that institution has no protected areas management experience, and there is no policy guidance to suggest that this institution is to be given any such site management responsibility in the future. A related issue is that there are smaller sites within the PSEPA previously designated as protected areas under different laws, administered by different institutions. This scenario fits the trend in protected areas governance arrangements described by Thomas and Middleton (2003), wherein protected areas are managed not only by a single central government agency, but by many partners, and involves a range of stakeholders.

Under the OPAAL project guidelines, sites designated under the project must have the dual objectives of biodiversity protection and support of community livelihoods. The draft management guidelines for the Pointe Sable protected area included in the Cabinet submission stated the objectives for site management as:

- i. To promote an integrated approach to management of areas within and outside Pointe Sable Management Area boundaries so as to reconcile human needs and conservation objectives and goals;
- ii. To optimize the current and potential uses of natural and cultural assets in ways that benefit the local resource users and the wider population;
- iii. To promote opportunities for the economic, educational, cultural and inspirational

¹⁹ The first is the Pitons Management Area.

- upliftment of locals and visitors;
- iv. To ensure that sound conservation principles and practices are incorporated into the infrastructural and economic development initiatives within or in the vicinity of the area;
 - v. To provide an aesthetically pleasing environment that contributes to the fulfillment of the recreational needs of locals and visitors;
 - vi. To maintain the critical terrestrial, coastal and marine habitats and ecosystems for the survival of biological diversity and the maintenance of ecological processes;
 - vii. To protect all endemic, threatened, endangered and rare species, as well as their natural habitats;
 - viii. To provide appropriate mechanisms for the participation of resource users and local communities in the sustainable use, development and management of resources;
 - ix. To develop a deeper understanding of and appreciation for the natural and cultural environment of the area, to enhance the ability of all partners to manage the use of the resources;
 - x. To provide a site for demonstrating approaches that integrate conservation and development objectives, and build durable and equitable partnerships; and
 - xi. To lend support to regional and international agreements to which Saint Lucia is party.

This issue of the management objectives is critical, as they influence the management strategies. A further complication in the case of the PSEPA is that the management plan was developed using the Conservation Action Planning (CAP) methodology developed by The Nature Conservancy. The CAP process starts with the stated assumption that biodiversity protection is the primary objective of protected areas management, and thus the method places Conservation Targets, and the reduction of threats to those Targets, at the core of the management plan. However, the assumption in the CAP process, that the primary, if not singular, objective of protected area designation is natural resources protection, is not necessarily correct. Other objectives of equal or greater importance could include maintenance/enhancement of community livelihoods, research and education, and protection of historical/cultural resources and/or practices. Increasingly, protected areas in the Caribbean are designated to support multiple (economic, social, and cultural) objectives. The long list of objectives stated in the 2006 management guidelines certainly seems to support the notion of multiple objectives for the PSEPA.

Regardless of the primary objective for site designation, an assumption usually made in the preparation of management plans is that governments will provide, in the medium and long term, the resources to develop and maintain the structures and support systems necessary to deliver effective management of protected areas. The reality is that, in the Caribbean, protected areas management institutions have generally foundered with the termination of project financing, constantly scrambling for new project financing, struggling to keep their doors open, and generally failing to manage, much less protect, the resources within their protected areas. Even central government agencies, which may be able to pay staff, usually

lack the resources to consistently design and implement effective management interventions. Protected areas planning must therefore address the need for public engagement and development of adequate support systems.

Management Strategies

Based on the above, the PSEPA management plan focuses on three (3) strategic imperatives during the first five (5) years. These are:

- (1) **Development of Management Support Systems** – Institutional capacity in the Management Coordinating Entity, mechanisms and support systems for inter-agency collaboration/coordination for PSEPA management, effective public engagement in support of the long-term objectives and short-term initiatives of the Pointe Sable Environmental Protection Area, and sustained financing for site management.
- (2) **Effective Management of Important Ecosystems and Resources within the PSEPA** – To be undertaken primarily by the various institutions with responsibility for natural resources management, land management, and development control.
- (3) **Development of an Appropriate Conceptual Framework for the EPA** – The current protected areas system plan for Saint Lucia does not include environmental protection area (EPA) as a category of protected area. As such, effective development and management of this category of protected area in Saint Lucia requires the development of a clear conceptual framework, articulating vision, policy, management objectives and standards, and appropriate support systems.

Appendix 6: Proposed Activities of Institutional Partners

Fisheries Department

Activities identified by the Fisheries Department in support of PSEPA management include the following:

1. Demarcation of the Maria Islands Fisheries Reserve (installation of marker buoys).
2. Demarcation of Mankote Mangroves and Savannes Bay Marine Reserves (boundary markers, signage²⁰, and posting of regulations and behavioral guidelines).
3. Implementation of an education programme for enforcement officers (Police, Beach Rangers, wardens, etc.).
4. Monitoring of fishing activities in the PSEPA (includes data collection).
5. Support to research projects (e.g. Institute of Marine Affairs proposes to conduct research within the Vieux Fort area on the effects of pollution on grunts, oyster farming in mangroves.).
6. Construction of new jetty, and refurbishing of existing facilities, at Savannes Bay fish landing site.
7. Mapping of marine benthic communities, and development of use and zoning plans for marine areas.
8. Training of tour operators and guides.
9. Continuation of coastal water quality monitoring programme. Database and data management systems to be developed.
10. Continuation of long-term monitoring programme for beach profiles.
11. Continued support to seamoss farmers (revision of programme support, maintenance of access to beach, and marketing support).

Ministry of Social Transformation/Community Development Officer

The support activities identified by the Ministry of Social Transformation fall within the work plan of the Community Development Officer, and include:

1. Revitalisation of charcoal burners group, including training in group development.
2. Promotion of bicycle tours as a sustainable livelihood project.
3. Assistance with the development of community conflict resolution mechanisms (in response to use conflicts on the beaches).
4. Support to the refurbishing of the visitor reception facility at the Mankote Mangroves.

Forestry Department/Durrell Wildlife Conservation Trust

The work of the Forestry Department and Durrell Wildlife Conservation Trust in the PSEPA will focus on the Maria Islands, and will include the following activities:

1. Ongoing conservation of biodiversity.
2. Improving enforcement (employment of a warden to manage human activities, check rat surveillance stations, report incidents, support guided tours).

²⁰ A protocol for signage within the PSEPA (based on the Interpretation Plan) will be developed by the MCE.

3. Implement Species Action Plan for the Saint Lucia racer snake.
4. Continued implementation of the whiptail lizard action plan.
5. Implementation of invasive species management plan.

Saint Lucia National Trust

The Trust, as National Implementation Coordinating Entity for OPAAL in Saint Lucia, is responsible for the implementation of the national action plan for OPAAL, and will:

1. Oversee the construction of interpretive trails.
2. Coordinate installation of site infrastructure (e.g. vehicle/vessel, equipment, signage).
3. Coordinate execution of livelihoods subproject.
4. Undertake information dissemination and public awareness activities.

Appendix 7: Guidelines for Local Advisory Committee

Support for Establishment of a Local Advisory Committee

The OECS Protected Areas and Associated Livelihoods (OPAAL) Project requires that all project activities at the national level include “*all relevant private sector entities, community-based organisations, and resource users who either contribute to PA management or whose livelihoods are affected by the establishment and operation of PAs ...*”. The planning process for the Pointe Sable Environmental Protection Area has consistently articulated the intention to establish a participatory-driven management process, and as designed within the framework of the OPAAL Project, proposed the establishment of a Site Implementing Entity. The Site Implementing Entity is essentially a committee structure comprising all the stakeholders.

For the purposes of this management plan, the stakeholders are to be included formally in the management process for the PSEPA, primarily through the establishment of the Local Advisory Committee.

Roles and Responsibilities

The role of the LAC is to:

- (i) Act as a link between the management institutions and the communities adjacent to and/or affected by the site.
- (ii) Act as a mechanism for the participation of community groups and individuals in all stages of site establishment and management.
- (iii) Facilitate inter-agency and cross-sectoral cooperation on strategies and programmes relevant to marine protected areas.
- (iv) Review and make recommendations on management plans and operations (annual plans).
- (v) Promote appropriate management styles; that is, management approaches that are sensitive to local values and societal norms.
- (vi) Provide relevant information to the management institutions, particularly concerning activities/uses to be regulated or permitted within the PSEPA.
- (vii) Make recommendations concerning issues and developments that may affect the PSEPA.
- (viii) Facilitate community awareness of, and compliance with, regulatory and other management measures.
- (ix) Assist the management institution where appropriate with community engagement activities and fund-raising.

Appointment of the Local Advisory Committee (LAC)

The LAC will be appointed by the Permanent Secretary, Ministry of Physical Development, Environment and Housing, on the recommendation of the Management Coordinating Entity.

Operating Procedures

The LAC will establish operating procedures that will guide its meetings, its interactions with the MCE, its participation in the PSEPA management process, and its reporting to the Government of Saint Lucia. The points below are offered as examples of basis procedures:

- The LAC may elect officers and appoint sub-committees as necessary to conduct its business in an efficient manner.
- The LAC should meet on a quarterly basis, but may meet more often if deemed to be necessary. Meetings of the LAC and any sub-committee will be open to the public. The quorum for meetings of the LAC will be 40% of the membership, and an agenda must be prepared for each meeting. Notices of all committee meetings must be posted through an agreed communication mechanism and the public media outlets.
- Decisions of the committees will be by simple majority vote. Decisions of meetings, minutes of meetings, special reports presented to the committees, and all other documentation related to the operation of the LAC will be maintained by the MCE. The MCE will provide secretariat support for the operations of the LAC.
- Evaluation of the operations and effectiveness of the LAC will be included as part of the annual and periodic evaluations of the PSEPA and its management institutions.

Appendix 8: Details of the Budget Estimate

Strategic Focus 1: Development of Management Support Systems-Resources Required

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
5.1.1.1(1) Secure office accommodations and equipment	MPDEH	Existing staff in MPDEH	None	<ul style="list-style-type: none"> • Job descriptions • Government Information Service 	Year 1 – First Quarter
5.1.1.1(2) Hire staff	MPDEH	Staff hired	<ul style="list-style-type: none"> • Computers • Office equipment • 2 vehicles 	<ul style="list-style-type: none"> • Office Supplies • Utilities 	Year 1 – First Quarter
5.1.1.1(3) Establish internal management systems	MCE/MPDEH	Existing staff in MPDEH	None	<ul style="list-style-type: none"> • Guidelines • Staff orientation • Consultants 	Years 1-2
5.1.1.2(1) Delineate revised boundary for PSEPA	MCE	Existing staff	GPS	None	Year 1
5.1.1.2(2) Draft supporting regulations	Attorney General's Office	Existing staff	None	None	Year 1
5.1.1.3(1) Establish Local Advisory Committee	MPDEH/MCE	Existing staff	None	Refreshments for LAC Meetings	Years 1-5
5.1.1.3(2) Establish formal agreements with management institutions	MCE	Existing staff	None	None	Year 1
5.1.1.3(3) Develop institutional workplans for PSEPA	All agencies	Existing staff	None	None	Year 1

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
5.1.1.4(1) Develop and implement a Public Engagement Strategy and Action Plan	MCE	<ul style="list-style-type: none"> • Existing staff • Consultant 	None	Interpretive materials	Years 1-5
5.1.1.4(2) Establish communication mechanisms	MCE	Existing staff	None	None	Year 1
5.1.1.4(3) Update and approve supporting plans	MCE	Existing staff	None	None	Year 1
5.1.1.5(1) Prepare financing strategy	MCE	Consultant	None	None	Year 1
5.1.1.5(2) Develop and implement fundraising plan	MCE	<ul style="list-style-type: none"> • Existing staff • Consultant 	None	Merchandise	Years 1-5
5.1.1.5(3) Establish fund for conservation activities in PSEPA	MCE/MPDEH	<ul style="list-style-type: none"> • Existing staff • Consultant 	None	None	Year 2

Strategic Focus 1: Development of Management Support Systems-Cost Estimate

Activity/Task Description	Resource Needs	Budget					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
5.1.1.1(1) Secure office accommodations and equipment	Vehicles and Equipment	234,000.00	10,000.00	10,000.00	15,000.00	15,000.00	284,000.00
	Fuel	20,000.00	32,000.00	40,000.00	45,000.00	50,000.00	187,000.00
	Accommodation	30,000.00	30,000.00	30,000.00	36,000.00	36,000.00	162,000.00
	Supplies	5,000.00	2,000.00	2,000.00	2,500.00	2,500.00	14,000.00
	Utilities	7,000.00	7,000.00	8,000.00	8,000.00	10,000.00	40,000.00
5.1.1.1(2) Hire staff	4 members of staff	230,000.00	230,000.00	250,000.00	250,000.00	260,000.00	1,220,000.00
5.1.1.1(3) Establish internal management systems	2 consultants	0.00	104,000.00	0.00	0.00	0.00	104,000.00
5.1.1.2(1) Delineate revised boundary for PSEPA	GPS unit	1,500.00	0.00	0.00	0.00	0.00	1,500.00
5.1.1.3(1) Establish Local Advisory Committee	Refreshments for LAC meetings	800.00	1,000.00	1,200.00	1,200.00	1,600.00	5,800.00
5.1.1.4(1) Develop and implement a Public Engagement Strategy and Action Plan	<ul style="list-style-type: none"> • Consultant • Interpretation materials 	100,000.00	20,000.00	5,000.00	25,000.00	5,000.00	155,000.00
5.1.1.5(1) Prepare financing strategy	Consultant	50,000.00	0.00	0.00	0.00	0.00	50,000.00
5.1.1.5(2) Develop and implement fundraising plan	<ul style="list-style-type: none"> • Consultant • Merchandise 	50,000.00	0.00	20,000.00	0.00	0.00	70,000.00
5.1.1.5(3) Establish fund for conservation activities in PSEPA	Consultant	0.00	50,000.00	0.00	0.00	0.00	50,000.00
Total(EC\$)		728,300.00	486,000.00	366,200.00	382,700.00	380,100.00	2,343,300.00

Strategic Focus 2: Effective Management of Important Ecosystems and Resources -Resources Required

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
5.1.2.1(1) Adopt best practice guidelines for construction	MCE, PPDD	Consultants, technical staff in agencies	Sample guidelines	Workshop	Year 1
5.1.2.1(2) Adopt appropriate sewage treatment and disposal systems	MCE, PPDD	Consultants, technical staff in agencies	Sample guidelines	Workshop	Years 2-3
5.1.2.1(3) Promote use of water and energy conservation devices in all developments	PPDD, All agencies	Existing staff	Sample guidelines	None	Years 1-5
5.1.2.1(4) Adopt sustainable site planning guidelines	PPDD	Consultants, technical staff in agencies	Sample guidelines	Workshop	Years 1-2
5.1.2.1(5) Develop templates for Construction Permits	MCE, PPDD	Existing staff	None	Examples from other countries	Years 1-2
5.1.2.1(6) Train EIA Reviewers	MCE	Consultant	None	<ul style="list-style-type: none"> • Training materials • Workshops 	Year 3
5.1.2.2(1) Develop guidelines and rules for maintaining the ambiance of the Greater Vieux Fort Area	PPDD, LAC	Existing staff	None	None	Years 3-4
5.1.2.2(2) Delineate seaside parks, scenic lookouts, and other outstanding scenic features	PPDD	Existing staff	Existing GIS capability, signs	Vieux Fort Development Plan	Years 4-5
5.1.2.2(3) Integrate landscape guidelines in landuse and development plans	PPDD	Existing staff	Existing GIS capability	Development plans	Years 1-2
5.1.2.2(4) Assess feasibility of establishing bicycle lanes and hiking trails in the Greater Vieux Fort	Public Works Department,	Consultants	None	None	Years 3-5

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
Area	Police, STDC				
5.1.2.3(1) Revitalise Saint Lucia Archeological & Historical Society	MCE	Existing staff	None	None	Years 3-5
5.1.2.3(2) Develop regulations for enforcement actions and investment in restoration	SLNT, PPDD	Existing staff	None	None	Year 2
5.1.2.3(3) Support promotion of heritage sites	LAC	Existing staff	None	None	Years 1-5
5.1.2.4(1) Identify populations of important species	Management agencies	Project staff	<ul style="list-style-type: none"> • 1 Vehicle • Dive equipment • Field collection equipment 	Project financing	Years 2-3
5.1.2.4(2) Protect important habitats	Management agencies, PPDD	<ul style="list-style-type: none"> • 2 wardens • Consultant 	<ul style="list-style-type: none"> • 1 vehicle • 8 marker buoys • Mooring buoys • Signs • Computer hardware & software • Scuba gear • GPS 	<ul style="list-style-type: none"> • Boat fuel • Air fill • Training materials 	Years 1-5
5.1.2.4(3) Develop/adopt species management plans	Management agencies	Existing staff	None	None	Years 2-3
5.1.2.4(4) Undertake research and monitoring on important species	Management agencies	<ul style="list-style-type: none"> • Existing staff • Project staff 	Various	Project financing	Years 1-5

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
5.1.2.5(1) Remove/reduce pollution inputs to the PSEPA	Department of Environmental Health	<ul style="list-style-type: none"> Existing staff S.A.V.E. 	GPS	<ul style="list-style-type: none"> Gas GIS training for schools 	Years 2-5
5.1.2.5(2) Develop guidelines and regulations for pollution reduction practices	Department of Environmental health	<ul style="list-style-type: none"> Consultant Attorney General's Office 	None	<ul style="list-style-type: none"> 2 workshops Sample guidelines 	Year 1
5.1.2.5(3) Develop and implement invasive species management strategy and plan	Management agencies	Existing staff	None	Volunteers	Years 1-5
5.1.2.5(4) Promulgate regulations to protect critical ecosystems	Attorney General's Office, management agencies	Existing staff	GPS	Existing GIS capability	Years 2-3
5.1.2.5(5) Develop and implement management plans for existing protected areas within the PSEPA	Management agencies	<ul style="list-style-type: none"> Existing staff Project staff 	Unknown	Unknown	Years 2-5
5.1.2.5(6) Develop and implement a watershed management plan	Forestry Department, Water Resources Management Agency	Project staff	Various	Workshop	Years 2-5
5.1.2.6(1) Develop recreation use plan for Anse de Sable Beach	NCA	Existing staff	Marker buoys	Various beach management equipment	Year 2
5.1.2.6(2) Develop sustainable harvesting techniques	Management agencies	Project staff	Various	<ul style="list-style-type: none"> Workshop Field 	Years 2-5

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
				training	
5.1.2.6(3) Provide technical assistance to community groups	Community Development Officer	<ul style="list-style-type: none"> • Consultant • Existing staff 	Solar composters	None	Years 2-5
5.1.2.6(4) Develop new/alternate livelihood initiatives to replace detrimental practices	MCE, LAC	<ul style="list-style-type: none"> • Consultant • Project staff 	None	Project financing	Years 2-5
5.1.2.6(5) Refurbish Visitor Reception Facility at the Mankote Mangroves	MCE	<ul style="list-style-type: none"> • Contractor • Charcoal burners 	Landscaping equipment	Interpretative boards	Years 1-5
5.1.2.6(6) Support infrastructure development at Savannes Bay Fish Landing Site	Fisheries Department	Contractor	None	Project financing	Year 2

Strategic Focus 2: Effective Management of Important Ecosystems and Resources-Cost Estimate

Activity/Task Description	Resource Needs	Budget					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
5.1.2.1(1) Adopt best practice guidelines for construction	Workshops	5,000.00	0.0	0.0	0.0	0.0	5,000.00
	Consultants	125,000.00	0.0	0.0	0.0	0.0	125,000.00
	Sample guidelines	2,500.00	0.0	0.0	0.0	0.0	2,500.00
5.1.2.1(2) Adopt appropriate sewage treatment and disposal systems	<ul style="list-style-type: none"> • Consultant • Staff • Workshops 	0.0	35,000.00	5,000.00	0.0	0.0	40,000.00
5.1.2.1(4) Adopt sustainable site planning guidelines	<ul style="list-style-type: none"> • Consultant • Workshop • Sample guidelines 	65,000.00	5,000.00	0.0	0.0	0.0	70,000.00
5.1.2.1(6) Train EIA Reviewers	<ul style="list-style-type: none"> • Consultant • Workshop • Training materials 	0.0	0.0	60,000.00	0.0	0.0	60,000.00
5.1.2.2(2) Delineate seaside parks, scenic lookouts, and other outstanding scenic features	<ul style="list-style-type: none"> • Signs • Staff 	0.0	0.0	0.0	10,000.00	5,000.00	15,000.00
5.1.2.2(4) Assess feasibility of establishing bicycle lanes and hiking trails in the Greater Vieux	Inter-agency team, Consultant	0.0	0.0	New project to be designed			Project financing

Activity/Task Description	Resource Needs	Budget					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
Fort Area							
5.1.2.4(1) Identify populations of important species	<ul style="list-style-type: none"> • Project staff • Vehicle • Field equipment • Fuel 	0.0	400,000.00	110,000.00	0.0	0.0	510,000.00
5.1.2.4(2) Protect important habitats	Various (see list above)	350,000.00	120,000.00	120,000.00	140,000.00	140,000.00	870,000.00
5.1.2.4(4) Undertake research and monitoring on important species	Project staff and equipment	180,000.00	100,000.00	100,000.00	120,000.00	150,000.00	650,000.00
5.1.2.5(1) Remove/reduce pollution inputs to the PSEPA	<ul style="list-style-type: none"> • Staff • GPS 	0.0	2,000.00	0.0	0.0	0.0	2,000.00
5.1.2.5(2) Develop guidelines and regulations for pollution reduction practices	<ul style="list-style-type: none"> • Consultant • Staff • Workshop 	65,000.00	0.0	0.0	0.0	0.0	65,000.00
5.1.2.5(5) Develop and implement management plans for existing protected areas within the PSEPA	Staff	0.0	The associated costs will be determined by the detailed site plans				Project financing
5.1.2.5(6) Develop and implement a watershed management plan	<ul style="list-style-type: none"> • Project staff • Workshop 	0.0	New project to be designed				Project financing
5.1.2.6(1) Develop recreation use plan for	<ul style="list-style-type: none"> • Marker buoys • Beach carts, 	0.0	5,000.00	0.0	0.0	0.0	5,000.00

Activity/Task Description	Resource Needs	Budget					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
Anse de Sable Beach	etc.						
5.1.2.6(2) Develop sustainable harvesting techniques	<ul style="list-style-type: none"> • Project staff • Training sessions 	0.0	New project to be designed				Project financing
5.1.2.6(3) Provide technical assistance to community groups	<ul style="list-style-type: none"> • Consultant • CDO • Solar composters • Maintenance staff for composters, trails, etc. 	0.0	30,000.00	35,000.00	30,000.00	30,000.00	125,000.00
5.1.2.6(4) Develop new/alternate livelihood initiatives to replace detrimental practices	<ul style="list-style-type: none"> • Consultant • Project equipment 	0.0	45,000.00	0.0	0.0	0.0	45,000.00
5.1.2.6(5) Refurbish Visitor Reception Facility at the Mankote Mangroves	<ul style="list-style-type: none"> • Contractor • Interpretation boards and materials 	70,000.00	20,000.00	10,000.00	10,000.00	10,000.00	120,000.00
5.1.2.6(6) Support infrastructure development at Savannes Bay Fish Landing Site	<ul style="list-style-type: none"> • Contractor • Project funds 	0.0	650,000.00	0.0	0.0	0.0	650,000.00
Total(EC\$)		862,500.00	1,412,000.00	440,000.00	310,000.00	335,000.00	3,359,500.00

Strategic Focus 3: Development of Conceptual Frameworks for EPA -Resources Required

Activity/Task	Lead Institution	Human Resource Needs	Equipment Needs	Other Resource Needs	Time Period
5.1.3.1 EPA Framework Development	MCE	Consultant	None	Workshop	Year 4
5.1.3.2 Incorporate Framework into the Protected Areas System Plan	SLNT	Existing staff	None	None	Year 5
5.1.3.3 Draft Supporting Regulations	Attorney General's Office, MCE	Existing staff	None	Workshop	Years 2-5
5.1.3.4 Development of Standard Operating Procedures	MCE	Consultants	None	None	Years 2-3

Strategic Focus 3: Development of Conceptual Framework for EPA-Cost Estimate

Activity/Task Description	Resource Needs	Budget					
		Year 1	Year 2	Year 3	Year 4	Year 5	Total
5.1.3.1 Framework Development	<ul style="list-style-type: none"> • Consultant • Workshop 	0.0	0.0	0.0	20,000.00	0.0	20,000.00
5.1.3.3 Draft Supporting Regulations	Workshops	0.0	5,000.00	5,000.00	5,000.00	5,000.00	20,000.00
5.1.3.4 Development of Standard Operating Procedures	Consultants	0.0	90,000.00	30,000.00	0.0	0.0	120,000.00
Total(EC\$)		0.0	95,000.00	35,000.00	25,000.00	5,000.00	160,000.00