

PITONS MANAGEMENT AREA

MANAGEMENT PLAN

Prepared by

Susanna De Beauville-Scott and Sarah George

in collaboration with the

Saint Lucia World Heritage Committee

A plan prepared for the Saint Lucia World Heritage Committee and funded by

The World Heritage Fund

THIS PLAN WAS APPROVED BY THE CABINET OF MINISTERS OF SAINT LUCIA

BY

CABINET CONCLUSION NUMBER 387, OF 16th JUNE, 2003.

TABLE OF CONTENTS

LIST OF TABLES	4
LIST OF FIGURES	4
EXECUTIVE SUMMARY	5
FOREWORD.....	7
SECTION 1: RATIONALE	8
1.1 Values from the past	8
1.2 Present values	10
1.3 Potential future values.....	11
1.4 Existing and potential threats to these values	12
1.4.1 Natural forces.....	12
1.4.2 Human activities	12
SECTION 2: THE EXISTING POLICY AND INSTITUTIONAL ENVIRONMENT ..	14
2.1 The policy environment for development and management of the area	14
2.2 Current institutional and management arrangements.....	16
2.2.1 Ministry of Agriculture, Forestry and Fisheries.....	16
2.2.2 Ministry of Physical Development, Environment and Housing.....	17
2.2.3 Ministry of Commerce, Tourism, Investment & Consumer Affairs	18
2.2.4 Saint Lucia National Trust.....	18
2.2.5 Soufriere Regional Development Foundation	19
2.2.6 Soufriere Marine Management Association	19
2.2.7 Other agencies	20
2.3 Constraints and limitations of existing management arrangements.....	20
SECTION 3: MANAGEMENT PRINCIPLES	22
3.1 Vision.....	22
3.2 Response.....	22
3.3 Goal, Objectives and Guiding Principles.....	22
3.3.1 Goal.....	22
3.3.2 Objectives.....	24
3.3.3 Guiding principles	24
SECTION 4: LAND MANAGEMENT	25
4.1 Land ownership categories.....	25

4.2 Zones	25
4.2.1 <i>Terrestrial component</i>	25
4.2.2 <i>Marine component</i>	25
4.3 Land use.....	27
4.4 Management of lands in ‘Conservation Area Type IB’	28
SECTION 5 MANAGEMENT AND PLANNING PROGRAMMES.....	28
5.1 Conservation of natural resources	28
5.1.2 <i>Existing arrangements</i>	29
5.1.3 <i>New measures</i>	30
5.2 Conservation of cultural and historical resources	30
5.2.2 <i>Existing arrangements</i>	30
5.3 Landscape management	31
4.3.1 <i>Specific objectives</i>	31
5.3.2 <i>Existing arrangements</i>	31
5.4 Sustainable use and development.....	32
5.4.1 <i>Specific objectives</i>	32
5.4.2 <i>Existing arrangements</i>	32
5.4.3 <i>New measures</i>	34
5.5 Monitoring and research.....	35
5.5.1 <i>Specific objectives</i>	35
5.5.2 <i>Existing arrangements</i>	35
5.5.3 <i>New measures</i>	36
5.6 Public awareness, interpretation and education.....	36
5.6.1 <i>Specific objectives</i>	36
5.6.2 <i>Existing arrangements</i>	36
5.6.3 <i>New measures</i>	36
5.7 Surveillance and enforcement.....	37
5.7.1 <i>Specific objectives</i>	37
5.7.2 <i>Existing arrangements</i>	38
5.7.3 <i>New measures</i>	38
5.8 Marketing and Promotion.....	38
5.8.1 <i>Specific objectives</i>	38
5.8.2 <i>Existing arrangements</i>	38
5.8.3 <i>New measures</i>	39
5.9 Financing	39
5.9.1 <i>Specific objectives</i>	39
5.9.2 <i>Existing arrangements</i>	39
5.9.3 <i>New measures</i>	40
SECTION 6 PMA INSTITUTIONAL ARRANGEMENTS.....	41
6.1 Coordinating body	41

6.2 Staffing.....	42
6.3 Scientific body	42
SECTION 7: LEGAL ISSUES.....	44
7.1 Legal instruments.....	44
7.2 Legal basis for the PMA	45
SECTION 8: REPORTING AND REVIEW.....	45
SECTION 9: PROVISIONAL BUDGET	46
SECTION 10: PRIORITY ACTIONS.....	46
SECTION 11: REFERENCES	49
APPENDIX 1 World Heritage Attributes of the Pitons Management Area	51
APPENDIX 2 Soufriere Marine Management Association Agreement	52
APPENDIX 3 Building design guidelines	66
APPENDIX 4 SMMA Research and Monitoring Framework	72
APPENDIX 5 Land Use Plan	82
GLOSSARY.....	83

LIST OF TABLES

- Table 1** Policy framework for guiding resource development and management in Soufriere
- Table 2** Cultural and historic sites within the PMA
- Table 3** Estimated costs and finances for the first two years of the PMA

LIST OF FIGURES

- Figure 1** Soufriere region
- Figure 2** Boundaries of the Pitons Management Area
- Figure 3** Land and Marine Zones
- Figure 4** The organisational structure of the PMA

EXECUTIVE SUMMARY

The Pitons and their surrounding resources have become synonymous with Saint Lucia. They come nestled within a lush and dramatic land and seascape, and continue to feature prominently as the best recognised national symbols.

The Management Plan for the Pitons Management Area (PMA) presents the management approach for the natural and cultural resources of the area of the Pitons and their surroundings, and comprises 29.09 km². It recognises the exceptional beauty, biological, geological and historical significance of this area and aims to conserve the natural environment and cultural landscape for perpetuation of the full range of ecological and socio-economic values.

The Plan recognises key threats to the area and shortcomings of the existing resource management activities, and outlines an administrative and operational framework which will mitigate existing negative impacts and put in place measures to address aspects such as conservation of critical habitats and threatened species, restoration of historical assets, public education and sensitisation, sustainable livelihood generation, land use controls and area enforcement.

The Area is to be established as an Environmental Protection Area under the Physical Planning Act, that is, the legal framework for establishment and management of the PMA will be the Physical Planning Act #29 of 2001. As such, the ultimate authority of the PMA will rest with the Minister of Planning, pursuant to the powers conferred to this Minister under the said Act. However, since this Act has not yet been promulgated, in the interim, the PMA and management plan will be formalised by way of Cabinet Conclusion.

Currently, approximately 20% of land within the PMA is owned by the Crown and 80% privately owned. Within the Conservation Areas approximately 69% of the land is owned by the crown with 31% privately owned. To ensure that these areas are preserved and that the issue of private land ownership does not compromise the value of these areas, the Government of Saint

Lucia will embark on a process to determine the most appropriate course of action that would allow for active management of these lands.

Given that there are a number of institutional arrangements currently in place to manage various aspects of the PMA, to avoid duplication, gaps and reduce costs, functional linkages will be established. To facilitate this coordinated and integrated approach to management of the PMA, a multi-agency coordinating body will oversee management of this area. This body will be formally established as the PMA Advisory Committee (PMAAC), and comprise agencies with management and planning responsibilities in the PMA.

To facilitate day-to-day management of various aspects of the PMA, especially as it pertains to revenue generation and surveillance, an onsite office with core staff will be established. Staffing, for the least, is to comprise a manager and two area stewards. In addition, a PMA Scientific Committee will be established as a subcomponent of the PMAAC, and it will be responsible for developing and implementing a protocol to guide and coordinate monitoring and research activities conducted in the PMA.

FOREWORD

In 1991, Saint Lucia became signatory to the Convention Concerning the Protection of World Cultural and Natural Heritage. The Cabinet of Ministers of Saint Lucia, by way of Conclusion #1931 of 19th December 1996, established the Saint Lucia World Heritage Committee to undertake a planning and consultation process with the view to nominate the Pitons and surrounding resources as a World Heritage Site under the provisions of the World Heritage Convention. This process has involved numerous studies and consultations, spanning over a six-year period.

This document is just one output of this process and presents a management plan for the Pitons, and surrounding resources. The plan seeks to demonstrate how management for the protection and conservation of this area, to be referred to as the Pitons Management Area, will be implemented. Presently there are a number of management measures in place for various resource components within the area, and therefore, this plan provides a directory of existing management activities, but also articulates how current institutional and legal arrangements and operational aspects will be strengthened and existing gaps addressed.

SECTION 1: RATIONALE

The Pitons are located on the southwest coast of Saint Lucia, near the coastal town of Soufriere (Figure 1), and provide an area of outstanding natural beauty, spectacular geological features and highly productive biological ecosystems. The land component presents generally mountainous topography with lushly forested terrain (sub-tropical wet and tropical moist forest, with areas of tropical dry forest near the coast), while the marine coastal belt is one of steep submarine shelf, supporting areas of well-developed fringing reef.

The particular area of interest is dominated by the majestic volcanic spires of Gros Piton and Petit Piton, rising to 777m and 743m respectively, and located within a large topographic depression known as the Qualibou depression or Soufriere Volcanic Centre (Wood 2002). The Sulphur Springs contains an existing area of geothermal activity with fumaroles and hot springs.

1.1 Values from the past

Soufriere has a rich historical and cultural heritage. The prevalence of archaeological sites indicates the importance of the area to the region's pre-Columbian people. The Amerindians apparently worshipped the two Pitons as a personification of two of their main gods, and may have used Petit Piton as a megalith and solar calendar. Subsequent inhabitants depended heavily on the Soufriere region for agricultural production, cultivating crops such as tobacco and coffee, followed by cotton, sugar cane, coconut, citrus and bananas (Devaux pers. comm.). During the mid 1700s, Soufriere provided a refuge for runaway "Brigand" slaves, where the relative safety of the rugged landscape of Gros Piton and its environs allowed for a number of successful attacks against the colonial settlers and plantation owners of the day.

The rich and varied history of the area is reflected in its archaeological and historical remains. Amerindian sites are to be found throughout the area: petroglyphs exist at Beau Estate, Ravine Chute d'Eau and Stonefield Estate; midden and rock basins at Anse l'Ivrogne, Fond Gens Libres, Gros Piton point, La Pointe, Jalousie, Malgretoute and Sauzay (Devaux pers. comm.). A number of Brigand sites also exist: camp and cave sites at Fond Gens Libres, Beau Estate and Gros Piton point, landing sites at Anse l'Ivrogne and Beau Estate, and look outs and ambush sites at Gros

Figure 1
Soufriere Region

Piton, Mokoji and Morne la Croix. A schooner lies wrecked at Anse l'Ivrogne and remnants of old sugar mills are to be found at Jalousie, Malgretoute, Union Vale, Gros Piton and Anse l'Ivrogne.

1.2 Present values

The biodiversity value of the area is enhanced by the extreme landscape provided by the Pitons, where a combination of slope, climate and soil regimes have given rise to at least 148 plant species and 27 bird species on Gros Piton alone (Anthony 1997). Some 97 species of plants and 50 species of birds have been recorded for the area of Petit Piton and the adjoining ridge between the Pitons, during a recent rapid assessment by Cox (1999). The significance of this, both nationally and internationally, is reflected by the high level of endemic and rare species found here. The area in and around the Pitons boasts five endemic birds (the Saint Lucia Oriole, *Icterus laudabilis*; Saint Lucia Black Finch, *Melanospiza richardsoni*; Saint Lucia Flycatcher, *Myiachus oberi sanctae luceae*, Saint Lucia Pewee, *Contopus oberi*; and Saint Lucia Wren, *Troglodytes aedon sanctae luceae*); two endemic plants (*Acalypha elizabethae* and *Bernardia laurentii* (both rare shrubs, with the latter endemic to the summit of Petit Piton); three rare vines (*Gonolobus martinicensis*, *Amphilophium paniculatum*, and *Melothria pendula*), six rare trees (*Ocotea coriacea*, *Guarea kunthiana*, *Krugiodendron ferreum*, *Picasma excelsa*, *Forestiera eggersiana* and *Randia nitida*), two rare shrubs (*Justicia carthaginensis* and *Piper reticulatum*) and a rare herb (*Eipatorium microstemon*).

The reefs found within the coastal portion of the Pitons are among the healthiest and most diverse on island (De Beauville-Scott 1999). The steep submarine shelf comprises areas of fringing and patch reefs separated by sandy plains. A biodiversity assessment undertaken by De Beauville-Scott identified 168 species of finfish, 60 species of cnideria (including corals, anemones, hydroids and zooanthids), 8 mollusc species (chiton, squid, clam, octopus, conch, cowrie), 14 sponge, 11 echinoderm (urchin, sea cucumber, basket and brittle star, crinoid), 15 arthropod (barnacle, crab, shrimp, lobster) and 8 annelid (worm) species. This assessment was confined to the submarine area up to a depth of about 20 meters carried out within a 16 day period, thus likely underestimates biological diversity of the entire reef area.

Due to its relative physical isolation, the Soufriere region has been little affected by mainstream economic and social change that has transformed many other parts of Saint Lucia. Agriculture and fishing remain important livelihoods within the area; the former characterized by subsistence or mixed farming systems on small to medium size properties and the latter largely comprising a traditional artisanal fishery. Nonetheless, agricultural, touristic and urban developments have occurred to a degree and continue to transform the natural landscape of Soufriere. Due to the striking landscape provided by the geological features of the area, the Soufriere community benefits from the ability of the area to attract visitors from far and wide. The natural heritage, and more specifically the Pitons, Sulphur Springs, rain forest, coral reefs, botanic gardens and waterfalls, have been touted as the key attractions for the average tourist visitor to Soufriere (CIS and Assoc. 2000).

The area in and around the Pitons, including the Sulphur Springs, continues to be of significant cultural and symbolic value to Saint Lucia, featuring most prominently as a national symbol on advertising and promotional materials. The Pitons are unique in terms of providing an outstanding coastal vista and as the world's only example of closely paired, coastal volcanic cumulo-domes. The challenge is to find and maintain the right balance between economic and physical development and the unique biological, geological and cultural resources of this exceptional region. In recognition of the area's unique natural and cultural resources, the Government of St. Lucia has selected an area comprising the Pitons, the Sulphur Springs and surrounding resources for nomination as a World Heritage Site (Appendix 1).

1.3 Potential future values

Through wise development and sustainable use of land and sea, Soufriere can maintain its competitive edge as a unique tourism product, reflecting some of the best qualities of Saint Lucia. The resource base, though unique and of the highest quality, must be recognised as extremely limited in extent and further challenged by the high relief of the land. Overdevelopment of the area will thus need to be avoided. Support of both the commercial sector and the public at large is required for continued conservation and sustainable use of resources. Such support can only be generated and maintained over the long term if viable economic

opportunities exist within the area. Future benefits will require an integrated approach to resource development and management, taking into account inputs of all stakeholders. For long-term success, new economic opportunities must also continue to be integrated among traditional ones, mitigating potential conflicts.

For the local population, this region and its remarkable natural and cultural resources could remain a valuable retreat from urbanisation, continuing to offer a place for relaxation, recreation, and interacting with nature. To the people and Government of Saint Lucia, the Pitons and surrounding area will remain a symbol of national pride and identity, providing the best incentive for giving both individual and collective support to conservation and preservation of the outstanding natural and cultural resources. Effective conservation and management of resources within this area can therefore act as a catalyst for building support for such action in other parts of the country.

1.4 Existing and potential threats to these values

A number of natural and human-induced factors create a variety of threats to resources within the area.

1.4.1 Natural forces

The impacts of hurricanes and other severe weather events can include large scale and focused disturbance to critical habitats and ecosystems and may affect successional dynamics within plant and animal communities. Reefs of the area have recently been affected by such weather events, with Tropical Storm Debbie in 1994 and Hurricane Lenny in 1999 causing impacts from high levels of rainfall, sedimentation and wave action (Walker 2001). Landslides and severe soil loss has also affected localities within this area as a combined result of heavy rainfall and unstable soils (GOSL 1998).

1.4.2 Human activities

For the fragile and unique area of the Pitons and their adjoining ridge, the main man-induced threats to biodiversity comprise deforestation for fuel wood and timber, and a growing presence of small-scale agriculture, including the rearing of goats, cows and pigs, in various locations,

including Piton Mitan and at the base of the Petit and Gros Pitons. The risk of fire is great, and several deliberate and unintentional fires on the Pitons have caused loss of plant and animal life (Devaux pers. comm.). Fire is felt to pose the greatest threat to the endemic shrub *B. laurentii*, as it could lead to extinction of this species (Cox 1999). The Morne Souf area, immediately adjacent to the Sulphur Springs, has also suffered substantial impacts from fire.

The myriad of natural, historical and cultural attractions offered by Soufriere yield a constant flow of day and stay-over visitors to the area: well over 50% of tourist visitors to Saint Lucia visit Soufriere (CIS and Assoc. 2000). Although much of the visitor traffic is channelled to enhanced tourist attractions such as the Sulphur Springs, the botanical gardens, waterfalls and historic properties, an increasing number of visitors are exploring the rich nearshore reefs and the hiking trails of Gros Piton. The increased use of diverse, yet fragile natural habitats, yields a concomitant increased risk of adverse effects, including incidents of physical reef destruction (CZMP 2002), solid waste contamination (Anthony, 1997), vandalism of plant species (Anthony 1997; Cox 1999) and of historic properties (Devaux pers. comm.).

Other impacts on the marine component of the area include biological and physical impacts from inappropriate fishing practices, as well as unauthorised sand mining, hard stabilisation of the shoreline, beach nourishment, and construction of tourism-related infrastructure within the coastal zone. Declining coastal water quality is also arising from factors such as siltation and other land-based and marine sources of pollution, including sewage, agrochemicals, and solid waste (CZMP 2002).

Many of these factors exist at the national scale and reflect a combination of limited institutional capacity and inadequate integrated planning and management at the watershed and coastal zone scales. The exceptional natural and cultural resources in and around Soufriere make effective integrated resource management of particular relevance to this area.

SECTION 2: THE EXISTING POLICY AND INSTITUTIONAL ENVIRONMENT

2.1 The policy environment for development and management of the area

The development of Soufriere must proceed within a national policy framework of sustainable development through natural resource conservation and sustainable livelihood development for a growing island population. Saint Lucia is well recognised for strides in the fields of environmental conservation and community-based management, with several successful examples of such work existing in Soufriere.

A number of existing policies, plans and agreements create the management and development framework for Soufriere (Table 1).

Table 1 Policy Framework for Guiding Resource Development and Management in Soufriere

Policy Tools	Relevant Objectives	Status
Forestry Management Plan	<ul style="list-style-type: none"> ▪ To expand the area of protected forest where necessary for water, soil and wildlife conservation; ▪ To allow for adequate buffer areas around critical forest habitat; ▪ To manage the use of forest resources for the provision of sustainable livelihoods for communities; ▪ To educate the public on the value of forest resources and their sustainable use. 	1992-2002
National Agricultural Policy	<ul style="list-style-type: none"> ▪ To increase the efficiency and competitiveness of agricultural enterprises; ▪ To promote the adoption of improved and appropriate technologies; ▪ To expand agricultural production and markets to exploit available opportunities; ▪ To enhance the national food security status; ▪ To generate new opportunities for employment and income generation; ▪ To conserve the natural resource base. 	2002 to present (on-going)
National Land Policy	<ul style="list-style-type: none"> ▪ Intended to guide the sustainable use and management of land. 	In preparation
Plan for a System of Protected Areas for Saint Lucia	<ul style="list-style-type: none"> ▪ To conserve, through a broad network of marine and terrestrial protected areas, areas of critical habitat necessary for the maintenance of biological and cultural diversity. ▪ To protect representative elements of natural and cultural heritage; ▪ To sustain the productivity and quality of critical ecosystems, particularly in relation to forestry, fisheries and tourism. ▪ To stimulate the rational use of marginal resources and the restoration of degraded lands; ▪ To encourage research on national cultural and natural resources and contribute to public knowledge and understanding of this heritage; ▪ To build self esteem and love of country through appreciation of that heritage; ▪ To provide places for recreation, enjoyment and inspiration. 	1992 to present (on-going)

Policy Tools	Relevant Objectives	Status
Tourism Strategy and Action Plan	<ul style="list-style-type: none"> ▪ To facilitate the promotion and protection of Saint Lucia's natural and cultural heritage as central to the tourism product; ▪ To achieve sustainable tourism development; ▪ Encourage nature heritage tourism as a viable and sustainable component of the sector. 	2000-2005
National Cultural Policy	<ul style="list-style-type: none"> ▪ To preserve and protect Saint Lucia's cultural resources; ▪ To develop and apply appropriate legislation; ▪ To develop and implement appropriate management and conservation systems for the preservation and enjoyment of cultural, historical and natural areas, monuments and buildings. 	2001 to present (on-going)
Education Policy (as articulated in the Education Act #41 of 1999)	<ul style="list-style-type: none"> ▪ To promote understanding of the history, language, culture, rights and values of Saint Lucia, and their changing role in contemporary society; ▪ To increase awareness and appreciation of the natural environment of Saint Lucia; ▪ To prepare for participation in the community and global society. 	1999 to present (on-going)
Soufriere Tourism Development Plan	<ul style="list-style-type: none"> ▪ To develop sound, aesthetically stimulating and hazard-free environments for tourism activity and for the normal community functions of living, working and recreation; ▪ To limit tourism development to socio-cultural and physical carrying capacity of Soufriere; ▪ To avoid pollution, congestion and use conflicts; ▪ To control shoreline erosion via minimum setbacks. 	Draft
Coastal Zone Management Policy and Guidelines	<ul style="list-style-type: none"> ▪ To maintain the integrity and productivity of the coastal zone and resources therein; ▪ To optimise the contribution of the coastal zone to social and economic development through the sustainable use of resources and the equitable sharing of benefits; ▪ To harmonise uses of the coastal zone and provide a framework for the management and resolution of resource use conflicts. 	Draft
Soufriere Marine Management Agreement	<ul style="list-style-type: none"> ▪ To conserve coastal and marine resources within the SMMA; ▪ To promote sustainable use of the resources, while enhancing economic, social and cultural benefits; ▪ To manage conflicts among resource users. 	2000 to present (on-going)

Saint Lucia is party to a number of international and regional conventions/agreements, and as such, the Government of Saint Lucia is obliged to operate under guiding policies and practices which conform to these instruments. Of particular relevance are:

- The Convention on Biological Diversity
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora
- The Convention on the Law of the Sea
- The World Heritage Convention
- The Convention on the Protection and Development of the Marine Environment of the Wider Caribbean Region and associated Protocols (Specially Protected Areas and Wildlife; Cooperation in Combating Oil Spills; Land Based Sources of Marine Pollution)

- The St Georges Declaration of Principles for Environmental Sustainability in the Organisation of Eastern Caribbean States.

2.2 Current institutional and management arrangements

The management of natural, cultural and historical resources of the Pitons and surrounding area falls under the purview of a number of national and local agencies whose individual mandates reflect concomitant policies, legislation and agreements. However, the level of integration among these agencies varies and tends to be task or programme specific, as there is no comprehensive policy or plan to guide integrated management and development of the area.

2.2.1 Ministry of Agriculture, Forestry and Fisheries

The *Forestry Department* within this Ministry is responsible for overall management of forestry resources, including forests on crown lands, forest reserves, forest biodiversity and water catchments. Its programmes include wildlife and forest conservation, soil and water conservation, wildlife research and environmental education. Notable past management initiatives include a successful public education and resource conservation programme responsible for significant recovery of the island's endangered parrot population. This Department also establishes informal management alliances with appropriate community groups, allowing for user involvement in the day-to-day management of particular areas and resources. An existing collaborative arrangement is in place with the community of Fond Gens Libres, where technical support and training have been provided to enable the group to operate guided tours and maintain trails within the Gros Piton area, directly benefiting from the proceeds of such activities.

The *Department of Fisheries* is responsible for sustainable development of the fishing industry and conservation of associated marine ecosystems. Its mandate includes the conservation of critical marine habitats, the protection of marine and freshwater biodiversity, recovery of endangered freshwater and marine species, the adoption of responsible fishing, diving and snorkelling practices, and overall education and social advancement of fishers. The Department is involved in fisheries data collection and management, fisheries research and monitoring,

fisheries extension and training, aquaculture development, and fisheries resource management. It presently hosts a coastal zone management project that has developed a national policy and specific guidelines for coastal zone management, including institutional and legal arrangements for sustainable use of the coastal zone and associated resources.

The *Department of Agriculture* is charged with the responsibility of facilitating developments in the areas of animal husbandry, animal health, animal and plant quarantine, crop production and agronomy, horticulture, germplasm development, agro-industry development, land and water management and agricultural technology development and transfer. Agricultural diversification, export promotion and food security provide the underlying thrust, and this Department works closely with a number of farmer and community organisations involved in aspects such as production, marketing, credit provision, and capacity building.

2.2.2 *Ministry of Physical Development, Environment and Housing*

The *Sustainable Development and the Environment Unit* of this Ministry is charged with promoting the adoption of sustainable development policies and programmes within the public and private sectors and facilitating national capacity to meet institutional and operational responsibilities under a number of international environmental agreements.

The *Physical Planning Unit* of the Ministry and its *Development Control Authority* see to the development control and regulation, physical planning, and the development and maintenance of national Geographic Information Systems (GIS). Their work is guided by relevant land development and planning legislation. The entity collaborates with a number of technical government and non-government agencies in the review and assessment of proposed developments.

The *Crown Lands Department* is responsible for the survey and management of Crown lands and vacant lands, the acquisition of lands deemed necessary for public use, and the lease of Crown lands. Areas of Queens Chain also fall under the jurisdiction of this Department, and significant portions of the Pitons and the area of the Sulphur Springs are so vested. The Crown Lands

Department has established arrangements with key agencies such as the Forestry Department for the active management of resources within certain Crown Land areas.

2.2.3 Ministry of Commerce, Tourism, Investment & Consumer Affairs

The Ministry of Tourism is responsible for management and development of tourism through the formulation of policy and overall development of the tourism product.

The *National Conservation Authority* (NCA) operates within this Ministry, with a primary aim of conserving areas of natural beauty and significant topographic features. The Authority is charged with controlling, maintaining/beautifying, and developing beaches or protected areas declared under the NCA Act. The NCA can also enter into written agreements with property owners so as to maintain the right of access to any protected area declared under the Act. In practice, however, the NCA has focused its attention on the beautification and maintenance of recreational beaches and the provision of beach rangers for regulating use of such areas by both the public and tourists.

The *Saint Lucia Heritage Tourism Programme* operates under the Ministry, with a mission to establish heritage tourism as a viable and sustainable component of the local tourism sector by facilitating education, capacity building, product development, marketing, access to credit and the promotion of environmental and cultural protection for the benefit of communities and the nation. The programme is coordinated by a small core staff and to date has operated out of considerable financial assistance from the European Union.

2.2.4 Saint Lucia National Trust

This agency is a quasi-government, non-profit and membership organisation with the responsibility to promote and preserve terrestrial and marine areas of beauty and areas of natural or historical significance. Its mandate includes the preservation of buildings and other structures of historic, architectural, artistic or traditional interest, and the promotion and preservation of areas of natural beauty, including their natural values and features, and resident plant and animal life. The SLNT works in collaboration with several agencies, was instrumental in the preparation of the System of Protected Areas, and manages several natural and historical sites. The Trust

may acquire and manage land necessary for achieving the above objectives. This agency is actively involved in education and awareness building, and promoting capacity building at the community level.

2.2.5 Soufriere Regional Development Foundation

This non-profit agency is responsible for fostering economic, cultural and social development in a manner that is responsive to the needs and aspirations of the Soufriere community, while preserving and enhancing the natural and cultural assets upon which that development is based. The Foundation provides a coordinating framework for programmes concerning the development of Soufriere and facilitates cooperation between government, private sector, NGOs and community organisations. The Foundation is integrally involved in the formulation and implementation of development plans for Soufriere and the establishment of public infrastructure. It seeks to maximise community benefits by facilitating appropriate forms of tourism that are culturally and environmentally sensitive. The agency also engages in community education and capacity building within community groups and organisations. Currently, the Foundation is responsible for the management of the Sulphur Springs site and facilities.

2.2.6 Soufriere Marine Management Association

This organisation is a not-for-profit company dedicated to the sustainable use and management of coastal and marine resources of the Soufriere region (from Anse Jambon to Anse L'Ivrogne). The SMMA provides a mechanism for integrated planning and management and collaborative decision-making, and is guided by the Agreement to Manage the Soufriere Marine Management Area (Appendix 2). The Association has been designated as a Local Fisheries Management Authority under the Fisheries Act. It is administered by a Board comprising representatives from the Ministries responsible for fisheries, tourism and physical planning, as well as representatives of non-governmental organisations representing the interests of the dive, hotels and tourism, water taxi, and fishing sectors, the St. Lucia Air and Sea Ports Authority, and the Soufriere Regional Development Foundation. The incumbent District Representative represents the political directorate on the Board. The SMMA system comprises coastal marine zones including marine reserves, fishing priority areas, and specific areas for yacht mooring, recreation and

multiple use. Day-to-day management is effected by a small core staff comprising an area manager, four rangers, and two administrative officers.

2.2.7 Other agencies

The *Ministry of Communications, Works, Transport and Public Utilities* has jurisdiction over the mining of beach sand, the *St Lucia Air and Sea Ports Authority* has control over the Port of Soufriere and its Maritime Administration attends to the registration and regulation of commercial and non-commercial vessels. The *Ministry of Social Transformation, Culture and Local Government* seeks to facilitate overall socio-economic and cultural advancement at the national and community level, and the *Royal Saint Lucia Police Force* (including its Police Marine Unit) plays an essential role in the enforcement of law and order.

2.3 Constraints and limitations of existing management arrangements

Poor coordination and integration in planning and management - To date, collaboration among agencies tends to be on an ad-hoc, case-by-case basis, with the exception of the SMMA where the multi-agency Board oversees area planning, as well as programme development and execution. This situation is reflected in overlap in some aspects of the mandates of organisations (e.g., the establishment and management of protected areas), as articulated by their respective legal and policy instruments. There are a few aspects where no agency has clear responsibility (e.g., the lack of an agency or legal instrument giving clear authority for the regulation and control of pollution), thus effective action is limited in cases where administrative gaps exist. However, there are a number of systems being put in place to alleviate this area of constraint, such as the development of a national environmental commission to coordinate all environmental related activities.

No national land policy- A lack of clear guidelines for land use has led to instances of non-sustainable, competing uses within a limited natural resource base. Guidelines are needed for the allocation of land to specific activities, resolving land-use conflicts, protection of critical areas and habitats, and limiting use to existing carrying capacities of natural systems. Currently, the Ministry with responsibility for planning is in the process of developing a land policy which would address this constraint.

Lack of development guidelines for ecologically and culturally sensitive areas - Existing regulatory systems are inadequate to ensure preservation and conservation of the unique landscape and resources of the Pitons and surrounding area. Clear and comprehensive development guidelines are required to assist public, private and community agencies in achieving an overall goal of preserving the unique and outstanding aesthetic, natural and cultural values of the Pitons, the Sulphur Springs and surrounding resources. In this regard, the new physical planning legislation has been developed which makes way for environmental impact assessment regulations to control development in such sensitive areas.

Inadequate enforcement of current regulations - Many key agencies are limited by human and financial constraints. Site-based enforcement is most effective where persons are available to effect regular awareness building and enforcement of area rules and regulations on a day-to-day basis. The level of effective enforcement in the SMMA improved substantially with the establishment of a resident staff, who perform a dual education and enforcement role, working closely with user communities, commercial operators, community organisations and the police.

Limited economic and social benefits to the community - High levels of unemployment exist within the Soufriere community, especially among the youth. Despite the steady flow of visitors, the flow of economic benefits to the community from tourism needs to be expanded, through a more direct and complete interaction between the visitor and the people of Soufriere. Enhancement of the unique product which Soufriere and its natural environs present have been recognised as essential for securing increased benefits for the local community. Efforts have been made to promote the area as a region rich in heritage tourism, and a draft development plan has been devised for Soufriere, highlighting actions to be taken to facilitate increased social and economic benefits.

Limited assistance for restoration and preservation of historic properties and sites - Key historical and cultural sites and properties exist on private lands, some of which are being actively managed while others are under no formal arrangement to ensure their preservation. Agencies that can assist in identifying, rehabilitating and developing management plans for such sites (e.g., the Archaeological and Historical Society; the Saint Lucia National Trust) are constrained by limited human and financial capacities. In 2002, a Cultural Policy was established to facilitate the preservation of cultural and historical resources.

Inconsistent public awareness and support - Despite significant work in this area, incidents of illegal hunting of wildlife, poor agricultural practices, littering, and vandalism of natural and historical treasures continues. However various institutions with management responsibility within the area continue efforts at awareness, public education and sensitisation to foster compliance to existing rules and regulations. Past experience has shown that support is best generated by close involvement through a consultative and participatory management approach, and this approach continues.

SECTION 3: MANAGEMENT PRINCIPLES

3.1 Vision

The vision for the Pitons and surrounding resources is for:

...a well managed area in which the natural and cultural assets and landscape quality are protected through a participatory management approach which is guided by the principles of sustainability, equity and participation and in which benefits are generated for individuals, the community and the state.

3.2 Response

Given the outstanding nature of the area of the Pitons, the Sulphur Springs and surrounding resources, this site will be formally designated as an area for protection and conservation, and be referred to as the 'Pitons Management Area' (PMA). This status will be conferred through legislative framework that will provide overall protection and conservation, taking into consideration both the management and planning issues. The PMA will have boundaries as shown in Figure 2.

3.3 Goal, Objectives and Guiding Principles

3.3.1 Goal

The goal of the PMA is to facilitate an appropriate and coordinated approach to management of the site, by creating formal linkages among management and planning agencies and other interest

Figure 2
PMA Boundaries

groups, so as to ensure that the integrity of the site in terms of its natural, historical and cultural significance is not compromised.

3.3.2 Objectives

The objectives of the PMA are to:

- preserve the integrity and productivity of ecological systems;
- preserve the integrity of historical and cultural resources;
- protect the PMA using different management instruments in order to ensure that the landscape quality is not compromised;
- provide a mechanism for participation of various publics in the sustainable development and management of the PMA;
- promote nature heritage tourism;
- encourage research on the various resources of the PMA in order to improve understanding and to generate data for effective management; and
- optimise the contribution of the natural and cultural resources for sustainable development.

3.3.3 Guiding principles

The approach to management embraces the following fundamental principles:

Equity: Opportunities of access and benefits for all, in a controlled and managed fashion;

Appreciation and pride: cultivation of a profound admiration and respect for this site and its meaning in all that is done

Sustainability: optimal use of benefits for present and future generations and respect for the site in all its diversity;

Participation: full participation of all sectors of society, in a manner that engenders a profound sense of responsibility and identity.

SECTION 4: LAND MANAGEMENT

4.1 Land ownership categories

Lands within the PMA fall under two major categories of ownership:

- Public lands
 - Crown Lands – These are state owned lands and, within the PMA, these include substantial areas of Petit and Gros Pitons, and the Sulphur Springs.
 - Queen’s Chain – This comprises the area between the high water mark and a distance 186.5 feet (55.95 m) landward.
- Private lands – These lands comprise properties owned by individuals and companies, not of the State.

4.2 Zones

4.2.1 Terrestrial component

The specific provisions regarding zoning of the terrestrial component of the PMA are summarised in Figure 3. Zones within the terrestrial component of the PMA are as follows:

- Terrestrial Conservation Area Type IA – This area comprises the State owned lands on the Pitons and adjoining ridge. To facilitate active management of resources, including threatened and endemic species, within these areas, they must be declared Forest Reserves under the provisions of Section 19 of the Forest, Soil and Water Conservation Ordinance Chapter 25.
- Terrestrial Conservation Areas Type IB – These areas comprise lands on the Pitons and in the vicinity of the Sulphur Springs that are privately owned.
- Terrestrial Multiple Use Area – The types of activities occurring in this area entail residential, tourism, commercial, recreational, institutional, historical, conservation and preservation. Activities are regulated by existing legislation, but must also be in keeping with guidelines set out in this management plan.

4.2.2 Marine component

Zoning of the marine space is further detailed in the SMMA Agreement in Appendix 2. Zones within the marine component of the PMA are as follows:

Figure 3
PMA Zoning

- Marine Reserves – these areas are declared under the provisions of Section 22 of the Fisheries Act #10 of 1984, for the purpose of protecting the natural resources they contain. For the PMA, these marine reserves comprise reefs at Petit Piton and Gros Piton. No extractive activity is allowed, as per the provisions of the Act, and entry into a Reserve is subject to the approval of the Department of Fisheries. For the purpose of stock replenishment and scientific research, the Department of Fisheries may designate some reserves as Sanctuaries, and the reefs extending around the western point of Gros Piton has been declared as such.
- Fishing Priority Areas – these areas are declared under the provisions of Section 20 of the Fisheries Act #10 of 1984, for the purpose of maintaining and sustaining fishing activities, which take priority over any other use of that area. Within the PMA, four (4) such areas exist: at Malgretoute, Jalousie, Sable and Anse L’Ivrogne.
- Recreational Areas – these are terrestrial (beaches) and marine (swimming and snorkelling) areas, which are reserved for public access and recreation. Such areas exist at Malgretoute and Anse L’Ivrogne.
- Yacht Mooring Areas – specific areas are designated to facilitate pleasure boats and yachts and for protection of the bottom substrate. These have been set up at Malgretoute and Jalousie.
- Multiple Use Areas – these are areas where activities are regulated by existing legislation, notably the Fisheries Act. Activities that take place in these areas include fishing, diving, snorkelling, and other recreational activities. Such areas are found in Beausejour and Malgretoute.

4.3 Land use

Currently, there is no national land use plan; however, efforts are underway to develop a land policy, which will guide land use and ultimately facilitate the development of a national land use plan. To ensure that this constraint does not negatively impact on resources within the PMA, a land use plan will specifically be developed for the PMA. Appendix 5 details an indicative land use plan designed for the PMA, which will, in the short term, be replaced by a detailed land use plan for the area.

4.4 Management of lands in ‘Conservation Area Type IB’

The Pitons and Sulphur Springs represent areas of critical importance to maintaining the unique landscape and integrity of the PMA. Currently, 320.21 hectares of land within these critical areas are owned by the Crown, but 147.2 hectares are privately owned. To ensure that these areas are preserved and that the issue of private land ownership does not compromise the value of these areas, the Government of Saint Lucia will embark on a process to determine the most appropriate course of action that would allow for active management of these lands. This process should be in keeping with the guiding principles of this management plan. In addition, during this process the following options are to be considered:

- Option 1 - Any land under private ownership within the areas of concern may be acquired through a phased process, based on a system of prioritisation for protecting critical resources. This acquisition, if appropriate, will be in accordance with the Land Acquisition Ordinance Chapter 109, which provides for the acquisition of lands for public purposes. The term ‘public purposes’ includes the purpose of fulfilling any obligation of the Government under treaty or agreement made by the Government.
- Option 2 - A combination of land acquisition, land exchange and/or stewardship may be used to address the issue of management of privately owned lands.

SECTION 5 MANAGEMENT AND PLANNING PROGRAMMES

The following sections detail relevant programmes that will allow for effective management of PMA:

5.1 Conservation of natural resources

5.1.1 Specific objectives:

- protect and conserve natural resources within the PMA;
- restore and/or rehabilitate ecological systems within the PMA, where necessary; and
- enforce regulatory and other management measures within the PMA.

5.1.2 Existing arrangements

There are several programmes established under various agencies to ensure conservation of natural resources. Key agencies with management responsibilities within the PMA are:

- Ministry of Physical Development, Environment and Housing
- Ministry of Agriculture, Forestry and Fisheries
- Soufriere Marine Management Association
- Soufriere Regional Development Foundation
- Saint Lucia National Trust
- National Conservation Authority

These agencies work in collaboration with the relevant public agencies, non-governmental organisations, community-based groups, and other interested groups/persons to facilitate implementation of these programmes.

Areas of activity under these programmes include, but are not limited to

- Conservation of coastal/marine biodiversity
 - establishment of marine reserves
 - regulation of fishing activities
 - regulation of diving and snorkelling activities
 - regulation of the development of coastal infrastructure
 - regulation of beach works such as renourishment activities
- Conservation of forest biodiversity
 - establishment of forest reserves
 - management of forest trails
 - regulation of deforestation
 - regulation of physical development
 - regulation of agricultural practices

5.1.3 New measures

Activities currently being carried out will continue to be guided by the respective mandates of relevant agencies, and must also be in accordance with the objectives, principles and guidelines outlined in this plan.

In addition, the Department of Forestry in collaboration with other relevant agencies and user groups should seek to implement management measures aimed at reducing the risk of fires, especially where they pose a threat to endemic and threatened species.

5.2 Conservation of cultural and historical resources

5.2.1 Specific objectives

- protect and conserve cultural and historical resources within the PMA;
- rehabilitate cultural and historical sites within the PMA, where necessary;
- develop management plans and collaborative arrangements to manage privately owned resources within the PMA; and
- to promote sustainable economic benefits from these resources.

5.2.2 Existing arrangements

The Soufriere Regional Development Foundation, along with the Saint Lucia National Trust, both play a facilitatory role in preservation and conservation of cultural and historical resources within the PMA. Some resources on privately owned land are currently being maintained by landowners, in most cases to derive economic benefits from heritage tourism.

5.2.3 New measures

To effectively manage all cultural and historical resources within this area, current areas of activity will be expanded to include enhancement, restoration and/or rehabilitation of the cultural and historical monuments that lie within the PMA. In this regard, the two (2) aforementioned agencies will spearhead a process that will develop and implement a plan of action for each monument/site of significance. This process will be consistent with the objectives and principles of this plan.

To facilitate management of resources on private lands, the Saint Lucia National Trust and Soufriere Regional Development Foundation will seek to establish agreements with landowners. These agreements will establish joint management arrangements, allowing increased local involvement in tourism and management of resources, and improvement of accessibility to these resources. Table 2 lists a number of significant features that will be included in the plan of action.

Table 2 Cultural and historic sites within the PMA

Cultural and historic sites	Comments
Beausejour Petroglyph	Amerindian etchings on stone, possible part of a system used in conjunction with the Pitons to determine seasonal changes
Stonefield Petroglyph	Amerindian etchings on stone, possible part of a system used in conjunction with the Pitons to determine seasonal changes
Sugar mill ruins	Old ruins left over from the sugar age in the 18 th -19 th centuries
Diamond Estate (includes Diamond Falls, hot springs, botanical gardens, mineral baths)	Old plantation estate from the 18 th -19 th centuries – cultivated sugar cane, cocoa and coffee at various times during this era
Soufriere Estate	Old plantation estate from the 18 th -19 th centuries – cultivated sugar cane, cocoa and coffee at various times during this era
Brigand Site	One of the sites where ex-slaves (Brigands) hid out and sought their freedom from re enslavement by the British in the late 18 th century

5.3 Landscape management

4.3.1 Specific objectives

- to ensure that the landscape of the PMA is not altered in such a manner as to diminish its outstanding scenic value; and
- to integrate sustainable development of land within this area to ensure compatibility with the management objectives for the PMA.

5.3.2 Existing arrangements

The general building codes and guidelines established by the Ministry of Planning for physical development regulate physical development within the PMA. However, these guidelines do not

address the issue of aesthetics, and therefore, will not ensure the preservation of the unique landscape of the PMA.

5.3.3 New measures

To address the issue of aesthetics, a plan titled ‘PMA Design Guidelines’ has been prepared for the PMA (Appendix 3). This plan will be used jointly with the planning building code and any other regulations set by planning legislation.

5.4 Sustainable use and development

5.4.1 Specific objectives

- to generate income and employment opportunities to provide support to all relevant economic sectors operating within the PMA;
- to ensure that benefits derived are not compromised by unsustainable practices;
- to provide sustainable livelihoods to enhance standards of living, especially for surrounding communities; and
- to allow for equitable sharing of benefits derived from resource use within the PMA.

5.4.2 Existing arrangements

There are several agencies that regulate sustainable use and development of resources within the PMA. These agencies are as follows:

Ministry of Agriculture, Forestry and Fisheries

Ministry of Physical Development, Environment and Housing (including the Crown Lands Department)

Ministry of Commerce, Tourism, Investment and Consumer Affairs

Soufriere Marine Management Association

Ministry of Communications, Works, Transport and Public Utilities

These agencies collaborate with a number of resource use groups and other associations operating within the various sectors (such as agriculture, forestry, fisheries, tourism, industry, and commerce).

Agriculture – The Ministry of Agriculture works in collaboration with other stakeholders to ensure that any agricultural activity occurring within the PMA is in keeping with sound management practices and in accordance with the Agricultural Small Tenancy Act #22 of 1983, which ensures that regulations for proper soil and water conservation practices are enforced on small farm holdings.

Tourism – Tourism activities and development within the PMA are guided by planning legislation, the Tourism Strategy and Action Plan and the Soufriere Tourism Development Plan. A number of institutions have taken on specific management responsibilities within the PMA, and these include:

Soufriere Regional Development Foundation: responsible for management of the Sulphur Springs site

Fond Ger Libre Tour Group and Forestry Department: responsible for management of Gros Piton forest trails

Soufriere Marine Management Association: responsible for management of yachting, diving and snorkelling activities within the area

Soufriere and Diamond Estates: managed by private landowners

Physical Development - Physical development in the PMA is regulated by building codes and guidelines established by the Ministry of Planning, and the Crown Lands Ordinance where applicable. These regulations include provisions for environmental impact assessments, leasing of the Queen’s Chain and vesting of Crown Lands.

Fishing - Fishing techniques are required to comply with the Fisheries Act and its regulations, and must also be in accordance with any other conditions set by the Department of Fisheries or by the Soufriere Marine Management Association. Day-to-day surveillance and enforcement activities are carried out by the Soufriere Marine Management Association in accordance with the Agreement (Appendix 2).

Recreational diving and snorkelling - Diving and snorkelling are controlled by specific regulations established under the Fisheries Act. Licensed dive and snorkel operators and their

clientele must abide by additional conditions set by the Department of Fisheries. In this regard, the Soufriere Marine Management Association undertakes the day-to-day surveillance and enforcement.

Boating - In accordance with the Soufriere Marine Management Agreement, anchoring is not permitted in the marine area of the PMA and authorised moorings must be used. The Soufriere Marine Management Association carries out day-to-day surveillance and enforcement.

Other water-based activities - The Department of Fisheries, the Soufriere Marine Management Association, and the Ministry of Tourism regulate conditions under which water-based activities may take place within the marine area of the PMA. These cover, inter alia, the type of craft and maximum speeds authorised, the use of beaches and other measures aimed at ensuring the safety of users and that the integrity of the coastal area is not compromised.

5.4.3 New measures

Existing arrangements for agriculture will continue but will be strengthened by the formalisation of collaborative management and stewardship arrangements among agricultural authorities, private landowners and the body charged with responsibility for the PMA.

Physical development and tourism activities will be in keeping with guidelines set out in Appendix 3. Further, the environmental impact assessments for development plans proposed for the area that require such in accordance with planning legislation, must be reviewed by the body established to guide management of the PMA. Any concerns arising from this review must be given due consideration by planning authorities.

Nature heritage tourism will be encouraged, but only to the point where it does not degrade or destroy resources within the PMA. Economic benefits derived from these activities, while benefiting Saint Lucia as a whole, must directly benefit communities in and around the PMA.

For marine areas, existing arrangements are deemed adequate, and therefore, these will be continued under the auspices of the Soufriere Marine Management Association and the Department of Fisheries.

5.5 Monitoring and research

5.5.1 Specific objectives

- to guide decision making in management and development of the PMA;
- to evaluate the effectiveness of management measures within the PMA;
- to increase the body of knowledge on the PMA, and resources therein;
- to facilitate awareness and understanding of the area's natural and cultural heritage and its potential; and
- provide the basis for the design and conduct of all education and interpretation programmes carried out for the area.

5.5.2 Existing arrangements

A number of studies have been conducted within the PMA and these include:

- Inventory of flora and fauna of Gros Piton (Anthony 1997)
- A rapid inventory of the flora and fauna of Petit Piton and the ridge between the Pitons (Cox 1999)
- Biodiversity of the marine area adjacent to Gros and Petit Piton (De Beauville-Scott *et al.* 1999)
- The geological significance of the proposed World Heritage Site in Saint Lucia (Wood 2002)

Currently, there are very few ongoing monitoring activities being conducted. One such activity is Reef Check, which is an international coral reef monitoring programme that involves recreational divers and marine scientists. In addition, the Fond Gens Libre Tour Operators take a record of the number of visitors using the Gros Piton Trail and so does the Soufriere Regional Development Foundation for the Sulphur Springs.

5.5.3 New measures

Monitoring activities will be expanded to include total visitor arrivals to the Pitons and surrounding area, avifauna populations and forest biodiversity. This will allow for trends to be determined to guide management and planning decisions.

Further, to ensure that research and monitoring activities contribute to the understanding of the PMA and its management, the body charged with responsibility for the PMA will develop a protocol to guide research and monitoring activities to be conducted within the PMA. This protocol must be in accordance with the Fisheries Act and its regulations, Forest, Soil and Water Conservation Ordinance, Wildlife Protection Act, and consistent with the SMMA Research and Monitoring Framework, which is appended (Appendix 4).

5.6 Public awareness, interpretation and education

5.6.1 Specific objectives

- to improve the quality and effectiveness of management decisions within the PMA;
- to increase the understanding of the ecological, social and economic importance of the area by the public;
- to promote compliance with rules and regulations;
- to foster the participation of the public in various aspects of resource management ; and
- to foster people's concerns and action on broader natural and cultural environmental issues.

5.6.2 Existing arrangements

Public awareness and education initiatives are essential to improve the quality and effectiveness of management efforts. Formal education is the responsibility of the Ministry of Education, however, regulatory and planning agencies all tend to have public awareness programmes within their management structures. These programmes focus on informing the public of the various rules and regulations established under these agencies and the reasons why these have been put in place.

5.6.3 New measures

Within the PMA, the following agencies will play a key role in this programme:

- Folk Research Centre
- Saint Lucia National Trust
- Saint Lucia Archaeological and Historical Society
- Saint Lucia Heritage Tourism Programme
- Ministries with responsibility for community development and culture

As it relates to the PMA, public awareness, interpretation and education will specifically seek to increase the understanding of the ecological, cultural, historical and potential economic significance of the PMA. Activities are to focus on the following, but not be limited to:

- design and conduct of educational programmes targeted at the different audiences, including visitors, local communities, schools, resource users and the wider public;
- preparation, publication and dissemination of materials for relevant target audiences;
- organisation of fora for discussion and dialogue among various sectors and publics;
- interpretation of scientific information generated during monitoring and research, and dissemination of this information to the relevant audiences, including decision makers; and
- maintenance of a catalogue and library of relevant information to facilitate ready access to this information.

Notably, the body charged with responsibility for the PMA will be responsible for designing and implementing this programme. This body must work in collaboration with key management and planning agencies, Ministries with responsibilities for education, community development and culture, media houses, community groups and other interested parties.

5.7 Surveillance and enforcement

5.7.1 Specific objectives

- to facilitate coordination and collaboration among agencies responsible for enforcement and surveillance of rules and regulations as they pertain to the PMA; and
- to sensitise area users and others rules and regulations as they pertain to the PMA.

5.7.2 Existing arrangements

The following agencies play key roles in surveillance and enforcement as they relate to activities occurring within the PMA:

- Royal Saint Lucia Police Force (including Marine Police Unit)
- Ministry of Planning
- Ministry of Agriculture, Forestry and Fisheries
- Soufriere Marine Management Association

5.7.3 New measures

Support staff hired to assist with management of the PMA will provide auxiliary surveillance and enforcement services. However, these persons will not have powers of arrest since they would be key links between the public and the body charged with responsibility for the PMA and play a critical role in public awareness and education. Further, to allow for a coordinated response to enforcement, the body charged with responsibility for the PMA, must devise and implement a communication network with the aforementioned agencies.

5.8 Marketing and Promotion

5.8.1 Specific objectives

- to promote the PMA and its components as a unique heritage tourism product;
- to maximise opportunities for sustainable income generation and alternative livelihoods within the tourism sector; and
- to encourage the production of high quality handicrafts and memorabilia unique to the PMA.

5.8.2 Existing arrangements

Key agencies involved in aspects of marketing include:

- Saint Lucia Tourist Board – promote Saint Lucia as a tourism destination
- Saint Lucia Hotel and Tourism Association – facilitate capacity building within sub-sectors of tourism to assist in marketing their individual properties/products
- Tour operators and private tourism concerns – engage in the promotion and marketing their individual properties/products

5.8.3 *New measures*

The body assigned with responsibility for management of the PMA must work in collaboration with agencies responsible for promotion and marketing to develop and implement a Marketing Strategy and Action Plan for the PMA. This Plan must be in keeping with the following:

- marketing of the PMA must evolve gradually in response to the quality of the experience that can be delivered to consumers;
- the marketing plan must be consistent with the objectives, guiding principles and guidelines of the PMA management plan;
- the marketing plan must promote the PMA and its components as nature heritage tours; and
- marketing of the PMA must be consistent with any policies established by the Saint Lucia Heritage Tourism Programme.

5.9 Financing

5.9.1 *Specific objectives*

- to generate revenue from a variety of means, including use of resources within the PMA, for effective management of the area;
- to raise charitable and voluntary financial support for management of the PMA; and
- to manage the finances in a manner that is efficient, flexible and adapted to needs.

5.9.2 *Existing arrangements*

At present, several institutions generate finances for sustainable management of specific components of the area, such as:

- Soufriere Regional Development Foundation: generates funds from visitation to the Sulphur Springs
- Fond Ger Libre Tour Group and Forestry Department: generates funds from visitation to Gros Piton forest trails
- Soufriere Marine Management Association: generates funds from yachting, diving and snorkelling activities within the area
- Soufriere and Diamond Estates: generate funds from visitation to these sites

5.9.3 *New measures*

For successful long-term management of the PMA, sustainable financing must be achieved so as to ensure the effectiveness of management and development programmes within the area. The first 2-3 years of the PMA will require an input of funding in order to get it off the ground; however, it is envisaged that after this period, the PMA and all its components will be self sufficient in terms of financing.

Components of the PMA work programme will be supported and enhanced by management activities undertaken by relevant government and non-government organisations, particularly those represented on the PMAAC. In such cases, funds and other resources resident in such organisations can augment funds secured by the PMAAC.

Finance for the PMA will be generated via:

- *Visitor conservation fees* for visitation to selected natural and cultural sites: a small contribution per person per visit is recommended, over and above existing facility/trail fees, if any, already charged by responsible operators
- *Operator conservation fees* as an annual contribution to the management and conservation costs for the area
- *User fees/conservation fees* from hiking activities
- *Grants and donations* from individuals, the private sector, local organisations, and international donor agencies and governments who wish to support management activities aimed at achieving the vision and objectives for the PMA
- *Sale of souvenirs* depicting the PMA or various components.
- *Research fees* for access to the area and its facilities for conducting authorised research
- *Fundraising events* conducted by the PMAAC or any other authorised organisation

SECTION 6 PMA INSTITUTIONAL ARRANGEMENTS

6.1 Coordinating body

Given that there are a number of institutional arrangements currently in place to manage various aspects of the PMA, to avoid duplication, gaps and reduce costs, functional linkages will be established. To facilitate this coordinated and integrated approach to management of the PMA, a multi-agency coordinating body will oversee management of this area. This body will be formally established as the PMA Advisory Committee (PMAAC), and comprise representatives from agencies with management and planning responsibilities in the PMA as well as stakeholders from the communities. Where necessary, other agencies/experts will be temporarily co-opted.

The PMAAC will comprise the following representatives and agencies:

- one representative from the tourism business sector in Soufriere, which includes owners of heritage sites and providers of touristic services;
- one representative of the La Pointe/Delcer communities in Choiseul;
- the Permanent Secretary in the Ministry of Physical Development, Environment and Housing;
- the Chief Physical Planning Officer;
- the Chief Forestry Officer;
- the Chief Fisheries Officer;
- One representative from the Ministry of Tourism;
- the Executive Director of the Soufriere Regional Development Foundation (SRDF);
- the Director of the Saint Lucia National Trust; and
- the Secretary General, National Commission for UNESCO, Ministry of Education, Human Resource Development, Youth and Sports.

The respective agencies on the PMAAC retain their individual management authorities for areas and sectors under their jurisdiction, however, the PMAAC coordinating mechanism will allow for greater synergies and efficiencies in the execution of management activities for the PMA so as to achieve the area's objectives.

The PMAAC will operate under the following terms of reference:

- the chair of the PMAAC will be the Permanent Secretary, Ministry of Physical Development, Environment and Housing
- the vice chair of the PMAAC will be the Executive Director, Soufriere Regional Development Foundation
- the Secretary and convener of the PMAAC will be the Saint Lucia National Trust
- the PMAAC should meet at least once per quarter
- for any development proposals for the PMA, the PMAAC should provide a unified response to the development authority.
- consideration should be given to any issues raised by any other interest groups not represented on the committee.
- the PMAAC will consult with the various stakeholders and general community as an integral part of its decision making process.
- the PMAAC will report to the Cabinet of Ministers through the Minister responsible for Planning

6.2 Staffing

To facilitate day-to-day management of various aspects of the PMA, especially as it pertains to revenue generation and surveillance, an onsite office with core staff will be established. Staffing, for the least, is to comprise a manager and two area stewards. This staff will serve as a secretariat for the PMAAC and be responsible for, but not limited to:

- providing secretariat functions for the PMAAC;
- leading implementation of the education programme;
- facilitating surveillance and enforcement activities within the PMA; and
- assisting with the collection of fees where appropriate.

6.3 Scientific body

A PMA Scientific Committee will be established as a subcomponent of the PMAAC. This committee will comprise professionals from the public and private sectors with expertise in: :

- marine biology;
- forestry;

- wildlife;
- agriculture; and
- environmental planning.

It will also comprise representatives from the following agencies:

- Ministry of Social Transformation, Culture and Local Government;
- Saint Lucia National Trust;
- Soufriere Marine Management Association;
- Saint Lucia Archaeological and Historical Society; and
- the person having responsibility to manage the PMA.

The PMA Scientific Committee will operate under the following terms of reference:

- the convenor and chair of the Scientific Committee will be the Saint Lucia National Trust;
- the Scientific Committee will work collaboratively with other interest groups such as tour and dive operators; and
- The Scientific Committee will report to the PMAAC.

The Scientific Committee will be responsible for:

- developing and implementing a protocol to guide monitoring and research activities conducted in the PMA. This protocol must be approved by the PMAAC before implementation; and
- coordinating of monitoring and research conducted within the PMA.

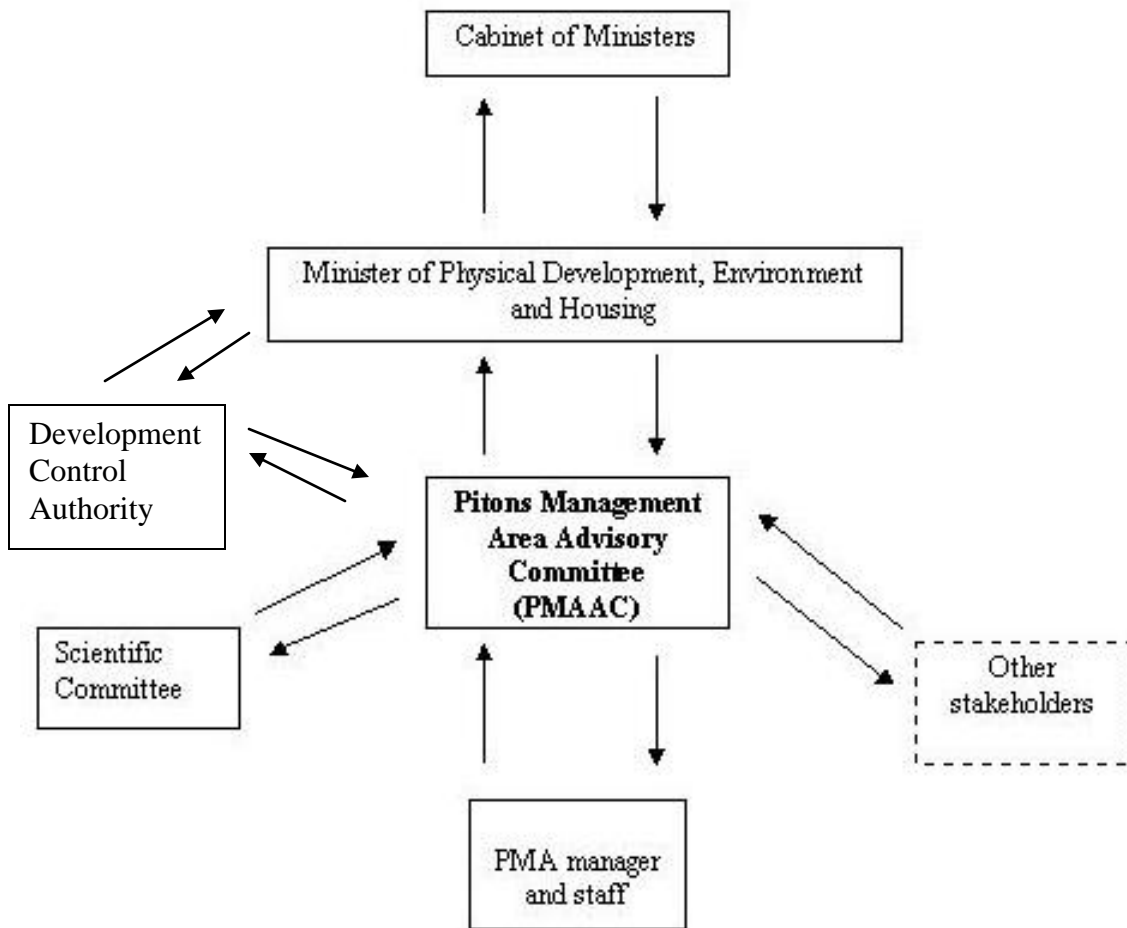


Figure 4 The organisational structure of the PMA

SECTION 7: LEGAL ISSUES

7.1 Legal instruments

All regulatory agencies shall retain their individual authorities for areas and sectors under their jurisdiction and national legislation shall be used in tandem with any guidelines set within this plan. Relevant legislation includes:

- Agricultural Small Tenancy Act #22 of 1983
- Crown Lands Ordinance Chapter 108
- Fisheries Act #10 of 1984 and Fisheries Regulations #9 of 1994
- Forest, Soil and Water Conservation Ordinance 25 of 1946
- Land Conservation and Improvement Act #10 of 1992

- Land Development (Interim Control) (Amendment) Act #18 of 1998 (to be succeeded by the Physical Development and Planning Act #29 of 2001, once promulgated)
- National Conservation Authority Act #16 of 1999
- Saint Lucia National Trust Act #16 of 1975 and Saint Lucia National Trust Rules #27 of 1984
- Wildlife Protection Act #9 of 1980

7.2 Legal basis for the PMA

The legal framework for establishment and management of the PMA will be the Physical Planning Act #29 of 2001. Section 34 (2) of the Physical Development and Planning Act #29 of 2001 states that the Minister with responsibility for planning may declare an area an Environmental Protection Area by Order published in the Gazette. According to this Act the Order may make it compulsory for an EIA to be carried out in respect of every application for development within the Environmental Protection Area; allow for restriction or prohibition of development within the area; and control the use of land for the purpose of forestry, fisheries and agriculture in the area. To formalise the various components of this plan, the Order made by the Minister to declare the PMA an Environmental Protection Area will thus entail management and institutional arrangements laid out in this plan. As such, the ultimate authority of the PMA will rest with the Minister of Planning, pursuant to the powers conferred to this Minister under the said Act. However, since this Act has not yet been promulgated, in the interim, the PMA and management plan will be formalised by way of Cabinet Conclusion.

Section 34 (5) of the Physical Planning Act states that where any land within an area that is declared an Environmental Protection Area depreciates in value as a result of the restriction placed on its use, adequate compensation should be paid to the owners of the land. Compensation, if required, will be in accordance with the Crown Lands Ordinance.

SECTION 8: REPORTING AND REVIEW

The PMAA will produce an annual report to be presented to the Cabinet of Ministers through the Minister responsible for Planning. This report must contain a financial statement for the PMA

and a review of all programme activities carried out during the period under review. This report must seek to evaluate any successes and failures, and make recommendations for future improvements. Any improvements recommended by stakeholders and agreed on by the PMAAC, will be considered as an improvement to this plan, and where necessary, appended to the original Order made by the Minister of Planning.

SECTION 9: PROVISIONAL BUDGET

Anticipated annual expenditure (EC\$) for the first two (2) years of area implementation and operation is estimated at \$162,000.00; however, a more thorough analysis will be undertaken by the PMAAC.

Administrative and operational costs will be curtailed by basing the PMAAC office within an existing organisation operating within the Soufriere community and by in-kind contributions of various public sector and non-government organisations participating in the management programmes of the PMA.

The management of all PMA income and expenditure is the responsibility of the PMAAC. The Area Manager, under the guidance of the PMAAC, will be responsible for preparing an annual work programme and corresponding budget. An annual audit will be conducted by a competent, independent accounting agency, and the results submitted to the PMAAC for its consideration and then to be made available to the Minister of Physical Development for presentation to the Cabinet of Ministers.

SECTION 10: PRIORITY ACTIONS

Cabinet submission

A Cabinet memo is to be prepared outlining the main elements of this plan, and submitted to the Cabinet of Ministers for Approval.

Order by Minister of Planning

Upon approval by the Cabinet of Ministers, an Order is to be made by the Minister of Planning declaring the PMA an Environmental Protection Area. This Order must contain the main elements of this plan as it relates to planning and management of the PMA.

Procurement of funds

While it is envisaged that the PMA and all its components would be self sufficient, it will be necessary to identify start up funds to initiate this management plan.

Management of privately owned lands

Upon declaring the PMA an Environmental Protection Area, the Ministry of Planning will embark on a process that would address the issue of management of privately owned lands.

PMA staff/office arrangements

The PMAAC will have their first meeting to discuss the hiring of staff and other logistics. A manager will be hired and would be key in initiating several activities. Additional support staff will be hired as early as possible, dependent on the availability of funds.

Public education programmes

The PMA manager will be charged with responsibility for developing this programme in consultation with the relevant agencies.

Catalogue and library system

The PMA manager will be charged with responsibility for establishing a catalogue of relevant materials and maintaining a library of such documents and materials.

Monitoring and research protocol

The PMA Scientific Committee will be initiated and charged with responsibility for development of this protocol through a process of consultation and participation.

Agreements and management plans (including restoration and/or rehabilitation activities) for selected historical and cultural resources/sites

Landowners with resources of significance will be consulted in an effort to engage in agreements that would facilitate the development of plans for the rehabilitation and management of these resources. The Soufriere Regional Development Foundation and the Saint Lucia National Trust are to initiate this process.

Preparation of marketing plan

This is to be developed over the medium term and be a joint effort among the Soufriere Regional Development Foundation, the Saint Lucia National Trust, the Saint Lucia Tourist Board and the Saint Lucia Heritage Tourism Programme and other relevant agencies. Various components of this plan will be implemented at different times, depending on the readiness of the product being offered.

SECTION 11: REFERENCES

- Anthony, D. 1997. Inventory of flora and fauna of Gros Piton. ENCORE Project, St. Lucia Local Component, USAID. 78p.
- CIS and Associates. 2000. Soufriere Tourism Development Plan (Draft). 45p.
- Cox, C. 1999. A rapid inventory of the flora and fauna of Petit Piton and the ridge between the Pitons. Forestry Department, Ministry of Agriculture, Forestry and Fisheries. A report to the St. Lucia World Heritage Committee. 30p.
- CZMP. 2002. Coastal Zone Management in Saint Lucia: issues paper. Ministry of Agriculture, Forestry and Fisheries. 24p.
- De Beauville-Scott, S, P. Moore and K. Mortley. 1999. Report on baseline biodiversity of the marine area adjacent to Gros Piton and Petit Piton: Anse L'Ivrogne to Malgretoute. Department of Fisheries, Ministry of Agriculture, Forestry and Fisheries. A report to the St. Lucia World Heritage Committee 56p.
- Devaux, R. 2002. Personal communications. Castries. Saint Lucia.
- Gruin, M.R. 1997. A management strategy and plan of action for the Gros Piton Nature Site, Fond Gens Libre, St. Lucia. ENCORE Project, Saint Lucia Local Site Component. USAID. 81p.
- GOSL. 1998. Biodiversity Country Study Report of St. Lucia. Government of Saint Lucia. 402 p.
- GOSL. 2002. Legal and Institutional Review of Environmental Management in St. Lucia (DRAFT). 192pp.
- Hudson, L., Y. Renard and G. Romulus. 1992. A System of Protected Areas for St. Lucia. St. Lucia National Trust. Castries. 72p.
- Pettigrew, L. 2002. PMA Design Guidelines. Prepared for the World Heritage Committee.
- SMMA. 2000. An agreement on the use and management of the Soufriere Marine Management Area.
- SLWHC. 2001. Report on a consultation on the Pitons Management Area. St. Lucia World Heritage Committee. 10p.
- SLWHC. 2002. Pitons Management Area Indicative Land Use Plan (Draft).

- Walker, L. 2001. Variable effects of a hurricane on coral reef substrata in southwest St. Lucia, West Indies. Dalhousie University, Canada. Undergraduate thesis- marine biology.
- WHC. 1999. Operational guidelines for the implementation for the World heritage Convention. UNESCO World Heritage Centre. 38p.
- Wood, C. 2002. The geological significance of the proposed World Heritage Site in St. Lucia. A report to the St. Lucia World Heritage Committee.

APPENDIX 1 World Heritage Attributes of the Pitons Management Area

The Pitons Management Area (PMA) has been identified by the Government of Saint Lucia as a site suitable for nomination as a World Heritage Site (WHS).

This nomination recognises that the area:

...offers an outstanding example representing significant geomorphic or physiographic features (i.e., meets criterion i. for natural World Heritage Sites) with its possibly unique example of a compact historic centre with a range of volcanic features and rock types;

...offers exceptional natural beauty and aesthetic importance (i.e., meets criterion iii. for natural World Heritage Sites) with its unique landscape of the Pitons.

The PMA demonstrates the following, reflecting the conditions of integrity required of a WHS:

- Twin coastal volcanic cumulo-domes (Gros Piton and Petit Piton) and the Sulphur Springs as terrestrial conservation areas;
- Areas of coral reef marine reserve as marine conservation areas, including a marine sanctuary where only authorised research is permitted;
- Strict land use and other controls within these conservation areas for preserving their ecological, physical and cultural integrity, with State ownership and control of significant portions of the conservation areas;
- Adjoining terrestrial and marine space surrounding conservation areas where an active management regime regulates development and resource for further protection of the conservation areas and sustainable use of resources within the overall area.

As such, the PMA has been set up to ensure long-term conservation of the area's ecosystems, biological diversity, natural landscapes and aesthetic value via an active management framework based on legislative, regulatory and institutional systems which allow for an integrated approach to area planning and management.

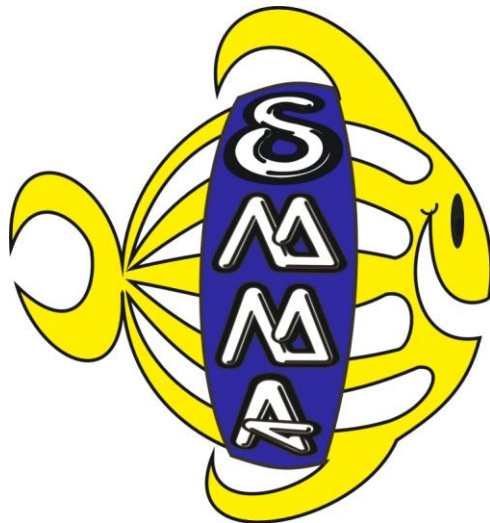
APPENDIX 2 Soufriere Marine Management Association Agreement

DATED THIS 16th DAY OF January 2001

AGREEMENT

TO MANAGE THE

SOUFRIERE MARINE MANAGEMENT AREA



PREAMBLE

WHEREAS the purpose of this agreement is to establish and guide the management of the Soufriere Marine Management Area (hereinafter referred to as the SMMA), as the appropriate institutional arrangement for the management of marine and coastal resources in the Soufriere region, and as the mechanism to govern the relationship among governmental and non-governmental organisations involved.

AND WHEREAS by way of Cabinet Conclusion No. 1648 of 1999 and Cabinet Conclusion No. 724 (b) of 2000 the Cabinet of Government of St. Lucia has *inter alia* given its approval of this agreement.

AND WHEREAS pursuant to the above Cabinet Conclusions the Parties have agreed to form a company not for profit under the Companies Act of St. Lucia 1996 for the purpose of management of the SMMA the aforesaid company to be known as the Soufriere Marine Management Association Inc. (hereinafter referred to as THE ASSOCIATION).

NOW IT IS HEREBY AGREED THAT:

ARTICLE I

PARTIES

The Parties to this agreement are as follows:

1. The Government of St. Lucia specifically represented by the following Ministries
 - i. Ministry with responsibility for Fisheries;
 - ii. Ministry with responsibility for Planning, Development and the Environment;
 - iii. Ministry with responsibility for Tourism;
2. The Saint Lucia Air and Sea Ports Authority;
3. The National Conservation Authority;
4. The St. Lucia Dive Association;
5. The St. Lucia Hotel and Tourism Association;
6. The Soufriere Fishermen's Co operative;
7. The Soufriere Regional Development Foundation;
8. The Soufriere Water Taxi Association;

AND their successors in title and authority.

ARTICLE 2

GUIDING PRINCIPLES

All Parties to this agreement have developed a shared vision of the future of the marine and coastal environment of Soufriere, which is based on the following elements:

1. the development of people and communities must be based on the rational use of their natural and cultural capital. Soufriere is rich in such capital, which must be developed and enhanced for the benefit of present and future generations;
2. this process of development must be sustainable, and this cannot be achieved unless the use of renewable natural resources is managed with care and resources are allowed to renew themselves. Conservation must therefore be an integral objective and component of all management and development programmes;
3. the benefits derived from the use of the natural and cultural capital must be shared as equitably as possible, and must contribute to addressing the most pressing social and economic problems of society;
4. development and natural resource management must be approached as complementary processes requiring integrated and multi-disciplinary structures and interventions;
5. the process of development must give all citizens an opportunity to participate fully in making and implementing decisions.

ARTICLE 3

MANDATE

In order to realise this vision, the mission of the SMMA is to contribute to national and local development, particularly in the fisheries and tourism sectors, through the management of the coastal zone of Soufriere, based on the principles of sustainable use, cooperation among resource users, institutional collaboration, active and enlightened local participation, and equitable sharing of benefits and responsibilities among stakeholders.

ARTICLE 4

OBJECTIVES

The objectives of SMMA are to:

conserve the coastal and marine resource base of Soufriere;

enhance the equitable economic, social and cultural benefits generated from the sustainable use of the coastal and marine resources of Soufriere at the local and national levels;

manage the conflicts that may occur among uses and users of the coastal and marine resources in Soufriere.

ARTICLE 5

AREA

The coastal and marine area under the jurisdiction of THE ASSOCIATION shall be the area set out in Schedule I to this agreement.

ARTICLE 6

ZONING

The specific provisions regarding the zoning of activities are summarised in the map in Schedule 2 of this agreement. Five zones have been identified:

1. Marine Reserves: these areas are declared under the provisions of SECTION 22 of the Fisheries Act N° 10 of 1984, for the purpose of protecting the natural resources they contain. No extractive activity is allowed, as per the provisions of the Act, and entry into a Reserve is subject to the approval of the Department of Fisheries. For the purpose of stock replenishment and scientific research, the Department of Fisheries may designate some Reserves as Sanctuaries;
2. Fishing Priority Areas: these areas are declared under the provisions of SECTION 20 of the Fisheries Act N° 10 of 1984, for the purpose of maintaining and sustaining fishing activities, which take priority over any other use of the area;
3. Multiple Use Areas: these are areas where activities are regulated by existing legislation, notably the Fisheries Act N° 10 of 1984, and by the provisions contained in ARTICLE 7 below. Activities that may take place in these areas include fishing, diving, snorkeling and other recreational activities;
4. Recreational Areas: these are terrestrial (beaches) and marine (swimming and snorkeling) areas which are reserved for public access and recreation;
5. Yacht Mooring Sites: specific areas are designated to facilitate pleasure boats and yachts and for the protection of the bottom substrate.

ARTICLE 7

REGULATIONS FOR RESOURCE USE

The following conditions of resource use will apply in all areas, except where the designation imposes additional or different restrictions:

1. Fishing: appropriate fishing techniques must be used, in accordance with the Fisheries Act and its Regulations, and in accordance with any other conditions set by the Department of Fisheries or by the Soufriere Marine Management Association within the normal decision-making framework of the

Association.

2. Diving: diving must be carried out in accordance with relevant Regulations established under the Fisheries Act, and in compliance with the policies and guidelines of the St. Lucia Dive Association.

In addition, divers must make every effort to report infractions, and dive operators are required to submit statistical data on their operations within the SMMA. All commercial SCUBA and hookah dives must be carried out exclusively under the supervision of a licensed dive leader. All commercial snorkeling tours must be carried out under the supervision of a licensed guide.

Yachting: anchoring is not allowed in the Area, and moorings must imperatively be used, except under special authorisation from the Soufriere Marine Management Association.

Other water-based activities: the conditions under which other water-based activities may take place within the Area may be regulated and controlled by the Association. These will cover, *inter alia*, the type of craft and the maximum speeds authorised, the use of beaches for landing pleasure craft, and other measures aimed at protecting the safety of users.

ARTICLE 8

INSTITUTIONAL AND LEGAL ARRANGEMENTS

The institutional and legal arrangements for the management of the SMMA are governed by the following:

1. all Parties shall retain individual management authority for areas and sectors under their jurisdiction;
2. the legal framework for the establishment and management of the SMMA is the Fisheries Act, and the ultimate authority rests with the Minister of Agriculture, Forestry and Fisheries, pursuant to the powers conferred to the Minister under the said Act;
3. the Soufriere Bay has been established as a Port of Call for pleasure yachts and as a Yacht Mooring Area under the Customs (Control and Management) Act No. 23 of 1990;
4. the Soufriere Bay has been established as a Sea Port under section 2 of the St. Lucia Air and Sea Ports Authority (Amendment) Act No. 17 of 1985;
5. employees of THE ASSOCIATION are made authorised officers under section 26 of the Fisheries Act, and, as such, are empowered to enforce the provisions of both the Fisheries Act and the by-laws of THE ASSOCIATION;
6. a Stakeholder Committee has been established by THE ASSOCIATION, under the following terms of reference -
 - i. it includes a broad membership to ensure representation of stakeholders,
 - ii. the Convener of the Stakeholder Committee is the President of THE ASSOCIATION,

- iii. the Stakeholder Committee meets at least once per quarter,
- iv. all major proposals for management and development produced or being considered by management agencies of THE ASSOCIATION, and related to the SMMA, must be presented to the Stakeholder Committee for advice,
- v. issues raised by the Stakeholder Committee are to be considered by the directors of THE ASSOCIATION.

ARTICLE 9

PROGRAMMES

The objectives of the SMMA shall be achieved through a number of complementary programmes, which are briefly summarised here, and which will be elaborated upon further as part of the normal programming process of THE ASSOCIATION and its participating institutions.

9.1. Education, public awareness and communication

The objectives of this programme are:

- i. to improve the quality and effectiveness of the management decisions made by THE ASSOCIATION;
- ii. to mobilise human, technical and financial resources to assist with the implementation of all management programmes;
- iii. to establish the credibility of THE ASSOCIATION and to build support for its objectives and activities among the communities in Soufriere and at the national level;
- iv. to increase understanding of the ecological, social and economic importance of the marine environment;
- v. to promote compliance with rules and regulations by commercial and recreational users.

Areas of activity include but are not limited to:

- 1. dissemination of information to all user groups and the general public;
- 2. training of teachers, trainers and media personnel;
- 3. design and conduct of educational programmes;
- 4. preparation, publication and dissemination of materials for all relevant target audiences;
- 5. organisation of fora for discussion and dialogue within and among sectors, at the local and national levels, on issues relevant to the development of Soufriere.

Responsibility for the design and implementation of this programme rests primarily with THE ASSOCIATION, working in partnership with the Ministries of Education and Community Development, media houses and other relevant and interested parties.

9.2. Social and economic development

The objectives of this programme are:

- i. to derive equitable social and economic benefits from the sustainable use of the natural and cultural resources of the SMMA;
- ii. to encourage, to the maximum extent possible, the equitable distribution of these benefits among the various sectors of the community, with particular attention being paid to the needs of the poor and disadvantaged sectors of society;
- iii. to contribute to the development and strengthening of the institutions involved in the development of the Soufriere region, particularly those at the community level;
- iv. to enhance social cohesion.

Areas of activity include but are not limited to:

1. facilitation of access to credit and technical assistance in relevant sectors;
2. provision of training and extension services in relevant sectors;
3. provision of assistance in organising production and marketing arrangements for local goods and services, whenever desirable and possible;
4. consultation with THE ASSOCIATION, by relevant agencies and authorities, on all major development initiatives that have an impact on the SMMA;
5. provision of facilitation and institutional development support to community groups and organisations;
6. organisation of appropriate social events and activities aimed at building cooperation and understanding within the community.

Responsibility for the design and implementation of this programme rests primarily with THE ASSOCIATION, working in partnership with all relevant public agencies, non-governmental development agencies and other interested Parties.

9.3. Infrastructure

The objective of this programme is to equip THE ASSOCIATION with the infrastructure it needs for the implementation of all its activities and the realisation of its mission.

Facilities to be acquired include but are not limited to:

- i. interpretation facilities;
- ii. jetties and landing facilities;
- iii. information and orientation signs;
- iv. recreational facilities;
- v. facilities required in support of commercial activities

9.4. Financing and revenue generation

The objectives of this programme are:

- i. to provide funding for the management and development of the SMMA and for the operation of THE ASSOCIATION;
- ii. to ensure the effectiveness and financial sustainability of all other management programmes;
- iii. to secure the flexibility and self-sufficiency of the SMMA.

The main instruments of implementation of this programme are:

1. the collection of fees for all commercial uses, at rates and under conditions to be set by THE ASSOCIATION;
2. the payment for services provided in support of research activities. Such requirements may be waived by THE ASSOCIATION, particularly when the research contributes directly to the management of the SMMA;
3. the sale of items consistent with the image and objectives of the SMMA;
4. the granting of concessions for the use of facilities owned or managed by THE ASSOCIATION;
5. the receipts of grants and donations from individuals and organisations who subscribe to the mission and objectives of THE ASSOCIATION and are able to contribute to its activities;
6. the receipt of subventions from the Government of St. Lucia;
7. the provision of technical services to other organisations in the areas of competence of the staff of THE ASSOCIATION and the Parties to this agreement.

The management of all income and expenditure is the responsibility of THE ASSOCIATION, under the control of the Ministry with responsibility for Fisheries with the conduct of annual audits and the distribution of their results to all stakeholders, and with the preparation and use of annual budgets specifying revenue generation targets and projected expenditures.

9.5. Research and monitoring

The objectives of this programme are:

- i. to provide the scientific basis for the formulation and implementation of all programmes related to the management of the use of the natural resources and the development of socio-economic activities in the SMMA;
- ii. to evaluate the effectiveness of specific management decisions, and to allow management agencies to adapt, modify or strengthen management measures accordingly;
- iii. to develop methods, approaches and tools for participatory planning and management, for use by THE ASSOCIATION and other institutions;
- iv. to provide a field terrain for the development of new knowledge about marine and coastal resources, institutional development, sustainable resource uses and other aspects which can be tested within the SMMA.

Research activities must be carried out in accordance with the provisions of the Fisheries Act, and under the guidance of THE ASSOCIATION, which shall be provided with results and other products as appropriate.

Areas of activity include but are not limited to:

1. formulation and coordination of an overall plan and programme for research and monitoring;
2. monitoring of the status of resources, and of the economic, social and cultural impacts of management;
3. coordination of the activities of external researchers;
4. dissemination of information to all stakeholders to make them aware of the research being carried out within the SMMA;
5. distribution of results of research and monitoring activities in the appropriate form, to relevant stakeholders;
6. provision of support to research activities.

Responsibility for the design and implementation of this programme rests primarily with THE ASSOCIATION, through a Scientific Committee established for the purpose of assisting and advising it in this task.

ARTICLE 10

REPORTING AND REVIEW

The following programming, reporting, evaluation and review procedures apply to the implementation of this agreement:

1. the implementation of the various programmes is guided by annual work plans and budgets which are prepared by THE ASSOCIATION, submitted to the Stakeholder Committee for review, and approved by the directors of THE ASSOCIATION;
2. changes to this agreement (including its zoning provisions) can only be made through the following procedure:
 - i. formulation of a specific concern, request or need by at least one of the stakeholders or stakeholder groups;
 - ii. research of the issue, its causes and the management options by the staff of THE ASSOCIATION and participating agencies as appropriate;
 - iii. examination of the issue and review of the various options by the Stakeholder Committee.
 - iv. formulation of a recommendation from the Stakeholder Committee, for consideration and decision by the directors of THE ASSOCIATION;
 - v. finalisation of the decision by resolution of the directors of THE ASSOCIATION, and, if applicable, formulation of an amendment to the agreement;
 - vi. in the event that the modification of the agreement requires an amendment to the by-laws of THE ASSOCIATION the entry into force of the amendment will be subject to its approval by the Minister with responsibility for Fisheries;
 - vii. proceedings in relation to the above must be shared with the Stakeholder Committee as soon as reasonably possible, to ensure that all Parties are aware of the work of management and of the issues addressed by THE ASSOCIATION;
3. a formal review of this agreement and its implementation shall be carried out once every two years from the date of signing of this agreement, and a report shall be presented to the Minister with responsibility for Fisheries.

ARTICLE 11

ARBITRATION AND JURISDICTION

This agreement is subject to the Arbitration Ordinance Chapter 14 of the Laws of St. Lucia Revised (1957), as amended, and shall be construed according to the laws of St. Lucia.

ARTICLE 12

WITHDRAWAL

Any Party to this Agreement may withdraw upon giving six months notice in writing to every other Party to this Agreement and this shall become effective upon the expiration of the notice period. The Party giving notice shall however, be bound to fulfill its obligations under this Agreement until the expiration of the notice period aforesaid.

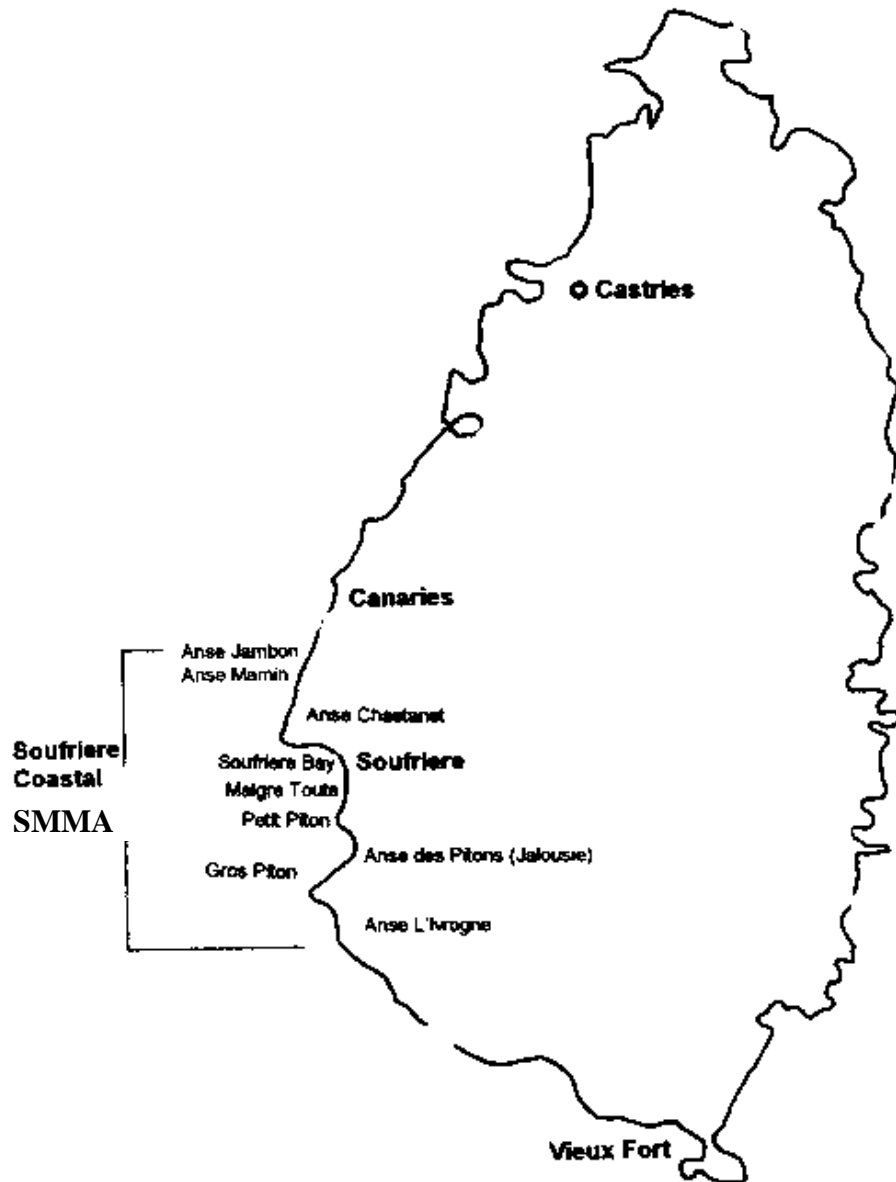
ARTICLE 13

TERMINATION

This Agreement shall be terminated upon withdrawal of a majority of the Parties to this Agreement pursuant to the procedure for withdrawal as per Article 12 above.

SCHEDULE I


St. Lucia




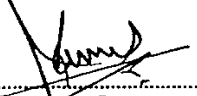
(Map not drawn to scale)

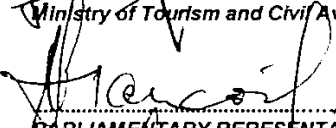
SCHEDULE 2





PERMANENT SECRETARY
Ministry of Agriculture, Forestry and Fisheries


PERMANENT SECRETARY
Ministry of Planning, Development,
Environment and Housing


PERMANENT SECRETARY
Ministry of Tourism and Civil Aviation


PARLIAMENTARY REPRESENTATIVE
Soufriere


GENERAL MANAGER
Saint Lucia Air and Sea Ports Authority


CHAIRMAN
National Conservation Authority


CHAIRMAN
St. Lucia Dive Association


EXECUTIVE VICE PRESIDENT
St. Lucia Hotel and Tourism Association


PRESIDENT
Soufriere Fishermen's Cooperative


EXECUTIVE DIRECTOR
Soufriere Regional Development Foundation


PRESIDENT
Soufriere Water Taxi Association

APPENDIX 3 Building design guidelines

INTRODUCTION

The following Design Guidelines represent the suggested approaches to various design situations. The guidelines should be supplemental to regulations already in force under the auspices of the Development Control Authority (DCA) and/or the Ministry of Planning (MOP).

Architects, Planners and Engineers should use the guidelines, in the preparation of plans to be presented for approval to the DCA when construction, renovation or other works are contemplated in the area to be designated a World Heritage Site.

The MOP and/or the DCA in assessing applications for development prior to consideration of whether or not to grant planning permission should also use the guidelines.

The guidelines should be periodically reviewed and amended as necessary.

GOALS

- Preservation and rehabilitation, which contribute to the character of the area as a place of outstanding natural beauty.
- Encourage new construction to be compatible with surrounding properties in scale, height, setbacks, and massing and in style with the established character of the area.
- To prevent development which imposes itself on the environment in an unsafe, unsightly, or aggressive manner.
- To enhance the quality of life for residents and visitors alike.
- To prevent excessive density of development which imposes burdens on the established infrastructure of the area.

ENFORCEMENT AND APPLICATION

The guidelines should be established as a written document, which is then available to the general public at no charge.

The review of all building and development applications for the Pitons Management Area (PMA) will be performed by the Pitons Management Area Committee (PMAC), which is appointed by the Cabinet of Ministers and reports to the Minister of Physical Development, Environment & Housing.

The PMAC will review all building applications prior to their submission to the Ministry of Physical Development, Environment & Housing for approval. The PMAC will not have the power to accept or reject applications but will prepare a report on the application noting the compliance of the proposal with the published guidelines and the management plan for the PMA.

CONSTRUCTION

General Guidelines

The relationship between the building and the environment is of critical importance. The entrances, windows, upper floors, and building details are very important. The positioning on site of the building and its height in relation to the existing grade is also very important. The design style, use of materials, clarity of entrance, and appearance of the total building should be reviewed in detail. As such, any construction plans should address the following:

New Construction:

1. Entrance from the public road.
2. Site work in relationship to positioning of the building and the amount of soil to be disturbed.
3. Retaining walls constructed in natural materials.
4. Site drainage and the installation of silt traps.
5. Storm water disposal.
6. All projects should consider the overall form, pattern, and detail of the building. Box buildings are not encouraged and new structures within the area should consist of simpler forms to be compatible with neighbouring structures. These include buildings with minor abstractions of previous architectural styles in the district.
7. Preservation of the existing landscape in particular geological formations, large trees in excess of 6” in diameter, agricultural areas, and wildlife habitat.
8. Design and location of balconies and verandas should reinforce the building form.
9. Air conditioning units and other appurtenances should be screened.
10. Building materials should comply with the established character of the area.
11. The size of the buildings should be designed to be in a harmonious relation with adjoining structures.

Renovations and Additions to Existing Structures:

1. Rehabilitation of existing structures should be encouraged and is paramount to the success of the maintenance of an area of outstanding natural beauty.
2. For buildings, which have been somewhat altered over the time, rehabilitation should be based on the buildings original appearance. If documentation is not available, the design should be consistent with the architectural character of the building.

Line of Sight Study

1. All buildings and developments should be the subject of a line of sight study to determine that no building blocks established views, light, air, or access from both adjoining and surrounding properties.

2. The study should also focus on the impact of the line of site of the Pitons in relation to the position of the building so that it does not impose itself on the areas natural beauty.

Landscaping

1. Landscaping plans should be required for all developments to insure that all existing flora are maintained as far as possible and that any new development considers, screening, habitat, and enhancement of the site through landscaping.
2. Existing structures in significant areas should be reviewed and landscaping plans should be considered.

Ridgeline Preservation

1. No structure should be allowed on the ridgeline in the Piton basin area. This is crucial to the success of the site as a protected World Heritage site. All developments proposed on ridgelines in the surrounding area should comply with height and positioning restrictions so that the natural flora of all ridgelines is protected in perpetuity.
2. Existing structures, which impose themselves on the ridgeline, should be required to submit landscape plans showing how the devastating effect of spoiling the ridgeline can be mitigated.

Roofing Materials

1. For existing buildings, the roofing material shall be retained or replaced as required if the building is renovated. Buildings with unsightly roofs should be required to be repaired and restored.
2. For residential and commercial buildings which utilize metal roofs, the following is suggested:
 - a. The design of the metal roofs should relate to and enhance the architectural style of the building.
 - b. The material and design of metal roofs should be sympathetic to adjacent buildings.
 - c. Steel or permanently coloured metal is more desirable than painted roofs.
 - d. Colour of roofs should all be within a range, which compliments the environment (green-brown). Garish bright roofs should be discouraged.
3. For residential and commercial buildings which utilize non-metal roofs, the following is suggested:
 - a. The design of the roof should be limited in height to the ridge.

- b. The material and design of roofs should be sympathetic to adjacent buildings. Suggested materials could include cedar shingles, asphalt shingles that are “natural” in colour, concrete tiles in a natural colour. Tiles, ceramic roofs, and other materials like this should be discouraged.

Windows

The windows of a building are very important in establishing the character of an area.

1. Windows should be used to highlight architectural elevations, as well as provide function for the building.
2. The windows should be traditional style or design to compliment the architectural style of the building.
3. For residential and commercial buildings, the following is suggested:
 - a. Wood or clad sash or casement windows.
 - b. Aluminium and reflective glass should be avoided.

Paint Colour

The colour of a building helps to establish a mood or feeling about the business or residence. It also reinforces both the individuality of the building and its relationship to the area. Multi-coloured treatment creates a tropical image as well as a lively, carefree feeling, which is consistent with the Piton area, however it is not necessarily to all architectural styles or to the desired image of all businesses. Light colours are preferred.

1. Paint colour should be used to highlight architectural forms and details, but not to create them.
2. The colour relationship between adjacent buildings should be compatible (not necessarily identical)
3. For residential and commercial buildings, the following is suggested:
 - a. Pastel colours. Dark tones are discouraged.
 - b. Bright glaring colours should be avoided.

FENCES

Temporary Construction

All chain link fences should be black vinyl coated. Commercial Advertisements are prohibited. Names of architects, contractors, designer, financing institutions, etc. are permitted if consistent with the Zoning Ordinance.

Perimeter Fences and Walls

Within the area the following shall apply:

- a. Fencing is discouraged. If proposed, however it is encouraged to be composed of wrought iron or aluminium. Simple designs consistent with the architecture of the period are encouraged.
- b. Block walls should incorporate quoining, scoring, or other decorative treatment.
- c. Acceptable paint on wrought iron or aluminium fencing includes white, black, or matched to the colour of the building.
- d. Fences should be set back from the property line to allow for a traditional landscape barrier and be largely transparent. Low fences/walls are preferred.
- e. Wood and chain link fencing may be used on interior side yards and rear yards only. These fence types shall not be used within the front yard set back, extend beyond the front wall of a building, or face any public right-of-way.
- f. Wood fences should be painted to match the building and all chain link fences should be vinyl coated in black.

SIGNS

Signs should provide the potential customer with specific information in a simple, straightforward, and attractive manner. This information includes the business name, address, and possibly, the type of product. Generally, additional information only confuses the customer and detracts from the appearance of the building. This is especially true on vehicular streets where traffic moves rapidly. Simple signs are far more effective.

1. Eliminate excessive signs, including signs left from previous tenants.
2. Many building facades contain architectural elements whose purpose is to frame or otherwise highlight signs. If such elements exist, they should be utilized.

Satellite Dishes

1. Satellite Dishes should be mounted where least visible to the general public. If ground mounted, dishes should be located in the rear or interior side yards and densely screened with landscape where feasible. If roof mounted, the dish should be as close to the middle of the roof as possible, or a parapet should be installed to screen the view of the dish, if necessary, wherever possible. The colour of the dish should match the colour of the building; otherwise black or white-coated dishes are encouraged.

Hurricane and Security – Non-residential Property

1. Roll-up or accordion shutters are permitted on the ground floor fronting a public street when constructed of a see-through, non-solid grate material. The casing for the grilles should be painted to match the building and should not damage or obscure architectural, historic, or decorative material.
2. Roll up or accordion shutters of a solid nature, meeting hurricane protection requirements may be installed on upper floors if all windows are included and the same shutter is used on all windows. These shutters may also be used on ground floor windows, which do not front upon a public street.
3. Only removable shutters with removable tracks are permitted on the ground floor of non-residential buildings (or commercial or office uses within a residential building) on those elevations fronting a public street.
4. Security bars are not encouraged but may be installed on the outside of windows and painted to match the mullion pattern and window surrounds.

Hurricane and Security – Residential Property

1. Roll-up accordion shutters should match window size exactly. The same type shutter shall be used throughout the building.
2. No part of the shutter, storage box, track or associated hardware should damage or obscure architectural, historical or decorative material.
3. In cases of small residential buildings, single-family homes, or commercial uses in residential buildings, an awning is encouraged to screen the view of the storage box or roll up shutters.
4. If installed in a multi-family building, the building owner or condominium association should approve the application. Only one type of shutter shall be approved per building.
5. Roll up or accordion shutters on balconies should be installed abutting the building wall, not balcony railings. Shutters shall not be used to enclose balconies.
6. All shutter tracks and storage boxes should be painted to match the building colour.
7. For security purposes, basement windows and/or other below grade openings may be blocked with glass blocks. This may not be permitted if it would require removal of an existing historic material (to be determined on a case-by-case basis)
8. Security bars are not encouraged but may only be installed on the inside of windows. Bars must meet building/fire safety requirements and painted to match the window mullion and surrounds.

APPENDIX 4 SMMA Research and Monitoring Framework

Soufriere Marine Management Association

P.O. Box 305, 3 Bay Street, Soufriere, St. Lucia, West Indies
☎ (758) 459-5500 Fax: (758) 459-7799 Email: smma@candw.lc
Internet Website: <http://www.smma.org.lc/>

FRAMEWORK TO GUIDE THE DESIGN AND CONDUCT OF RESEARCH AND MONITORING PROGRAMMES AND ACTIVITIES WITHIN THE SOUFRIERE MARINE MANAGEMENT AREA (SMMA)

Background

The Soufriere Marine Management Area (SMMA) has been established as a participatory institution for the management of the coastal and marine resources of the Soufriere region, on the southwest coast of St. Lucia. In order to increase the efficiency, effectiveness and quality of management, this Research and Monitoring Framework has been developed, in order to meet the following objectives:

- *to guide the involvement of students and researchers in research activities within the SMMA.* Since its creation, the SMMA has attracted much interest on the part of the regional and international research community. While it is agreed that this can be beneficial, such level of activity can also impact negatively on the SMMA and its ability to perform its role effectively. There is therefore need for clear guidelines that will allow SMMA management to assess the merit of research proposals and ensure that all research activities contribute positively to the SMMA and its programmes;
- *to enhance the availability and use of information and knowledge relevant to management.* The SMMA is well aware of this need, and has already been able to start or host several on-going monitoring and research programmes. There is however need for a more systematic look at requirements and opportunities, to make sure that critical information needs are met, that priorities and procedures are clearly defined, that they support management decisions, and that the effectiveness and impact of management are properly assessed;
- *to document and analyse the experience of the SMMA.* Because of the novelty of the approaches it uses, the SMMA is seen by many within and outside this region as a learning and testing ground for participatory natural resource management, and it offers unique material for learning. There is therefore need to ensure that learning takes place in a systematic and effective fashion.

Over the past two years, in response to a number of challenges faced in the implementation of its original structure and programme, the SMMA has carried out a detailed review of institutional issues and options, which has resulted in the design of a new arrangement. This arrangement involves the signing of a formal management agreement among all governmental and non-governmental agencies directly involved in resource management and development in the Area, and the creation of a new organisation, the Soufriere Marine Management Association, which co-ordinates the implementation of the agreement and the enforcement of its provisions. This process of institutional change has provided an appropriate context for the formulation and implementation of this Research and Monitoring Framework.

Under this new institutional arrangement, the Board of the Soufriere Marine Management Association, within the terms and provisions of the Fisheries Act and other legislation, performs a co-ordinating and advisory role, ensures that information on research activities is disseminated to stakeholders, and organises the redistribution of results of monitoring and research activities. The Association will establish a Scientific Committee for the purpose of assisting and advising it in these tasks.

The Framework was developed by a Research and Monitoring Programme Working Group, with external peer-review, and with support from the Caribbean Environment Programme of the United Nations Environment Programme and the Natural Resources Management Unit of the Organisation of Eastern Caribbean States. The development of the framework was facilitated by the Caribbean Natural Resources Institute.

The purpose of the Framework

This Framework is not a work plan for the SMMA, it covers a very broad range of issues and topics that obviously cannot all be addressed. Instead it is a compilation of all the needs and opportunities for research and monitoring that exist in the SMMA, within which the priority activities for the SMMA and its collaborators are identified.

The *purpose* of the Framework is:

- *to improve decision-making in support of adaptive management;*
- *to increase efficiency and coordination of research and monitoring activities;*
- *to increase cost-effectiveness of research and monitoring investments;*
- *to develop research and monitoring protocols based on 'best practice'.*

The management issues addressed by the Framework are not static, and should therefore be reviewed periodically, preferably every two years. This review process, which will be coordinated by the SMMA Scientific Committee, will provide for the on-going identification and evaluation of new concerns as they emerge, supporting the process of adaptive management.

The issues listed on the left column of the tables below have been organised according to the objectives that have been stated in the management agreement of the SMMA. They were prioritised 1 to 3, with 1 having the highest priority. The specific monitoring and research tasks will be prioritised at the time that the SMMA work plans are developed, based on capacity and resources, and the degree to which these activities address the issues of highest priority. The work plans will also determine the specific outcomes to be expected from the activities.

THE PLACE OF RESEARCH & MONITORING IN MANAGEMENT

An understanding of the place of research and monitoring is fundamental to the framework:

- *research is the process by which questions are answered using the scientific method, applied to both natural and social issues.* They may be fundamental questions that have no apparent or immediate application to management objectives, or they may be applied questions about the effectiveness of, or requirements for, particular management interventions.

The essential characteristic of research is that it tests hypotheses in such a way that they can be rejected, revised and improved;

- *monitoring is an essential component of research.* When a hypothesis is erected and an experiment designed to test it, data are collected in the form of some response indicator, through the process of monitoring. Monitoring indicators of effectiveness of management can answer questions about management policy and strategy. Monitoring is therefore a priority for the SMMA.

Research and monitoring activities must contribute to management objectives. In the new management agreement, these objectives are stated as:

- conserve the coastal and marine resource base of Soufriere;
- enhance the equitable economic, social and cultural benefits generated from the sustainable use of the coastal and marine resources of Soufriere at the local and national levels;
- manage the conflicts that may occur among uses and users of the coastal and marine resources in Soufriere.

In addition to these three fundamental objectives, it is agreed that the SMMA's role is also to test and develop methods and approaches for sustainable use and participatory management, for the benefit of Soufriere, St. Lucia, the Caribbean region and other coastal management initiatives around the globe.

While the emphasis is on research and monitoring activities that contribute to management, it is recognised that the SMMA can provide opportunities for pure research based on the experimental controls that will be offered by effective management. It is also noted that results from research that is apparently unrelated to management have provided information that is directly relevant, such as the identification of indicator species and the understanding of their links to changes in aspects of reef health.

Against this background, the role of research and monitoring activities is to:

- inform and educate stakeholders, and guide their management decisions;
- assess management effectiveness;
- generate new knowledge (in all disciplines, but particularly in the field of natural resource management).

Objective 1: conservation of the coastal and marine resource base

Issues	Priority	Monitoring and research tasks	Work plan and status
Impacts of land-based activities and natural events	1	<ul style="list-style-type: none"> · monitor basic environmental variables, such as water temperature, turbidity, salinity, sedimentation, rainfall · monitor status of sea urchin (<i>Diadema</i>) populations · acquire baseline of community composition at selected sites, including reefs and seagrass beds · monitor profiles of selected beaches · determine species richness of key indicator species (e.g. fish and corals) · establish an effective participatory procedure for environmental and social impact assessment of future development projects 	
Impacts and effectiveness of management of resource use in the SMMA	1	<ul style="list-style-type: none"> · monitor status, and level of exploitation, of selected species · monitor level of recreational diving at selected sites · monitor the recovery of selected species from the prior status of over-exploitation · monitor status of fish stocks in different zones · monitor status of habitats in different zones · quantify capacity of marine reserves to contribute to fisheries in other zones 	

Objective 2: enhancement of the equitable economic, social and cultural benefits

Issues	Priority	Monitoring and research tasks	Work plan and status

Issues	Priority	Monitoring and research tasks	Work plan and status
Sustainability of current resource uses, based on participatory decisions on the limits of acceptable change	1	<ul style="list-style-type: none"> · monitor status of harvested resources · determine the impact on ecosystems of fishing, diving and snorkeling, yachting · monitor changing attitudes to resource use and management 	
Sustainability of alternative resource uses	2	<ul style="list-style-type: none"> · assess sustainability of offshore fisheries that are promoted as alternatives to the reef fishery 	
Opportunities for generating income and employment	1	<ul style="list-style-type: none"> · identify what are the viable alternatives for fishers and other users · study opportunities and impediments to people gaining access to alternative employment · assess employment transition due to increased or decreased opportunities · assess changes in the contribution of resource use to household economies as new employment opportunities become available 	
Equity in access to resources and in the distribution of benefits	1	<ul style="list-style-type: none"> · assess ability of fishers and other resource users to access alternative employment · identify and quantify who benefits vs. who loses 	
Social and economic impacts of the SMMA on various stakeholders, both positive and negative	1	<ul style="list-style-type: none"> · assess changes in employment due to management measures · evaluate economic, social and cultural benefits accrued since setup of the SMMA · assess changes in use patterns and technologies, e.g. transition from reef fishery to offshore fishery · measure income generated by marine-related activities in the 	

Issues	Priority	Monitoring and research tasks	Work plan and status
		<p>SMMA, particularly fishing and diving/snorkeling</p> <ul style="list-style-type: none"> · assess relationship between status of marine resources and quality of diver experience of them · assess opportunity cost of specific SMMA resources, specifically cost of mitigation or loss · assess the impact of the SMMA on the tourism sector and on the island's image as a destination · assess the opportunities provided by the SMMA to women, and the impact on traditional household divisions of labour · assess the impact of the SMMA on environmental awareness in St. Lucia · identify opportunities for entrepreneurship and the impediments faced 	
Resource valuation	2	<ul style="list-style-type: none"> · value fish species and assess how catch values may change as conditions change in response to management · value resource base, reefs, yachting sector, diving and snorkeling, access to recreational space 	

Objective 3: conflict management

Issues	Priority	Monitoring and research tasks	Work plan and status
Voluntary compliance and enforcement	1	<ul style="list-style-type: none"> · monitor activities which go against established rules and procedures · determine links between compliance and education levels 	

Issues	Priority	Monitoring and research tasks	Work plan and status
		and livelihoods · determine effectiveness of various methods of enforcement and test alternatives · determine cause of change in number of illegal activities · test forms and conditions (levels of education and livelihoods for example) of stakeholder involvement in surveillance and compliance · assess changes in social norms and attitudes regarding resources, methods used and social (vs legal) compliance	
Quality of policy processes, and compatibility between national policy decisions and SMMA management objectives	2	· determine the linkage between SMMA objectives and national and regional policy objectives · assess policy implications for any perceived incompatibility in the above · assess impacts of policy processes on power relations and institutional capacity	
Degree and effectiveness of stakeholder participation in management	1	· monitor level of understanding of the role of the stakeholder groups in the SMMA · monitor stakeholder participation in decision-making institutions and processes	
Impact of SMMA on power relations	2	· document and analyse conflicts and decision-making structures and patterns	

Objective 4: testing and development of methods and approaches

Issues	Priority	Research and monitoring tasks	Work plan and status
Methods and	2	· implement communication plan	

Issues	Priority	Research and monitoring tasks	Work plan and status
processes of participatory management, including: * stakeholder identification and analysis * communication * conflict management * organisational development * institutional design		and monitor impacts on attitudes and awareness · test different approaches to stakeholder analysis and conflict management	
Approaches and methods for implementation and enforcement	3	· develop surveillance and enforcement strategy based on assessment of capabilities and legal framework of key agencies	

GUIDELINES AND PROCEDURES FOR THE CONDUCT OF RESEARCH

All research carried out within the SMMA shall comply with the following requirements:

- compliance with local and international law, including the Fisheries Act, the Intellectual Property Act and the Immigration Act
- for research involving people, approval by the human research review board of the researcher’s organisation, in cases where such a review procedure exists (US universities for example)
- submission of a proposal based on established format (see below)
- submission to the Association of copies of all reports and publications produced
- submission, upon completion of research activity, or at regular intervals in the case of on-going research, of a brief report on research activities carried out within the SMMA

All proposals for the conduct of research within the SMMA will be submitted together with a standard form that addresses the following points, which will serve as the criteria for assessing the proposal in the context of the SMMA

- relevance to management
- priority and urgency, as defined by this Framework
- economic and financial feasibility

- technical feasibility (human resources, skills and equipment)
- financial and economic impact (including the use of local suppliers)
- community awareness and involvement
- environmental impact
- social impact
- impact on local capacity (including the use of counterparts)
- intellectual property considerations
- ownership of data. (It is anticipated that data from research would be available for internal management use but that they would not be made available to a third party without prior permission from the researchers.)

The procedure to be followed by all proponents of research, including the Association and its members, is:

- proposal submitted with a statement of justification prepared according to set format
- submission to and review by Manager
- submission to and review by Scientific Committee
- submission to the Board of the Association with recommendation (noting that funders' timetables may not allow for delays in the approval process and that there will be a need to facilitate this fourth stage in cases where research is clearly desirable and beneficial to the SMMA, typically where a research plan has been developed to address priorities that have been identified)
- in the event of research falling under the jurisdiction of the Fisheries Act, communication of a recommendation from the Board to the Chief Fisheries Officer for endorsement or rejection, and notification to the researcher
- in other cases, decision by the Board and communication of that decision to the researcher, with three scenarios:
 - ⇒ the activity does not comply with existing laws, and is therefore rejected
 - ⇒ the activity complies with existing laws, but it does not meet the criteria of the SMMA, for reasons that may be stated. It does therefore not qualify for any form of support from the SMMA, but the SMMA does not have the legal power to prevent it from being undertaken
 - ⇒ the activity meets some or all of the SMMA's criteria, and is therefore approved under specific terms and conditions

TERMS AND CONDITIONS

In its review of all research proposals, and on the basis of the information provided by the researcher or proponent, the SMMA will develop a budget which will specify:

- all operational costs, including staff time and overheads

- all direct research costs (equipment rental, communications, boat use, fuel, etc.)

When approving research proposals, the SMMA will place them in any of three categories:

- a) all costs to be covered by the SMMA (this category may only be relevant to school groups)
- b) operational costs to be covered by the SMMA, but researcher to cover all research costs at established rates
- c) researcher to cover both management costs and research costs

The Association will stipulate the conditions under which researchers may have access to monitoring data gathered by the SMMA or its partners. The Association will also determine standard rates for all costs, including boat use, staff time, computer use, office space use. These will be reviewed and updated periodically, and will be formally set by the Association's Board of Directors.

MANAGEMENT OF INFORMATION

- Information generated by research and monitoring will be made available in the following ways:
 - summary information generated from monitoring by the SMMA can be accessible from the SMMA web site, with raw data available on request;
 - monitoring programmes of the SMMA will be shared with relevant global data bases and management programmes. In the case of reef monitoring, which has been on-going since 1998, data are sent to Reef Check Headquarters, and in turn to Global Coral Reef Monitoring Network (GCRMN) data base and to ReefBase at ICLARM;
 - the SMMA will develop a standardised meta-database of all research and monitoring, with researchers providing an interpretation of their results, whatever the topic, in the context of management objectives;
 - results will, whenever appropriate, be included in the newsletter of the SMMA;
 - the SMMA will maintain a computerised library collection that will include the titles and documents that relate to it and are relevant to its work;
 - researchers and SMMA staff will hold public meetings and seminars as appropriate in order to inform stakeholders on research processes and results.
-

APPENDIX 5 Land Use Plan (Presented as a separate document)

GLOSSARY

Biodiversity: the variability among living organisms from all sources, including from terrestrial, freshwater and marine ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Carrying Capacity: the character of use that can be supported over a specific time by an area developed at a certain level without causing excessive damage to either the physical environment or the experience of the visitor. This is dependent on the ecological and physical capabilities of the natural and cultural resources to sustain certain levels of visitor use without reaching unacceptable levels of damage.

Ecosystem: a dynamic complex of plant, animal and micro-organism communities and their non-living environment interaction as a functional unit.

Habitat: the place or type of site where an organism or population normally occurs.

Protected Area: a geographically defined area that is designated or regulated and managed to achieve specific conservation objectives.

Stakeholders: are persons, groups, or institutions with interests in the use, management and/or development of the area and its natural and cultural resources.

Sustainable Use: the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of the biological diversity or ecological functioning, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

Zoning: a system of delineated areas in which specific controlled and sustainable uses are allowed.