

The River Antoine Rum Distillery Cultural Landmark is the oldest functioning distillery in the Caribbean.

working factory whose processes have changed little since the 18th Century. The cane used is produced primarily on the flat land in the immediate vicinity of the sugar factory and processed by the only operational water wheel in the country. The juice is boiled in a system of "coppers" using the bagasse produced as fuel and is transferred through the containers using a system of wooden guttering. The only modern electrical appliance is a pump that is used for transferring the juice to the fermentation tanks. The boiler is fueled by wood and, the juice is passed through "stills" and then cooled by passing through water tanks before being transferred to the setting tanks. The fermentation process is not hastened using any chemicals or additives and the product is sold in large containers and not bottled. The physical infrastructure was established in the late 18th century and has been maintained in a fair state throughout the years. The labour force at the distillery is very skilled in their traditional method for they have been operating the factory for over twenty-five years.

Significance of Area: River Antoine Rum Distillery is a unique historic and cultural feature not only in Grenada but throughout the English speaking Caribbean. The process is identical to that used in the late 18th century when sugar cane was the chief crop produced on the Island. The buildings and equipment are also of great significance since, they clearly represent a particular period in the history of the Island.

Management Objectives: To protect this cultural feature particularly the buildings, equipment and processes for education and interpretation. A Development and Management Plan is urgently needed and should be developed in cooperation with the owners so as to ensure a common understanding of the goals and objectives of the area.

Activities: Priority should be given to the preparation of a development plan, organization of a guided tour of the factory and the preparation of an information or interpretation leaflet.

(ii) WESTERHALL RUM DISTILLERY

Location: Along the Southern Main Road north of the Westerhall Bay on the Westerhall Estate.

Summary Description: The Westerhall Distillery has been updated, however, there are still vestiges of the old processes similar to those used at River Antoine. The water wheel used in the late 19th and early 20th century is still present and could be put back into operation. The enterprise is no longer grinding its own cane but is purchasing the molasses used in the rum distillery process. Unlike River Antoine the distillery uses chemicals and additives to hasten the process of fermentation and therefore has a higher production capacity. The produce is bottled and aggressively marketed. This represents a 20th century operation that is constantly adapting new methods and technology. This obviously changes the quality of the final product which demands aggressive marketing to increase sales volume.

Significance of Area: The process is now modernized, however the artifacts and equipment that were used in the traditional method still exist. The Westerhall Distillery represents a transformation of the process which is indicative of the changing economic and social factors that have been of significant influence.

Since this feature is only twenty minutes away from St. George's, the port of call for cruise ships, and Grand Anse, the Westerhall Distillery presents an outstanding opportunity for tourism and environmental education of the local population. This would be assisted by the many artifacts that are so well maintained.

Management Objectives: To protect the historical and cultural artifacts and equipment that exists for educational and interpretation purposes. To develop an interpretation plan so as to offer the visitor the history and evolution of the rum industry and its economic importance to

Grenada and the region.

Activities: Development of an interpretation plan in cooperation with the owners and operators of the distillery.

(iii) CARIB'S LEAP/LEAPER'S HILL

Location: At the hill top and cliff-face directly north of the town of Sauteurs at the most northerly spot on the Island.

Summary Description: Leapers Hill is the promontory where St. Patrick's Roman Catholic Church, School and Cemetery are located. To the northern part of the promontory is a steep cliff face that descends vertically into the sea for more than 100ft. This feature is recorded as the point of extermination of the original inhabitants of the Island, the Carib Indians.

It is reported that for more than 100 years after the discovery of the Island by Columbus in 1492, the Caribs were undisturbed. They settled in great numbers on Grenada because of its superior hunting and fishing grounds as compared to the other Islands. Although discovered by the Spaniards, it was not until 1626 that both the English and French became interested in this unappropriated Island. In 1609 the English landed but were forced to leave because of the Carib harassment. In 1638 a Frenchman attempted to effect a landing but was driven off by the Caribs, who thus secured further immunity from attack for twelve (12) years. A successful colony was established in 1650 by the French who apparently purchased the Island for "some knives and hatchets and a large quantity of glass beads, besides two bottles of brandy for the Chief himself".

The first colony was established in the south of the Island. Not more than one year later the Caribs reinitiated their hostility. The French reinforced their colony and were given strict orders to eliminate the aborigines.

After much struggle the Caribs were driven

to the north of the Island. The last stand was at a precipice on the extreme north of the Island named by the French, "le morne de Sauteurs" or leapers hill in memory of the leap of the Caribs. The town is today called Sauteurs. It is reported "that they fought vigorously but the savages were completely defeated and those who remained, about forty (40) in number, precipitated themselves from the top of the rock rather than surrender".

Significance of Area: The feature is significant for it marks the last point of resistance of the aboriginal Indians who first occupied the Island.

Management Objectives: The area should be preserved since it is an important historic and cultural landmark where the original inhabitants chose to exterminate their race instead of surrender to the French colonists.

The landmark should be developed and maintained and a monument should be erected to mark the end of the first chapter of the Island's history.

Activities: A community group should be encouraged to undertake the clean up of the area. A programme for the development and maintenance of the features should be developed in association with the Catholic Church and the residents in the immediate vicinity.

(iv) MOUNT RICH AMERINDIAN REMAINS

Location: Along the St. Patrick's river valley in the village of Mount Rich in the parish of St. Patrick's.

Summary Description: The Amerindian remains are primarily stone carvings on rocks in the river valley. It has been established that these carvings were done by the Caribs for the work depicts their typical features and lifestyle. This is the only place on the Island where such impressive work exists. They can be most easily seen on the top and sides of a very large stone on the river bank where six carvings, headpieces,

pottery, implements and tools (spears, bows and axes) used in their hunting and fishing are found. Several small stones in the vicinity have different carved features but they are not clearly discernible since they are covered by weeds and mosses.

The remains are easily accessible since they are located alongside the main road from Sauteurs close to the Mount Rich village. A community group has planted flowers along the access footpath and installed a lettered "Carib Remains-Enter".

Significance of area: The remains are significant as the only extensive area of carvings left on the Island that depicts the features and way of life of the Amerindians. It is possible that their work of art could have been done over 300 years ago since it has been established that Caribs were defeated about that time. The remains are significant for their educational value and the river valley offers recreational opportunities.

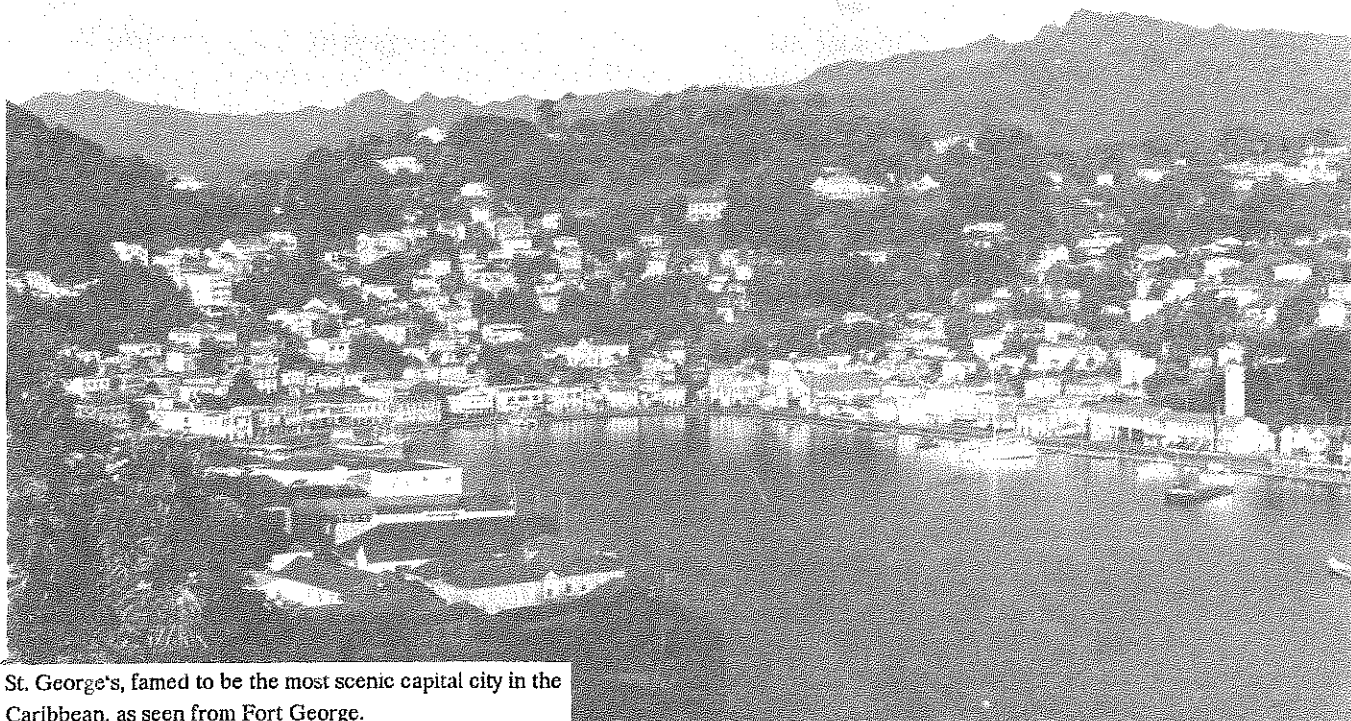
Management Objectives: To protect the Amerindian remains. Manage and improve them for the benefit of the present and future generations.

Activities: Permission should be gained from the private landowner for a public footpath through his property. A brochure should be produced, the trail improved so as to make the remains easily accessible and the surroundings maintained

(v) MARQUIS VILLAGE

Location: Approximately three (3) miles south of the town of Grenville along the Eastern Main Road.

Summary Description: Marquis village is an interesting place since it is the only village dependent in large part on the handicraft industry. Most of the handicrafts produced and sold in Grenada are made by villagers. The emphasis is on the production of straw work, these including table mats, bags, baskets, hats, bedroom slippers, etc. The



St. George's, famed to be the most scenic capital city in the Caribbean, as seen from Fort George.

village is located along the coastline and is cultivated with wild pine which is the main material used in the work produced.

It exemplifies the life style of a typical villager on the Island. The men and children are primarily involved in the fishing and farming while the women are involved in the handicrafts, however, it is the man's task to cut and collect the wild pine from the field while the women and children take on the job of its preparation.

In close proximity to the village are two interesting cultural landmarks. Battle Hill to the north is a famous religious center where the Roman Catholics and Anglicans gather on special occasions for processions and worship. There is also the Royal Fort located to the immediate east of the village. This was built by the French in the late 17th century, and used as a famous outpost by the rebels during Fedon's rebellion in 1796.

Significance of Area: Marquis village is significant because of its unique culture, history and way of life. It is the only village where the straw handicraft has been continued throughout many generations. It is an interesting tourist destination since

visitors can examine the handicraft process from raw materials to the finished product. The other two important historic features can be nicely tied into a day's visit.

Management Objectives: To encourage continuance of the village life style and culture while improving marketing of handicraft products and stimulating visitors to the area. To encourage the production of higher quality products. Develop a management plan for the village and surrounding landmarks.

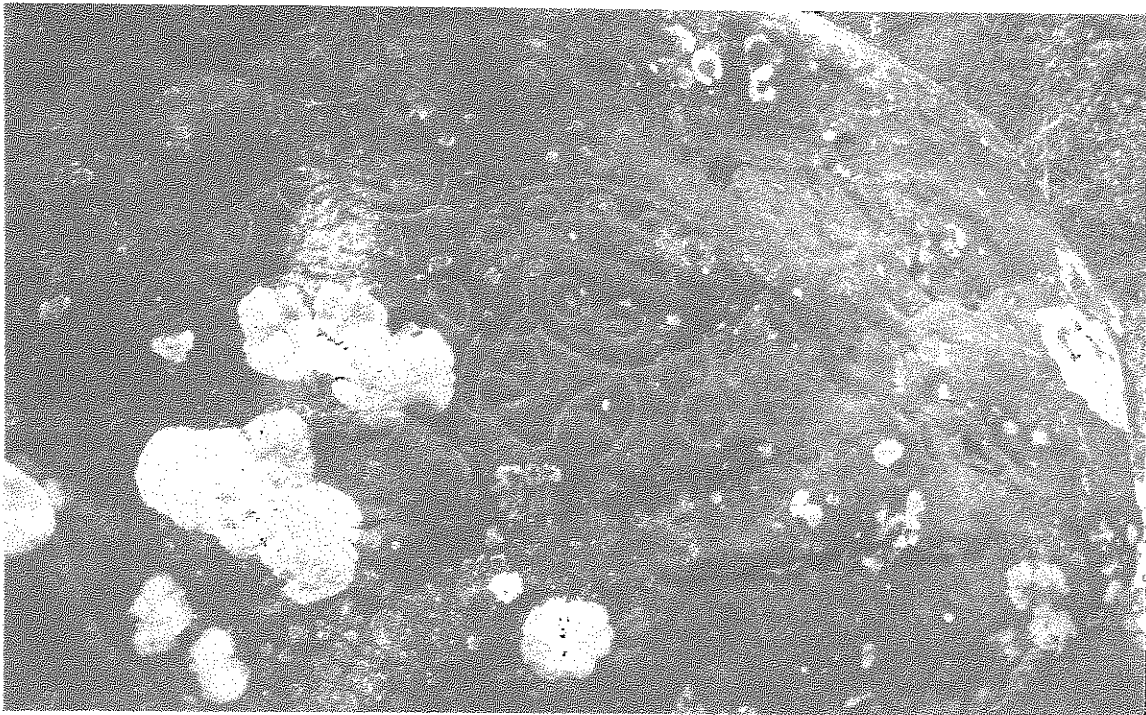
Activities: Co-operate with the handicraft organization and the community to improve the appearance of the village. Upgrade and improve the Port Royal Fort and prepare an interpretation plan.

(vi) FORT GEORGE

Location: North of the entrance of the St. George harbour on a promontory overlooking the town of St. George's and the Grand Anse beach.



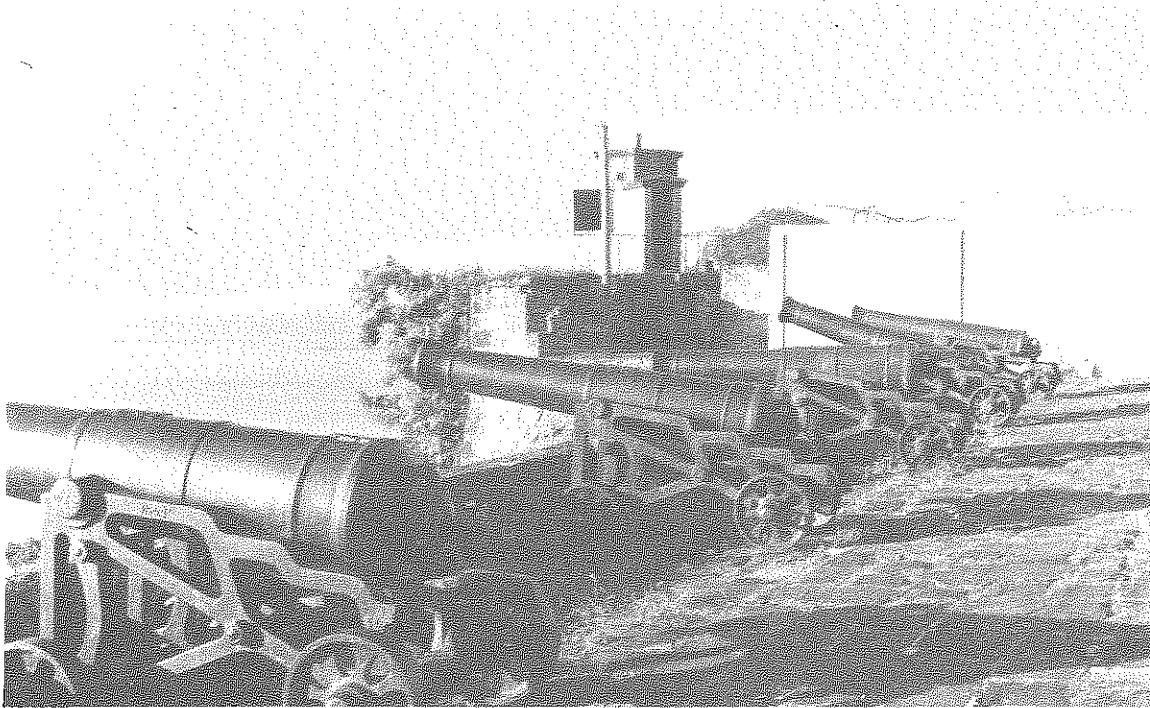
Levera National Park presents fascinating geology, has productive mangrove ecosystems, and offers outstanding opportunities for recreation and nature appreciation.



The petroglyphs seen at Mt. Rich Amerindian Remains Cultural Landmark are one of the few remainders of the indigenous people's, the Caribs and the Arawaks, that inhabited the Island up until the French colonized the Island in the 1650's.

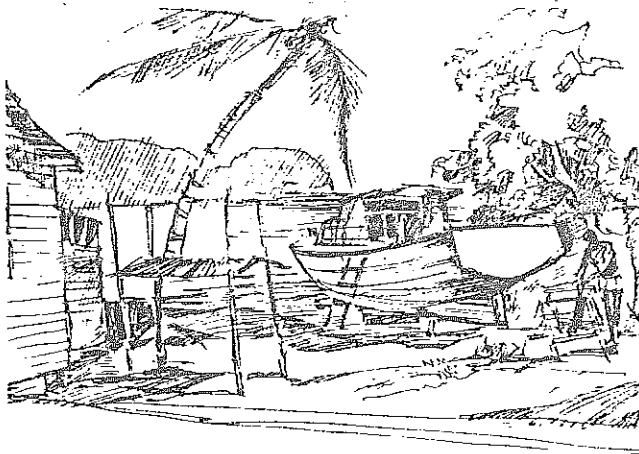


The courtyard in Fort George where Prime Minister Maurice Bishop and his Cabinet were assassinated on October 19th, 1983.



British built cannons at Fort George set just as they were during the 1700 and 1800's when the British and French fought for the Island on numerous occasions.

Summary Description: Fort George was built in 1706 by the French after the old town known as Port Louis was relocated from the Lagoon area. The fort and capital was originally known as Fort Royal by the French. In 1756 war was declared between Great Britain and France and in 1762 a British fleet attacked Grenada, causing the French



Shipbuilding in Soubise next to the handcraft center of Marquis Village presents fascinating vistas into Grenadian country life.

to eventually surrender. The Island was handed over to the British and the Fort and Town were then renamed after King George III.

The structure has not been severely altered since then, for it was built on the upper half of the promontory of walls more than four feet thick all around. It was built with two levels with all amenities including barracks, ammunition houses, and underground tunnels. It is considered a classical structure and was undoubtedly a tremendous engineering accomplishment in its day. Fort George was the main defence post during the 18th century. When Great Britain was again at war with France in the West Indies, the Fort was a key bastion by the British when the French forces landed at Molinere Bay, north of St. George's and marched to the town. At daybreak next morning, firing was directed against Fort George, which caused the British to surrender. However, in 1783, under the 8th Article of the Treaty of Versailles, signed on September 3rd, Grenada

was restored once more to the British.

The Fort is also of very recent historical importance for it is where the fall of the Peoples Revolutionary Government (1983) began with the apparent execution of the Prime Minister Maurice Bishop, leader of the New Jewel Movement, and many of his cabinet colleagues and supporters. During the reign of the PRG, the fort was renamed Fort Rupert in honour of the death of the then Prime Minister's father. The name of Fort George was restored in 1983 after the intervention of the Island by United States and Caribbean troops.

Significance of Area: The area is of historic architectural and recreational significance to the country. It has been the center of military and defence activities for the past two hundred and fifty years. It is an architecturally sound structure and provides a feature whereby the Islands history could be relived. It provides unique opportunities for educational and recreational programs.

Management Objectives: To protect this historic monument so as to preserve the nation's history and architecture. To maintain and upgrade its educational and recreational potential.

Activities: Establish a visitor and interpretation center and maintain the Fort. Infrastructural development should be closely planned and authorized. U.S AID and OAS have prepared site designs for both this fort and Fort Frederick which includes restoration and program development.

(vii) FORT FREDERICK

Location: Located at the top of the Richmond Hill east of the St. George's Harbour.

Summary Description: Fort Frederick was built in 1779 soon after the French recaptured the Island. The French realized how seriously their advance upon St. George and their occupation of the fortifications on



View from the Fort Frederick cultural landmark gives panorama of St. George's and the harbor. The French realised the importance of this site in defending the Island and began construction in 1779.



National Parks and Multiple-use Management Areas protect the water quality and supply in the upper watersheds thereby providing potable and irrigation water to the populated areas.

Hospital Hill would have been encumbered if forts had been in existence on Richmond Hill. As a result, they hurried and built Fort Frederick. Fort Frederick lies between Fort Matthew to the north and Fort Adolphus to the south.

Like Fort George it is built of very thick stone walls, with amenities such as barracks, watch towers and underground tunnels. From Fort Frederick a panoramic view of the Island is afforded. This 360° view made the Fort critical to the towns defence during the 18th and 19th century.

Significance of Area: Fort Frederick is the best located fortress in the country and has been used extensively during the past three centuries to defend the city from attacks. It is also of great architectural and recreational significance. It is also significant in the recent history of the Island as it is alleged to have been used as headquarters for one of the factions during the October 19th, 1983 disturbance.

Management Objective: To protect this important historic monument in order to preserve the Nations history and architecture. To develop a management plan in co-operation with the Nations military forces who presently occupy this area.

Activities: Upgrade the facility to provide visitor interpretation and education facilities.

(viii) THE TOWER, St. Paul.

Location: Beyond the St. Paul Police Station - the Parish of St. George's.

Summary Description: The Tower represents one of the few old stone houses built of volcanic rock in a Caribbean Colonial Style of Architecture. It was built in 1917 by a prominent Grenadian Lawyer, C.F.P. Renwick. Mr. Renwick constructed the house to persuade his English wife to remain on the Island.

Today the House functions as a family home and is available for tours on an appointment basis.

Significance of Area: Sitting on an scenic eleven acre property of spice and fruit trees, the Tower presents outstanding opportunities for Tourism. Within 15 minutes of St. George's, the Tower will be tied with other attractions such as the Bay Gardens and the Westerhall Rum Distillery.

Management Objective: To preserve the integrity of the Tower structure, and develop tours.

Activities: Development of a brochure and historical documentation of the house and its furnishings.

MULTIPLE USE AREAS

(i) ANNANDALE WATERSHED

Location: Along the headwaters of the Beausejour River West of the Grand Etang Lake.

Summary Description: The upper watershed of the Beausejour River is occupied by the Annandale estate which was privately owned until 1984. The estate emphasized the production of the traditional crops banana, cocoa and nutmeg. This necessitated the felling of most of the natural forest so as to allow adequate sunlight for the growth of these crops. Being the water catchment area for the domestic water supply of St. George's, these activities affected the run-off, water quality, and reliability of supply.

Approximately two years ago an attempt was made to guarantee the supply of quality water by instituting a management/Development programme for the watershed. This necessitated the acquisition of the Annandale estate and the development of the Forestry Development Programme. The area is presently being extensively

studied particularly by hydrologists who are examining percolation, run-off and sedimentation levels.

Significance of Area: The area is significant since it is the catchment for the domestic water supply for St. George's and has recreational and educational significance.

Management Objectives: To improve the ground cover so as to guarantee reliable and adequate water supply and at the same time make the lands in the area economically productive.

Activities: Continue the reforestation programme and collection of valuable data on stream flow, percolation and sedimentation.

(ii) CONCORD WATERSHED

Location: East of the Concord Falls including the upper watershed area of the Concord Valley.

Summary Description: The headwaters of the Black Bay (Concord) River is presently being tapped to supply domestic pipe borne water to the villages of Concord, Marigot and Cotton Bailey in the Parish of St. John's serving approximately 3000 people. The storage tank reservoir is located near the Concord Falls. The intake is two hundred (200) yards upstream from the falls.

The lands above the Fontainebleu Falls are inaccessible and devoted to forest. However the valley area in between the two falls is privately owned and cultivated in traditional crops. The Central Water Commission states that this source is one of the only reliable water sources that remains for the parish of St. George. It is therefore critical that steps be taken early to prevent the further destruction of the vegetation above the intended source or intake.

Significance of Area: This area is significant since it is the only reliable source of domestic water remaining that can be technically and economically exploited to supply the densely populated St. George's

area. It is also important as a recreation and research area since two of the nations Natural Landmarks are within the watershed.

Management Objectives: To protect the forest resources in the area for water quality and supply.

Activities: The acquisition of the upland area; the development of a forestry management plan so as to maintain an adequate water supply throughout the drier months. To develop the area as a recreation center.

(iii) MOUNT HOPE/CLABONY WATER CATCHMENT

Location: Located in the parish of St. Andrews in the uplands west of the abandoned Pearls airstrip.

Summary Description: The multiple use area around the Mount Hope, Clabony and Blaize is mostly under forest cover with some traditional crops planted on the lower slopes. It forms the headwaters of the two major rivers on the east coast of Grenada. The Simon River flows out to sea on the lower Pearls area and the Grand Bras River is a main tributary of the Great River. The upper watershed of these rivers is the source of domestic water supply for Grenville, the second largest town on the Island.

Significance of Area: Major water catchment area for the domestic water supply of Grenville and St. Andrews area.

Management Objectives: Develop a Management programme for the protection of the upper watershed area.

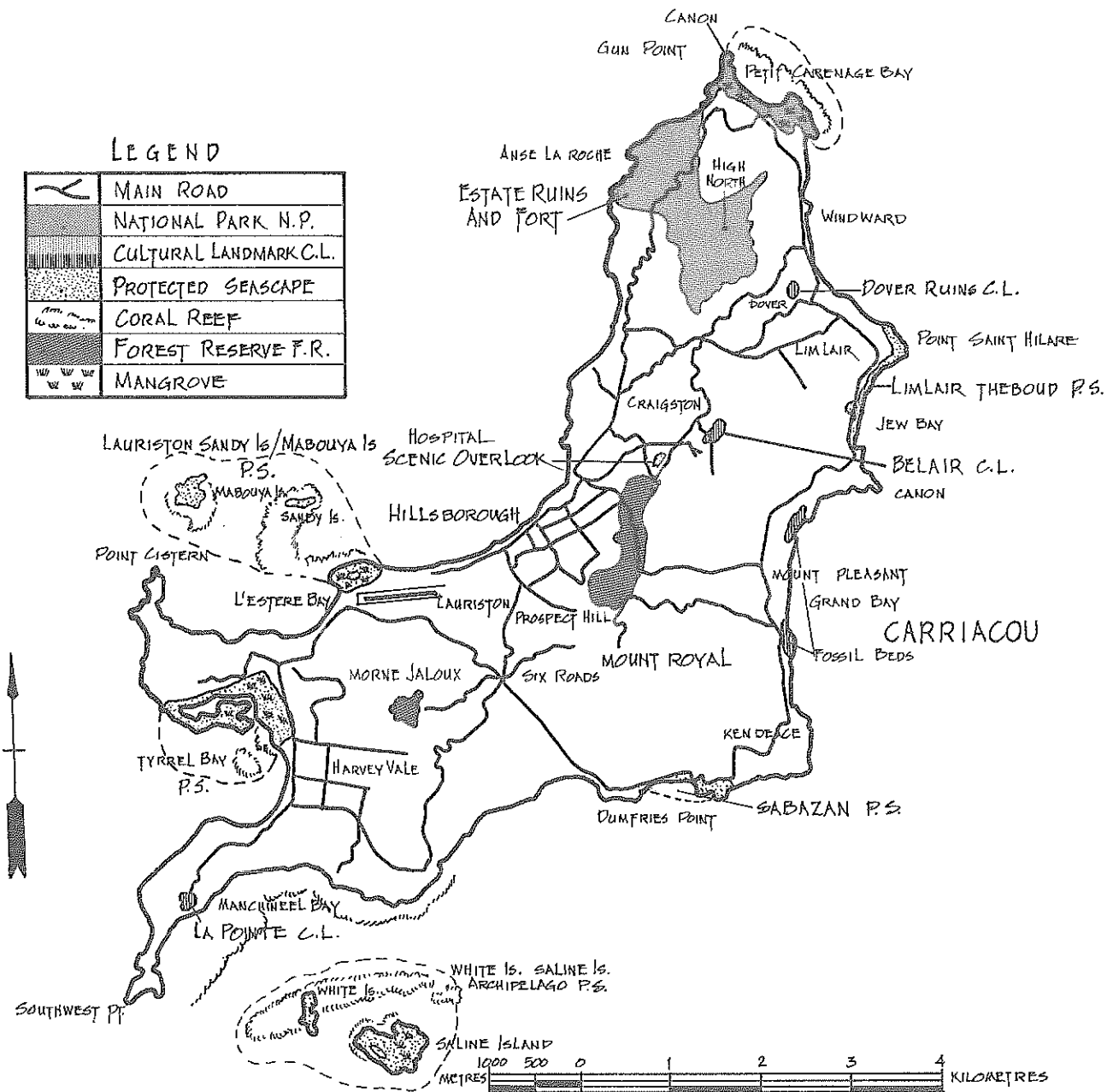
NATIONAL PARKS & PROTECTED AREAS CARRIACOU

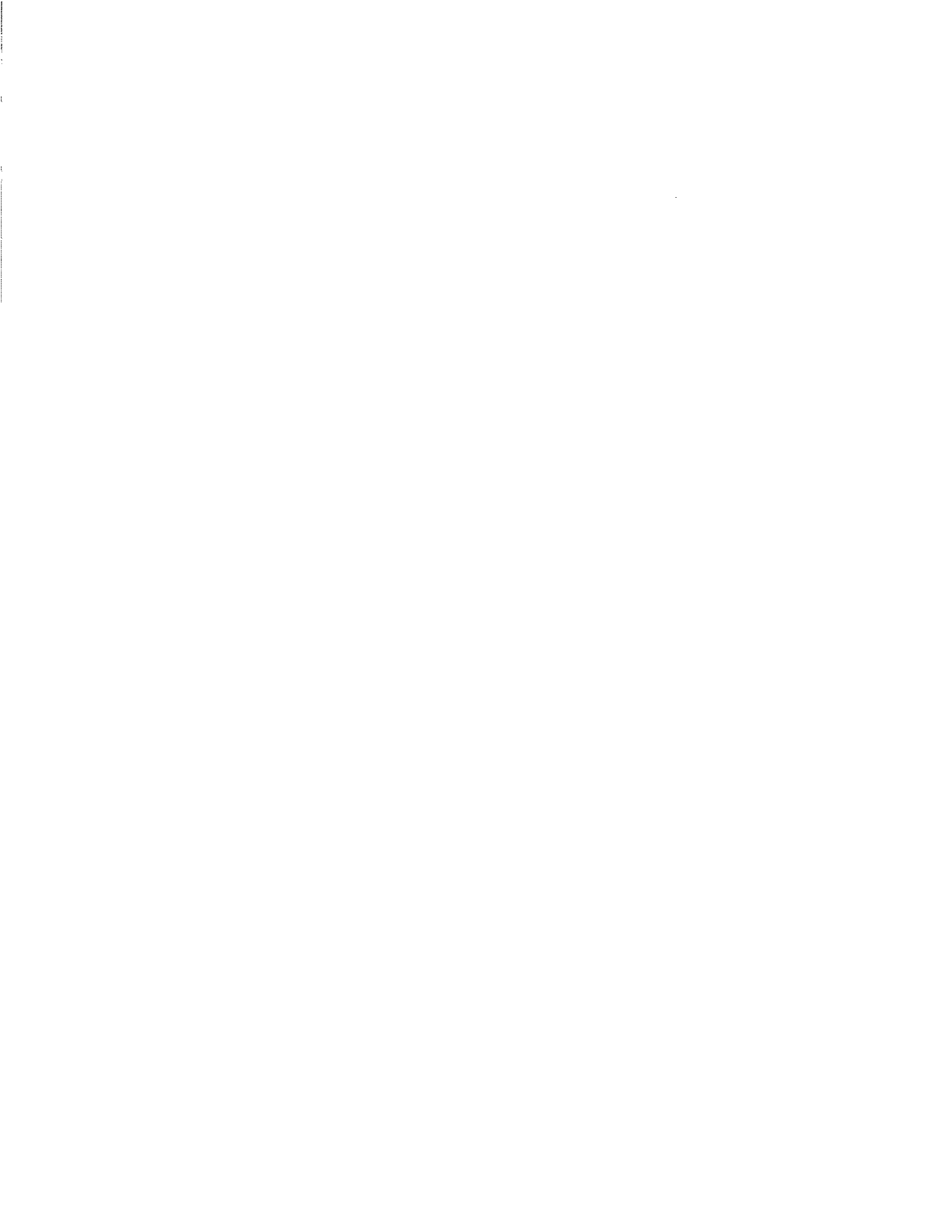
GOVERNMENT OF GRENADA/OAS PROJECT

THE ESTABLISHMENT AND MANAGEMENT
OF A SYSTEM OF NATIONAL PARKS AND
PROTECTED AREAS

LEGEND

	MAIN ROAD
	NATIONAL PARK N.P.
	CULTURAL LANDMARK C.L.
	PROTECTED SEASCAPE
	CORAL REEF
	FOREST RESERVE F.R.
	MANGROVE





CARRIACOUNATIONAL PARKS(i) HIGH NORTH

Location: Northern section of Carriacou.



Red mangrove proproots protect the shoreline, provide habitat for shellfish, and other wildlife.

Summary Description: High North Peak with 955 feet is the highest in Carriacou. Containing important watersheds for the northern part of the Island, this park encompasses the complete spectrum of ecological systems in Carriacou. The finest dry thorn scrub deciduous forests are found on the north west slope descending to

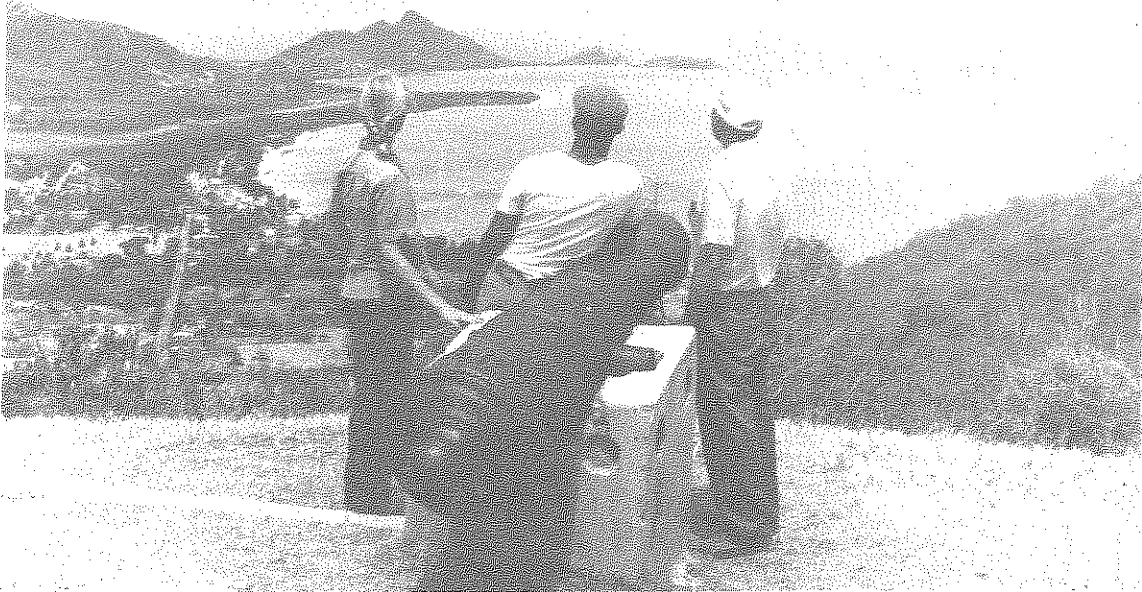
seasonal evergreen forests on the alluvial flats leading to L'Ance La Rouche, the most scenic and private beach in Carriacou. Coral reefs and outstanding volcanic and uplifted sedimentary formations are clearly visible. The littoral vegetation of manchineel and coconut is well developed. The entire Park is the most undisturbed area in Carriacou.

The Estate Ruins found overlooking L'Ance La Roche Bay are of significant historical importance. The estate, once comprising about 266 acres of forest and grazing lands, was advertised for sale in the St. George's Chronicle and Grenada Gazette, dated June 7, 1826. (Brinkley, F.K. 1986, Pers. Comm.) At the time it was described as a dwelling house in substantial order. A kitchen, corn house, hospital, cattle pens, and pigeon house were built of mason work. Accompanying the sale were numerous implements necessary for the cultivation of corn and cotton.

Some of the foundations are worthy of restoration and the area provides outstanding opportunities for tourism and environmental education.

The mangrove ecosystems at Petit Carenage Bay are among the most developed in the Country. Both the mangrove swamp formation and the littoral sand beach vegetation are found. Few signs of cropping for charcoal are visible, and as a result, this may be the finest mangrove and mud flat ecosystem found in the country of Grenada.

Significance of the Area: The High North National Park contains some of the most outstanding terrestrial ecosystems in the Country, and due to its importance in the Grenadines, should be recommended as a Biosphere Reserve with UNESCO. The area offers tourist and recreational resources in Carriacou and merits immediate attention. Shipbuilding in Windward presents traditional skills presented in a scenic setting. A bird sanctuary should be established at Petit Carenage where there are many rare migrants as well as resident water birds.



A tour of Carriacou should begin at the Hospital scenic overlook, where the capital Hillsborough and adjacent lands can be seen from a bird's eye view.



Now overgrown with vegetation, the cannon and foundations of the L'Ance la Rouche ruins present fascinating vistas into the past agricultural and military history of Carriacou.

Management Objectives: To provide protection for and maintain in a natural state the ecosystem and habitats of the area, to provide for recreational and educational activities in the forest area, while providing for recreational activities along the coastal areas.

Activities: Formation of a Nature Conservancy as part of the Historical Society of Carriacou to promote tours, birdwatching trips, and oversee the restoration of the area utilizing public and private sector funds.

PROTECTED SEASCAPES

(i) THE LIMLAIR-THIBAUD AREA

Location: South of Point Saint Hilaire in Central eastern Carriacou.

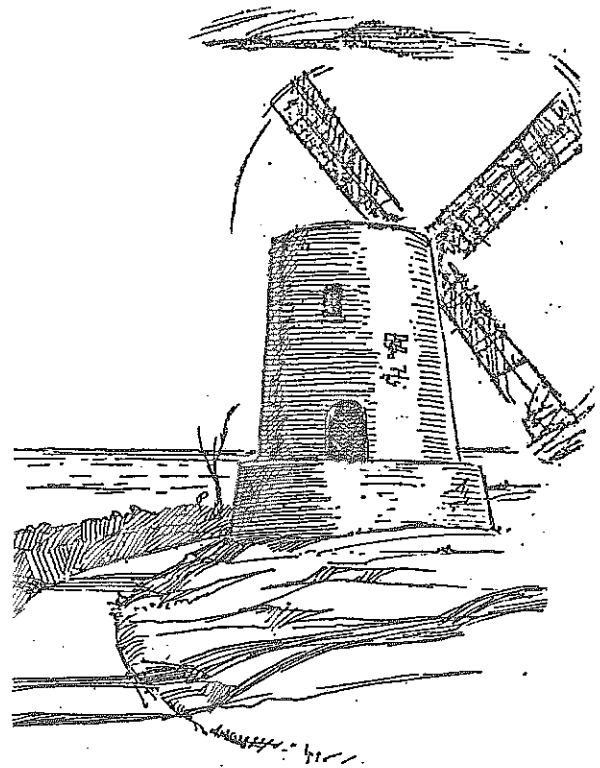
Summary Description: This region is fascinating from primarily a cultural and historical vantage point. The long history of livestock development is represented by a hand dug well which is 30 by 20 by 20 feet deep and lined by a rock wall of high quality indicating the intentions of the estate owners were of permanence.

The coast is lined with 3 or 4 separate cemeteries dating back to the 1700's, with a tomb and mausoleum of Hugh Monro, Esq., owner of the Limlair Estate dated 1778. On Tarltons Point a cannon can be found resting on the cliff, having been pushed out of place.

Significance of the Area: Presenting fascinating vistas into the military and agricultural history of Carriacou, the area has value for tourism, anthropological research, and education of the local population.

Management Objectives: To protect and restore these valuable cultural features and initiate programs of research, education and tourism.

Activities: Demarcation of boundaries, land tenure investigation, design of tourism and education programs.



Windmills used to dot the landscape all over Grenada and Carriacou which were previously used for investigation. Now the adventure can find foundations of these and other stone works all over the island.

(ii) TYRREL BAY Protected Seascape:

Location: South-west central area of Carriacou.

Summary Description: Carriacou has world renowned fame for the mangrove oyster which comes from the mangrove ecosystem of Tyrrel Bay. The mangrove ecosystem and adjacent salt mud flats show signs of human disturbance, and are recommended for protection because of the foreign exchange generated and employment opportunities presented.

Significance of the Areas: It is an important economic fishing area as well as nursery ground for fish and aquatic life. It has been a traditional yacht anchorage and hurricane hole.

Management Objectives: To protect the mangrove ecosystem while developing the resource for oyster production and to accommodate regulated traditional fishing.

Activities: Demarcation of boundaries, initiation of development, protection and management programme, environmental research programme as is on going with Artisanal Fisheries Project.

(iii) LAURISTON POINT: - Sandy Island - Mabouya Island Protected Seascape.

Location: Central Western section of Carriacou.

Summary Description: Containing an excellent mangrove ecosystem, coral reefs, and island vegetation, this area is highly suitable for tourism. Close to Hillsborough, and the airport, the area provides excellent opportunities for field trips for the schools and community groups. Turtle nesting areas are found on the islands. The mangroves are untouched and are better developed than any noted in Grenada. The area is excellent for birdwatching.

Sandy Island is a favorite mooring spot for yachts.

Significance of the Area: Proximity to the capital of Carriacou and quality ecosystems.

Management Objectives: The area presents opportunities for the area to be developed for recreation, education and tourism, while protecting the valuable natural habitats, especially Sandy Island, where the reefs are reported to show stress due to spear fishing and the reported use of dynamite.

Activities: Demarcation of boundaries, preparation of management and development plan.

(iv) SALINE/WHITE ISLAND AND REEFS

Location: Fifteen miles north - north east of Grenada and one mile south of Carriacou.

Summary Description: Saline Island and White Island present fascinating geology. Saline has a brackish lagoon salt pond surrounded by a mangrove ecosystem. Pyroclastic deposits indicate major volcanic activity and two volcanic plugs are present. Shorebirds can be seen searching for crustaceans in the mud flats of the brackish lagoon and the adjacent coral reefs are unquestionably Grenada's most outstanding. Panoramic views of the reefs may be had from various look out points from both Saline and White Island. White Island is surrounded on three sides by sandy white beaches with diverse untouched littoral vegetation.

Significance of the Area: This area presents one of the most outstanding scenic and tourism resources in the country. Pristine white sandy beaches, unique geology, insights into the anthropological development of the islands, and productive mangroves and salt ponds blend together to present Grenada's finest natural setting. Both White and Saline are some of the most unusual Islands seen in the Grenadines. Both have pyroclastic volcanic plugs which rise 200 feet in height being undercut by wave action. The rock domes are fractured into tall columns. Iguanas were common until the 1960's, but now are much rarer. These Islands would be excellent areas to

re-introduce the iguana and provide for their protection.

Howard, 1950 notes that the vegetation on White Island is decidedly unusual in the Lesser Antilles, and more characteristic of the Greater Antilles and Bahamas. Notably, *Tournefortia gnaphalodes*, *Heliotropium indicum*, *Heliotropium curassavicum*, and *Euphorbia buxifolia* are common.

The adjacent waters present the largest and most diverse coral reefs in Grenada as well as outstanding opportunities for recreation and tourism from Carriacou. The natural features have the potential to be developed for day trips of diving, nature study and scenic appreciation.

Activities: Formation of White Island/Saline Island management committee of interested Carriacou residents, to design protection measures by controlling visitors, yachts, and cruise ships. Monitor the area, enforce, and design visitor tours and facilities.

(v) SABAZAN P.S.

Location: South Eastern Area of Carriacou near Dumfries.

Summary Description: Sabazan was probably the most elaborate of the large estate houses on Carriacou. Constructed in the late 1700's or early 1800's the ruins contain an old well, six foundations, a tower looking towards the sea and an elaborate cistern system. (Frances Kay Brinkley, Pers. Comm.)

Significance of the Area: The ruins reflect the history of agricultural development and the importance of water in Carriacou. It is a site of an important Amerindian settlement. Nearby, at Dumfries is an old Cotton gin, lime factory and French foundation. It is the home of some rare birds, e.g. the mangrove cuckoo.

Management Objectives: To protect the ruins, artifacts, birds; to design programs of

educational research to further understand the historical development of Carriacou. To tie in Sabazan, Dumfries, and other protected areas into an around the Island tour for visitors and school groups.

Activities: New area study, protection of the ruins, artifacts, and birds, visitation by school groups.

NATURAL LANDMARKS

FOSSIL BEDS OF GRAND BAY

Location: 1/2 mile south and 1/2 mile north of Grand Bay Village on the Windward Coast of Carriacou.

Summary Description: Both sites contain about 30 feet of well bedded fine grained ashy shales which are exposed along the shore. Fossils of *Gastropoda*, *Pleurotoma*, *Alvitra*, *Phos*, *Pyrala* and *Conus* are present. When wet with seawater, the fossils look very well preserved. In some cases, the sharp edged angite crystals have imprints. *Trocolyathus* and *Flabellum* can also be seen. The *Globorotalia Fobsifobsi* (Grand Bay Beds) have been correlated with the Lower Miocene Baitoa formation of the Dominican Republic.

Significance of the Area: The fossil beds are the only known beds in Grenada which are plainly visible. The beds provide excellent opportunities for education, illustrating prehistoric shellfish, some of which are long since extinct.

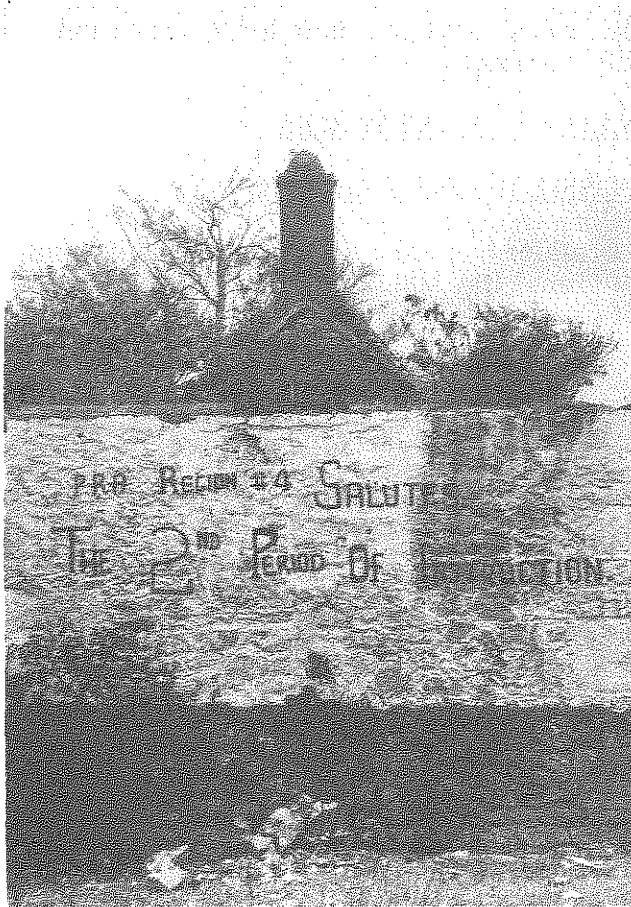
Management Objectives: To design environmental education programs and protect the fossil beds from further deterioration. To initiate geological research into the importance of the area.

Activities: Review land ownership; design of environmental education program for school system.

CULTURAL LANDMARKS

(i) BELAIR

Location: North Central Carriacou at 719 feet above sea level.



The Belair Cultural Landscape once served as a headquarters for the People's Revolutionary Army. Historically the property was cultivated in sugar cane and thereafter cotton.

Summary Description: In 1784, John Reid, Esq. owned Belair Estate. An old English great house was completed in 1809. Next to the great house, foundations of an older French house exist, indicative of the amount of times the island of Carriacou changed hands.

The house looks upon the old windmill tower still in excellent condition. At one time the entire area was cultivated in sugar cane to support the mill. Thereafter, at the turn of the century, cotton became the predominate

crop. Just down the road is an old windmill foundation which is so intact it could be restored.

During the People's Revolutionary Government, the area was utilized as an Army Camp. At the time of the U.S. and Caribbean Forces intervention of Grenada, a large explosion occurred at the house which remains a mystery. (Frances Kay Brinkley, Pers. Comm.)

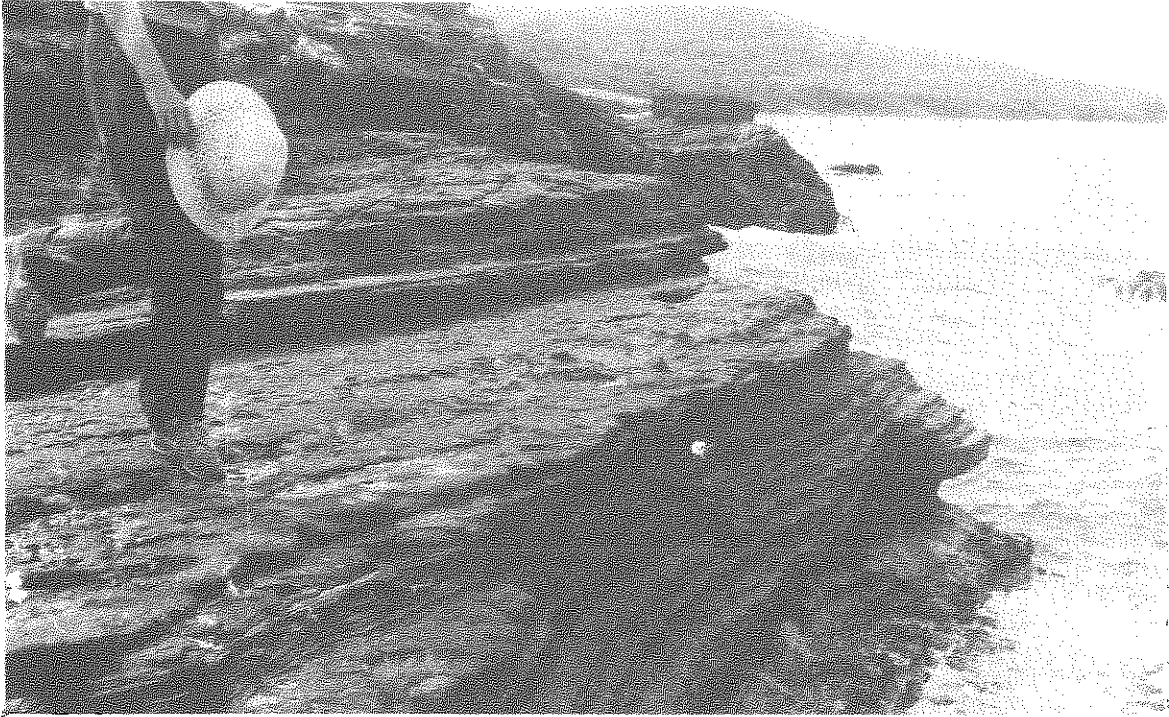
Significance of the Area: Belair has both French and English ruins, and the finest sugar mill and windmill foundations on the Island. A large cistern is also in place. The Belair Estate affords one of the most spectacular views on the island.

Management Objectives: To protect the ruins and initiate programs of education and research. Frances Kay Brinkley of the Historical Society has recommended that the Belair house be restored to a cultural and conference center. Funding agencies and private sector initiatives should be sought out to restore the house.

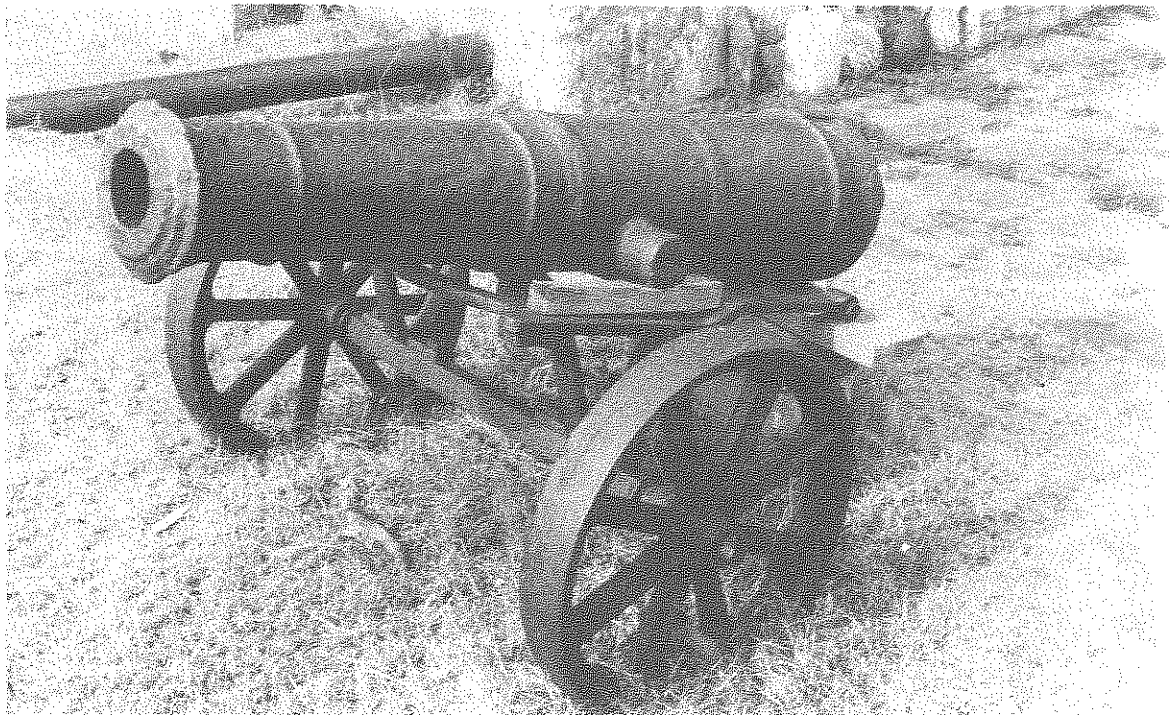
Activities: To promote educational programs, to protect the area with patrols. Construction of visitor facilities and design of a self-guiding cultural trail through the estate and management of the site.

(ii) LA POINTE

Location: South Western tip of Carriacou.



The Fossils Beds Natural Landmark in Carriacou expose millions of years of archeology in the sedimentary and igneous layers.



Portable cannons of this nature could be moved about freely thereby surprising the enemy during the tumultuous times when the British and French were continually fighting for dominion over the Islands.

Summary Description: La Pointe Cultural Landmark is situated in a scenic peninsular and contains the ruins of an old French estate house (Frances Kay Brinkley, Pers. Comm.)

Significance of the Area: As is true of all the old estates, La Pointe gives vistas into the history of Carriacou. Iguanas are found here.

Management Objectives: To protect and continue research into the importance and value of the ruins.

Activities: The declaration of this and all cultural landmarks as areas to be inventoried and studied in more depth.

(iii) DOVER RUINS

Location: 1/4 mile inland North East Carriacou.

Summary Description: The Dover ruins are the site of the first church in Carriacou, and is where Priest Maissoneuve resided. The square cut rocks of the foundation, still in place indicate the importance of northern Carriacou to the first French settlements.

Significance of the Area: The quality of the stone foundation present fascinating opportunities for archeology. The grounds once comprised 16 acres which at one time was Catholic property in Carriacou. Next to it in 1793 was Dover Cottage, a small estate owned by the Anglican Minister, Rev. W. Nash.

Management Objectives: To protect the ruins from any further theft, to tie the area in with an around the Island Tour, and to design programs of cultural education for the local schools.

Activities: Protection of the ruins, visitation by school groups.

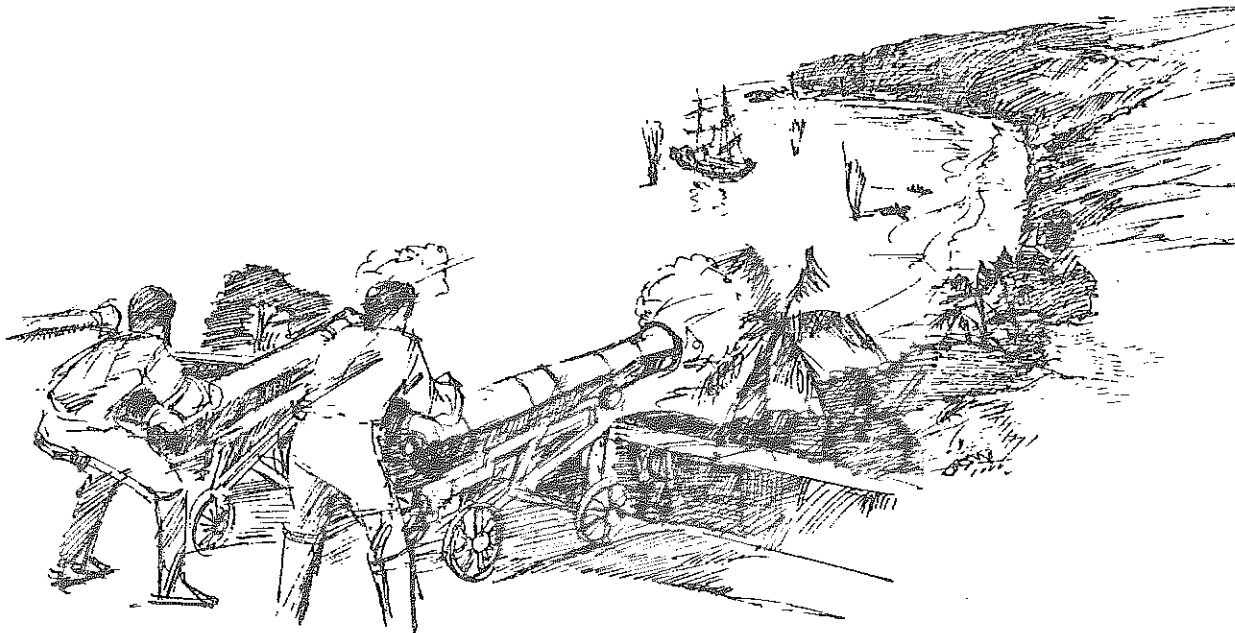


TABLE IX
LAND USE SUMMARY - NATIONAL PARKS AND PROTECTED AREAS

Area by Management Category	Size of Area	Existing Land Use (Acreage)	Land Cap Class	Land Use Proposal	Present Admin. and Ownership		
					Admin. Status	State	Priv.
NATIONAL PARKS							
GRAND ETANG 2370							
1. Grand Etang (including Mt. Qua Qua, Mt. Granby)		Natural Wind Swept Forest Natural Reserve Hunting	100% (2370) VIe	National Pk. Critical Conservation Area	Nature Reserve Managed by Forestry Div. Min. of Agric.	1816	554
GRAND ETANG FOREST RESERVE	2000	Lower Montane Rainforest	100% (2000) VIe	Forest Harvesting	2000 Acres managed as Forest Reserve by Forestry Department	2000	-
2. Levera	548	23 Acres Mangrove Swamp Agriculture Charcoal production Fishing Hunting Cattle rearing Recreation	30% (164) IIIc Climate Low rain-fall 70% (384) IIw (Wet Land)	National Critical Conservation Area	120 Acres - Farms Corporation 428 - Priv. Admin. which includes Sugarloaf, Sandy and Green Island	120	428 Kent's Agency Canadian Dev. Ltd.
3. Mt. St. Catherine	1432	Hunting Hiking Forest	100% (1432) VIe (Erosion)	National Pk. Critical Conservation Area	Crown Land Not managed	1432	-

NATURAL
LANDMARKS

1. Lake Antoine	85	60% Agric. 40% Forest	-	Area of Natural Interest	Privately Administered	-	85 DeGale families
2. Concord Falls	2 Acres	Agriculture Forest Recreation	65% (1.2) VIe 30% (.8) IVe	Natural Landscape To be Preserved	Privately Administered	-	2 acres F.Hamilton
3. Annandale Falls	3 Acres	Agriculture Recreation	70% (2) VIe 30% (1) IVe (erosion)	Natural Landscape To be Preserved	Administered by Min. of Tourism and Forestry Department	3	-
4. Marquis River Falls	2 Acres	Agriculture Recreation	N/A	Natural Landscape To be Preserved	Privately Administered	-	2
5. River Sallee Boiling Springs	1/4 Acre	Agriculture Recreation	N/A	Natural Feature to be preserved	Not Administered	-	1/4
6. Marquis Island	8 Acres	Hunting Natural Cover	50% (4) VIe 50%(4) IVe	Area of Natural and Scientific Interest	Privately Administered	-	8
7. Hog Island	70 Acres	Grazing Recreation	60% (42) VIe 40% (28) IVe	Natural Features To be Preserved	Privately Administered	-	70 Theodore family
8. Quarantine Point	8 Acres	Low Scrub Recreation Radio Transmission Towers	VIe (8)	Critical Landmark To be preserved for its Recreational and Aesthetic Value	Crown Lands Administered by Min. of Agriculture	8	-
9. La Baye Rock	5 Acres	Dry thorn scrub Cactus Forest	100% VIC	Natural Landscape to be preserved	Privately Administered	-	- 5

PROTECTED
SEASCAPE

1. Northeast Seascape	365	Mangrove Swamps High Cliffs Xerophytic Vegetation Littoral Vegetation	50% (183) IIw 30% (109) Vs Soil factor 20% (74) IIIc	Critical Conservation Area	Many Private Owners	-	365
2. Southern Seascape							
a. Westerhall	36	Mangroves	100% IIw	IIw Classified	Not Owned		4 Residents Assn.
b. Chemin Bay	23	Mangroves		"	"	12	11 Fort Jeudy
c. Egmont Bay	25	Mangroves		"	"	-	25
3. Calivigny Island	12	Grazing Littoral Vegetation	60% (7.2) IVe 40% (4.8) VIc	Not Classified	Privately Owned	-	12 Ken Milne
4. Molinere Reef	655	Scuba Diving	Open Water	Not Classified	Publicly Owned	655	
5. La Sagesse Salt Pond Natural Landmark	19	Littoral Vegetation Mangrove Cocoa Banana Pasture Secondary Forest	20% IIw 80% IVs	Area of Cultural and Historical Interest	Administered by Min. of Agriculture	8	11

CULTURAL
LANDMARKS

1. River	4	Sugar Cane	N/A	Area of	Privately	-	4
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Antoine		Pasture Rum Production Mangrove Swamp		Cultural Historical and Social Interest	Administered		DeGale family
2. Westerhall Distillery	1	Rum Production	N/A	Area of Cultural and Historical Interest	Privately Administered	-	1 acre
3. Carib's Leap	2	Recreation	N/A	Area of Historic Importance	-	-	2 Roman Catholic Church
4. "The Tower" St. Paul	11	Residential Recreational	100% IIIe	Historical Monument	Privately Administered	-	11 Slinger family
5. Fort George	5	National Security	N/A	Area of Cultural and Historical Importance	Publicly Administered	5	-
6. Fort Frederick	4	National Security	N/A	Area of Cultural and Historical Importance	Publicly Administered	4	-
7. Marquis Village	N/A	Residential Development Agriculture	N/A	Concentrat- ion of Handicraft Development	Privately	N/A	-
8. Mt. Rich Cultural Landmark	3	Agriculture	N/A	Area of Historic & Cultural Interest	Privately Owned	-	3 Morain family
MULTIPLE-USE AREA							
1. Annandale Water	506	Forest Agriculture Water supply	100% Vs	Multi-use Area	Forestry Division Administered	506	-
2. Concord Water	240	Forest Agriculture	100% Vs	Multi-use Area for	Publicly Administered	-	240 F. Hamilton

Area by Management Category	Size of Area	Existing Land Use	Land Cap Class	Land Use Proposal	Water Supply	Water Production	Present Admin. and Ownership		& Others
							Admin. States	State Priv.	
3. Mt. Hope/ Calabony Watershed	655	Forest Agriculture Water Supply	32% (209) VIe 68% (446) IVc	Multi-use Area for Water Production			Privately Owned	-	655

B. CARRIACOU

NATIONAL PARKS

1. High North National Pk	606	Forest Grazing Trapping	30% Vs 70% VIe	National Pk. Critical Forest Conservation Area			Nature Reserve State Lands	300	306 128 acres Packard 100 acre Jones, Sylvester 78 acres McIntyre
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NATURAL LANDMARKS

1. Fossil Beds at Grand Bay		4 cliff	Windswept	N/A Geologic Interest			Area of Land	Crown	4-
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PROTECTED SEASCAPES

1. Lauriston Pt. Sandy Island Mabouya Island	584	Tourism Yachting Mangrove	100% of land surface VIe	Natural Landscape and coral reefs to be preserved			Islands are Government owned. Coral reef & Point are public	584	
2. Tyrrel Bay Mangrove	280	Oyster Harvesting Mangrove Ecosystem	N/A	Area of Natural & Scenic Interest Oyster Harvesting is compatible			Crown land not managed	280	-

3. White Island Saline Island Coral Reefs	564	Grazing on Islands Fishing Tourism	100% of land surface Vie	Area of Scenic Interest Coral reefs are among the best in Grenada	Coral reefs are Public/ Privately Administered Islands	74	490
4. Sabazan	6	Grazing	100% of Land Surface Vie	Area of scenic & historic interest	Public/ Private	3	1
5. THIBAUD Limlair Estate Cemetery, Tomb & Well	15	Cemetery	100% IVs	Area of Scenic Cultural & Educational Value		15	
CULTURAL LANDMARKS							
Belair Estate (and Hospital View)	6	Agriculture Hospital	N/A	Area of Cultural Historical & Educational Value	Crown lands Administered by Gov't	6	-
Dover Ruins	4	Grazing Ruins	N/A	Area of Historic & Educational Value	Private Ownership		2
La Pointe	11	Grazing	N/A	Area of Historic & Educational Value			1
MULTIPLE-USE AREA AND FOREST RESERVES							
Forest Reserve	36	Quarrying Grazing	100% Vie	Watershed Protection	Crown lands	36	
Chapeau Carre	12	Forest Reserve	100% Vie	Watershed Protection	Crown lands	12	



The view from the Estate Ruins of L'Ance la Rouche looks upon one of Carriacou's most scenic and natural beaches. The area provides outstanding opportunities for tourist and education.

CHAPTER VI

Development Strategy for the National Parks System.

The National Parks and Protected Areas Program fits in directly with the economic development of Grenada. With Agriculture, Fisheries, and Tourism making up the vast majority of Grenada's GDP and foreign exchange earnings, a protected areas program can provide a broad variety of benefits to the country because of its vital support for and linkages to these three sectors.

Institutional Analysis

Given the tight fiscal constraints and that the Government is streamlining the Civil Service, the creation of a new management agency is not feasible. Establishment and management of a protected areas system must be based on existing institutions and personnel. All relevant institutions were examined in terms of their policy and objectives, legislation, programs, projects and principal activities, staffing, training, inter-agency collaboration and coordination, control and regulation of state lands or waters, and technical, financial, and administrative constraints.

The Forestry Department was chosen as the most appropriate institution to manage the National Parks and Protected Areas System. This decision was made by a committee made up of representatives from the Forestry Department, Fisheries Division, Land-use and Water Resources, The National Trust, The Historical Society, The Ministry of Education and Culture, and The Organization of American States.

Forestry was chosen because it has the following:

(a) legislation and formal policy which charge it with protecting the nation's fauna, flora, habitats, forests, watersheds and soil and water resources in order to fulfill a

series of sustained production, recreation and conservation objectives and the establishment of terrestrial reserves to accomplish those ends;

(b) a notable series of well-designed projects being executed with success, several of which deal with management of an existing forest reserve (proposed Grand Etang National Park) and a multiple use area (Annandale Watershed);

(c) a motivated, active staff with very basic training in forestry, and which is dedicated to the concept of a protected areas program and system;

(d) demonstrated ability to obtain international and national funding and technical assistance and use it effectively and efficiently;

(e) excellent collaborative relationships with many other national agencies;

(f) a basic physical plant and equipment including recently renovated offices, a visitors interpretation center in the proposed Grand Etang National Park, vehicles, field gear etc; and

(g) effective control of several areas given it by Government.

With the gradual addition of certain personnel and a well-designed and executed training program, Forestry could manage most of the system: national parks, natural landmarks, cultural landmarks and multiple use management areas.

The Fisheries Division will assist Forestry in the management of Protected Seascapes and multiple use marine areas. As they have offices in each of the Parishes and in Carriacou, Fisheries has agreed to work closely with Forestry to facilitate in every way the establishment and management of the program.

To advise the Forestry Department on the restoration and management of Cultural Landmarks, the formation of a Cultural Landmarks Steering Committee has been proposed. The Ministry of Education and Culture are to provide technical and logistical support through the UNESCO office. In conjunction, the Historical Society and National Trust will nominate a Chairman of the Cultural Landmarks Steering Committee. Utilizing the National Trust Act of 1967, this team will attract outside funding, oversee the restoration of the cultural landmarks, and design educational programs.

The Agricultural Extension Division has the responsibility to patrol the protected areas on a regular basis to ensure squatting, cropping of wood products or wildlife, hunting, sandmining or any other activity which adversely affects the resource is prohibited or regulated as indicated in the management category. The Extension Officers will report any infraction to the appropriate authorities in the Forestry and/or Fisheries Division. It is recommended that in order to give the Extension Officers the necessary power to carry out this function that they be named Auxiliary Wardens.

The Extension Officers will be trained in their new duties by annual workshops which will be held to inform them of boundaries, regulations, goals and objectives of the Protected Areas Program.

The Horticulture Division with planning and supervision from the Forestry Department, Fisheries Division, and Cultural Landmarks Steering Committee will help to maintain the grounds around the visitor centers and cultural landmarks and to maintain where needed the trail systems. It is recommended that twenty (20) full time labourers from the Ministry of Works begin work on the restoration of Fort George, Fort Frederick, Carib's Leap and other public sites.

The Land-Use and Water Resources Division will contribute to the effective analysis of the protected areas by incorporating them

into the land-use capability and integrated watershed management studies presently being conducted. The Protected Areas Policy strengthens the mandate of the Division specifically in the promotion of suitable land-use practices in the multiple use areas.

The Land Division should work closely with Forestry Department to resolve issues of land tenure. People who own land within Protected Areas will be contacted and alternatives will be researched to encourage that the areas remain in a natural state.

The Tourism Department will develop promotional materials and campaigns to attract visitors and citizens to use the Protected Areas for recreation and education. They will help to train tour guides concerning the importance, objectives, resources, facilities, and regulations of the Protected Areas.

The Education Department and Curriculum Development Unit will assist in the development of environmental and cultural resources and education curricula as integral parts of the social studies and science curricula and will promote training of teachers to utilize the curricula.

The Science and Technology Council will promote, coordinate and carry out key research needed for the planning and management of Protected Areas and promote public awareness and environmental education.

The Mirabeau Farm School is encouraged to add a course in integrated watershed planning and management which would include a solid emphasis on Protected Areas.

The Historical Society/National Trust/Cultural Landmarks Steering Committee - will be important to advise the Forestry Division on the development, management, and maintenance of Cultural Landmarks.

TABLE X
 INSTITUTIONAL ARRANGEMENTS FOR THE MANAGEMENT OF A PROTECTED AREAS SYSTEM IN GRENADA

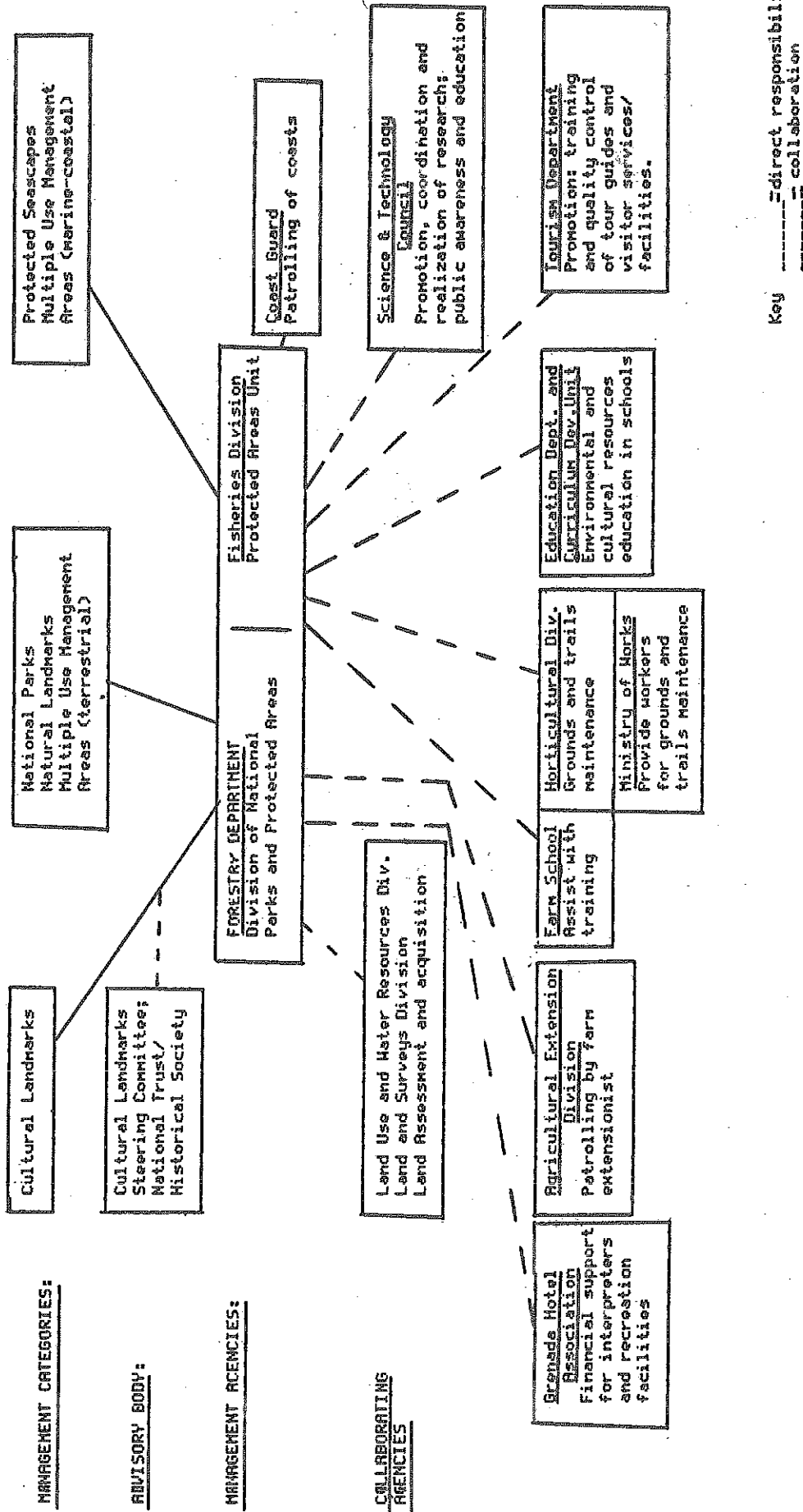


TABLE XI

ESTABLISHMENT AND MANAGEMENT OF A SYSTEM OF
NATIONAL PARKS AND PROTECTED AREASRESPONSIBILITY MATRIX

MINISTRIES, DIVISION & PRIVATE GROUPS

<u>Primary Responsibilities</u> *	Forestry	Fisheries	Education and Curric. Dev.	Tourism	Horticulture	Land-Use	Lands and Surveys	Agricultural Extension	Farm School	Historical Society	National Trust	Cultural Landmarks Steering Committee	Min. of Works	Coast Guard	Grenada Hotel Assoc.	Science & Technology Council
Promote, coordinate and conduct research on protected areas	*	*				*										*
Promote and monitor education, research and environmental study opportunities	*	*										*				*
Conserve biological diversity	*	*														
Monitor and control land use practices that can adversely affect protected areas	*	*														
Provide recreation, interpretation and tourism services	*	*		*											*	
Protect cultural sites and areas of historical and archaeological significance	*										*	*				
Protect and conserve scenic beauty and open space	*	*														
Produce timber, forage or marine products on sustained yield basis	*	*							*							
Maintain open options, management flexibility; permit multiple use	*	*							*							
Stimulate rational, sustainable use of marginal areas and rural development	*	*							*							
Provide a cadre of trained educators to interpret the cultural and natural heritage of Grenada	*	*	*	*						*						*
Provide a cadre of trained rangers to patrol and protect cultural and protected areas	*	*							*					*		
Identify critical areas to incorporate into a System of National Parks and Protected Areas	*	*		*		*					*	*				
Research land tenure and approach land owners to donate or sell critical conservation areas	*	*						*								
Advise Forestry and Fisheries on cultural landmark development, protection and maintenance					*				*	*	*	*				
Maintain protected areas infrastructure; maintain protected areas ground and trails	*	*			*								*			

Identify critical areas to incorporate
into a System of National Parks and
Protected Areas

* * * * * * *

Research land tenure and approach land
owners to donate or sell critical
conservation areas

* * * *

Advise Forestry and Fisheries on cultural
landmark development, protection and
maintenance

* * * * * *

Maintain protected areas infrastructure;
maintain protected areas grounds and
trails

* * * * *

TABLE XII
 POTENTIAL USE OF PROTECTED AREAS
 (Excluding Cultural Landmarks)

PROTECTED AREA	Protection of Unique Resources Endangered Species Habitat Conservation of Ecosystems											
	Recreation	Tourism	Education	Research	Wood	Forage	Fauna	Water				
HIGHT NORTH	4	4	4	4	4	4	2	3	4	3	NATIONAL PARK	36
GRAND ETANG	4	4	4	4	4	4	2	0	3	4		33
LEVERA	4	4	4	4	4	3	2	2	3	3		33
MT. ST. CATHERINE	3	2	2	2	0	2	0	0	3	4		18
MARQUIS ISLAND	3	3	3	3	2	2	0	2	3	0	NATURAL LANDMARK	21
ANNANDALE FALLS	2	2	4	4	3	2	0	0	2	3		22
LA BAYE ROCK	3	3	3	3	2	3	0	0	4	0		21
MARQUIS FALLS	2	2	3	3	2	2	0	0	3	3		20
LAKE ANTOINE	4	3	3	3	3	3	2	3	2	3		29
CONCORD FALLS	3	2	3	3	2	2	2	2	3	4		26
RIVER SALLEE	3	0	2	3	2	2	0	0	2	2		16
HOG ISLAND	4	4	2	2	3	3	0	3	4	0		25
QUARANTINE POINT	2	2	3	3	3	2	0	0	2	0		17
NORTHERN SEASCAPE	3	3	4	4	3	3	0	2	3	3		28
SOUTHERN SEASCAPE	3	3	2	2	3	3	0	2	3	3		24
CALIVIGNY ISLAND	2	3	3	3	2	2	0	3	3	0		21
CANOE BAY	3	2	3	3	2	2	0	2	3	0		20
LA SAGESSE	3	4	3	4	4	4	2	3	3	3		33
TYRREL BAY	3	4	2	2	3	4	2	2	3	3		28
SALINE/WHITE ISLANDS	4	4	3	3	3	3	0	2	3	0		25

LAURISTON MABOUYA SANDY ISLAND	3	3	3	4	3	3	2	3	3	2	29	
LIMLAIR-THIBAUD	2	2	3	3	3	1	2	3	2	3	24	
SABAZAN	2	2	2	3	3	3	2	2	2	0	21	
MOLINERE REEF	4	4	4	4	4	4	0	0	4	0	28	
<hr/>												
ANNANDALE	2	2	3	4	2	2	2	2	3	4	MULTIPLE USE	26
CONCORD	2	2	3	4	2	2	2	2	3	4		26
CHEMIN RIVER	2	2	2	2	2	2	2	2	3	4		23
MT. HOPE/CLABONY	2	2	2	2	2	2	2	2	3	4		23
<hr/>												
GRAND ETANG	3	2	2	2	2	2	4	0	3	4	FOREST RESERVE	24
CENTRAL RANGE & BELLE VUE SOUTH	2	2	2	2	2	2	3	0	3	3		21
<hr/>												

TABLE XIII
ECOSYSTEM ANALYSIS OF
PROTECTED AREAS

1-Insignificant
2-Significant
3-Good
4-Very Good
5-Excellent

	NATURAL REGIONS				TERRESTRIAL ECOSYSTEMS					AQUATIC ECOSYSTEMS					GEOMORPHOLOGIC FORMATIONS		UNIQUE VALUES			TOTAL	
	Caribbean Sea (Leeward)	Littoral - Beach	Cordillera	Atlantic Ocean	Tropical Dry Thorn scrub	Tropical Dry Forest	Tropical Moist	Lower Montane	Montane	Elfin Woodland	Lakes	Marshes - Bogs	Mangroves - Mudflats	Estuary	River systems	Volcanic Unique Site	Scenic Beauty.	Flora/Fauna	Uniqueness	Historical/Cultural Value	
High North	5	5	5	5	5	5							5	2	2	5	5	5	5	5	67
Grand Etang				5				5	5	5	5	5		5		5	5	5	5	3	58
Levera	5		5	3	5	5	2						5	3	2	4	5	5	5	2	56
Saline/White Islands	5	5	5	2	5							3	5	2		5	5	5	5	2	54
Mt. St. Catherine				5		5	5	5								5	4	4	5		38
Northern Seascape	5		5		5	3						3	4	5	4	1	5	4	2		41
Lauriston-Mabouya		5	4		5							5	3	1		2	5	3	2		35
Tyrrel Bay		3			4							5	2			3		4	4		25
Hog Island	5		5	2	4							3				3	5	4	2	1	34
La Sagesse	5		5		5	5						4	5	5		3	5	4	4		48
Southern	5		2		3							3	5	3		3		4	3		30

Southern Seascape	5	2	3		3 5 3	3		4 3	30
Molinere Reef	5		4			5		4 5	23
La Baye Rock	5		5			3 4		3 3	23
Limlair/ Thiboud	3	3	3		2 2	3		2 2 5	25
Calivigny Island	5	5	2	4	3	3 5		4 2 2	35
Lake Antoine		2	3		5 4	5 4		2 5 3	33
Sabazan	3	2				3		3 4	15
Marquis Island	4	3	4			5 5		4 5 2	32
Annandale Falls		4		2	5	5 4		2 3 2	27
Marquis River				3	5	1 3		2 3 2	19
Concord Falls				3	5	2 4		3 4 2	23
Quarantine Point	4		3			5 4		2 3 2	23
River Sallee					3	2		5 5	15
Canoe Bay	4	3	3			2 5		4 4 3	28
CULTURAL LANDMARKS									
Fort George			3			5		3 5 5	21
Fort Frederick				3		4		5 5	17
The Tower						4		5 4	13
Carib's Leap						3		5 5	13
Petroglyphs						2		5 5	12
La Pointe						2		3 4	9
Belair						3		3 4	10
Fossil Beds						3 3		5 4	15
Dover Ruins						3		3 4	10
Marquis Village						4		5 4	13
River Antoine						4		5 4	13

CULTURAL LANDMARKS

CULTURAL LANDMARKS	TOURISM POTENTIAL	PROXIMITY TO URBAN CENTER	ECOSYSTEM ANALYSIS	TOTAL	PRIORITY FOR DEVELOPMENT
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FORT GEORGE	4	4	21	29	1
FORT FREDERICK	4	4	17	25	2
FOSSIL BEDS	1	1	15	17	7
CARIB'S LEAP	3	3	13	19	4
THE TOWER	3	4	13	20	3
MARQUIS VILLAGE	3	3	13	19	5
RIVER ANTOINE	3	2	13	18	6
PETROGLYPHS	2	1	12	15	8
BELAIR	3	2	10	15	9
DOVER RUINS	2	1	10	13	10
LA POINTE	2	1	9	12	11

4-Excellent
3-Very Good
2-Good
1-Significant
0-Insignificant

TABLE XIV
SYNTHESIS
VALUE OF THE RESOURCE FOR PROTECTION AND DEVELOPMENT
PRIORITIES FOR ESTABLISHMENT

MANAGEMENT CATEGORY	PROTECTED AREA	POTENTIAL USE OF PROTECTED AREAS	ECOSYSTEM ANALYSIS	TOTAL	PRIORITY FOR DEVELOPMENT
NATIONAL PARK	High North	36	67	103	1
NATIONAL PARK	Grand Etang	33	58	91	2
NATIONAL PARK	Levera	33	56	89	3
PROTECTED SEASCAPE	Saline/ White Isl.	25	54	79	5
PROTECTED SEASCAPE	La Sagesse	33	48	81	4
PROTECTED SEASCAPE	Northern Seascape	28	41	69	6
NATIONAL PARK	Mt. St. Catherine	18	38	56	11
PROTECTED SEASCAPE	Lauriston-Mabouya	29	35	64	7
PROTECTED SEASCAPE	Calivigny Island	21	35	56	10
NATURAL LANDMARK	Hog Island	25	34	59	9
NATURAL LANDMARK	Lake Antoine	29	33	62	8
NATURAL LANDMARK	Marquis Island	21	32	53	13
PROTECTED SEASCAPE	Southern Seascape	24	30	54	12
PROTECTED SEASCAPE	Canoe Bay	20	28	48	18
NATURAL LANDMARK	Annandale Falls	22	27	49	16

NATURAL LANDMARK	Annandale Falls	22	27	49	16
NATURAL LANDMARK	La Baye Rock	21	27	48	19
PROTECTED SEASCAPE	Tyrrel Bay	28	25	53	14
PROTECTED SEASCAPE	Molinere Reef	28	23	51	15
NATURAL LANDMARK	Concord Falls	26	23	49	17
NATURAL LANDMARK	Quarantine Point	17	23	40	21
PROTECTED SEASCAPE	Limlair- Thiboud	24	23	47	20
NATURAL LANDMARK	Marquis River Falls	20	19	39	22
NATURAL LANDMARK	River Sallee	16	15	31	23

PROCEDURE FOR TARGETING A DEVELOPMENT STRATEGY

As mentioned in the Methodology section, a series of overlay maps were prepared based on unique features such as geology, vegetation, wildlife, endangered species habitat, etc. Once analyzed, these maps indicated in a general sense the most important ecosystems in the country. Thereafter, and as is indicated in the "Ecosystem Analysis of Protected Areas", the quality and size of the ecosystems were analyzed. The previous Table IV, "Priority Areas for Protection of Representative samples of Grenada Ecosystems" helped the planning team in the ecosystem analysis.

Once the team was confident that Grenada's most important resources were targeted, the team looked into the "Potential use of the Protected Areas" which is displayed in Table XII. Taking into consideration that conflicts can occur in attempting to protect the areas, such as the site may be suitable for other land-uses such as charcoal in the case of mangrove swamps, forestry in the case of slopes between 30 and 60 percent, or grazing in the case of flatter, dryer habitats, Table XII also helped the planning team decide on the appropriate management category. Potential for recreation, education, and tourism was also analyzed to assist the manager in assessing which areas should be developed first and for what purposes.

Next, the Synthesis Table, Table XIV "Value of the Resource for Protection, and Development Priorities for Establishment" pulls Tables XII and XIII together and gives the decision makers a numeric value for each protected area, and recommends the urgency for development due to potential for human services, and importance of the ecosystem. As can be noted, High North National Park, Grand Etang, and Levera present the top three areas for development, and as a result, will receive the bulk of the immediate attention for development. Nevertheless, the other areas should not be construed as low

priorities and every effort must be made to protect their integrity until proper funding is allocated. Thereafter, the development of the resource into a protected area which offers the natural, social, and economic benefits to the community will occur.

In the Cultural Landmarks Category, Fort George and Fort Frederick were the top priorities for development. The National Parks Director should liaise with the Chairman of the Cultural Landmarks Steering Committee to formulate funding strategies to develop these areas for education and tourism. Tourism potential was rated based on the quality of the resource, while proximity to an urban center was an important criterion, because limited funds should be utilized to develop cultural sites which will serve the greatest amount of people.

Finally, based on all the existing tables and information, management priorities are established. In areas where private ownership occurs, the land owners will be requested to state their intentions with the land. If the deemed land-use is inappropriate with the objectives of the National Parks Program, Government purchase will be recommended, or the area will be removed from the Protected Areas list.

Important is the integration of the Extension Division into the Management of the Program by ensuring that all areas are patrolled on a regular basis. Any infractions should be reported to the Forestry and/or Fisheries Division.

Implementation requires that minimally a two year operations plan be written for the area. Construction of appropriate visitor services such as trails, brochures, and scenic overlooks can thereafter be constructed.

Administration requires the liaison with various other agencies as indicated in the responsibility matrix to assure that coordinated effort occurs. Research and environmental education programs will at

this time be introduced.

LEGISLATION

Legislation specifically relating to the protection of natural resources is analyzed in Appendix I. Legislation specifically addressing the issue of National Parks, Protected Areas, and Wildlife has not been enacted. In the interim it is recommended to rely on the National Trust Act of 1967, the Forest, Soil, and Water Conservation Act of 1984 and the Grenada Fisheries Act of 1986. The Director of National Parks and Wildlife should review the needs for additional legislation and act appropriately.

PROCEDURE FOR CREATING UNITS OF THE SYSTEM

Cabinet may by proclamation declare any terrestrial or marine area to be part of the protected areas system. Subsequently the Attorney General drafts requisite legislation for approval by Parliament. The respective Ministry then assumes management of the area. The proclamation should state the management category for the area.

Of particular importance are those agencies concerned with forestry, fisheries, water resources, national physical planning, tourism, cultural resources, agriculture, reclamation, quarrying, sports and recreation, marine affairs and scientific research. When necessary, the agency responsible for the management of the System should seek expertise available in the agencies and organizations to assist in implementation of its programmes.

Administrative Body

A Division of National Parks and Wildlife within the Forestry Department of the Ministry of Agriculture will be delegated the responsibility for the planning, management maintenance, and development of National Parks, National Landmarks, and Cultural Landmarks. This would be done in collaboration with Department of Tourism, Historical Society, National Trust and

Grenada Hotel Association. The Terrestrial Multiple Use Management Areas will be managed by the Forestry Department. The Fisheries Division within the same Ministry will have the same responsibility for Protected Seascapes and Marine Multiple Use Management Areas.

Those divisions will be authorized to prepare, for approval by the Minister, specific regulations, policies, plans, prohibition standards and procedural rules governing the administration of the various areas designated as units of the System.

Those divisions will be provided with the personnel required to accomplish the various functions necessary to operate the areas within the System.

Management Plans:

A long term management and development plan will be prepared for each area within the System to establish guidelines for protection, use, management and development of areas within the System. Such a plan will detail the purpose of the area, its values as regards to resources, objectives of management and human needs that should be met. It will present a zoning scheme which will classify land and water according to their need for protection and capability to accommodate visitors and other uses. The plan will provide a framework within which subsequent management, implementation and detailed planning will take place.

The management plan should be prepared by an interdisciplinary team and opportunities will be provided for participation in the preparation of the plan by other interested Government agencies and representatives from the private sector who may be affected by the management of the area. The involvement of the public in plan development will also be encouraged. The management plan and changes thereto must be approved by the Minister responsible.

Operational Plans:

Operational plans for all units in the System, will be prepared each year. Those plans will give details on all management activities to be conducted, including objectives, description, requisites (equipment, materials, etc.) personnel responsible, chronology and cost for each activity, over a fixed period of 1-2 years. The result is a detailed guide to what will be done, how, who and when it will be carried out and its cost.

Specialized plans:

Long-term specialized plans for specific management programs or subprograms will be prepared for those units of the System which require such. Examples of those plans are: interpretive and environmental education plans for national parks, natural landmarks and cultural landmarks; fisheries management plans for protected seascapes; forestry management plans for multiple use management areas.

EVALUATION:

The agencies in charge of managing the System will develop and utilize specific methods in order to periodically evaluate the implementation of the various plans and thus determine bottle-necks to efficient and effective execution, be they administrative, technical or planning ones as well as to take into account new information or changing circumstances. This will provide feedback necessary to improve the plans in the next round of planning.

Establishment of Regulations and Penalties

Regulations governing the management of areas within the System and penalties for infractions will be established by the Ministry and park wardens and other government officers empowered to enforce the regulations.

Finance

The agency responsible for the management of the National Park System will develop both short and long-term funding strategies

to finance the System and its activities. Those will include various components such as Government allocations, vigorous efforts to obtain funds from international and bilateral financial and technical assistance agencies and the national private sector, and the establishment of special development and management funds based on a system of special fees on the users and beneficiaries of the System's resources.

Fees may be charged for special services such as camping or brochures to reflect the need to recover a certain portion of operation and maintenance costs but will not be so high as to discourage use by any sector of the public. Government will also consider implementation of various other fees to support the system, such as small percentages of the fees (bills) collected for tourism, water services, wood production, marine products and any other resources which will flow in large part from the System.

In the initial phases the system's costs will have to be borne principally by Government allocations and funding obtained from international and bilateral agencies but Government will place strong emphasis on the gradual internalization of costs via the use of such fees and minor taxes as the System grows and continually increases to provide benefits to the users of the resources, both national and visitors.

The agency may accept gifts or donations when their use will further the work of the programme for the benefit of the people of the country.

PERSONNEL

Personnel requirements for the effective management of the National Parks and Protected Areas Program are analyzed in this report. As the different phases of the System's plan begin to be implemented, the Director of National Parks and Wildlife can seek out increased public sector positions and request assistance for long term and short term international and bilateral

organizations such as BDD, the Commonwealth Fund, OAS, World Wildlife Fund, the United States Peace Corps, and International Voluntary Services.

The Directorship of the Protected Areas Program will be housed at the Grand Etang Forest Center, and administrative support will come from Forestry. Minimally it is conceived that the program can be implemented with only the creation of this one position, but as tourism and education programs increase, two interpreters and park managers for Levera and High North will be essential. Presently in Carriacou, there will be the need for a Parks representative.

The following Table XVI gives guidelines as to the recommended staffing levels that should be considered.

TRAINING RECOMMENDATIONS

A wealth of training institutions exist in the park planning and wildlife management fields. As the National Parks and Protected Areas program will utilize existing staff in the Forestry and Fisheries institutions, short training courses will be necessary for the staff.

Park Rangers optimally should have secondary school diploma plus some "O" Levels. They should receive 1-2 technical courses. These courses should be an interpretation of the environment on Park management.

Guards should have at least primary school education and receive short courses, mostly in country, geared towards basic enforcement tactics, monitoring trail conditions and visitor protection.

An annual one-week in-country National Park and Protected Area training workshop should be designed. The objectives of the workshop are to give basic techniques of park planning, management, maintenance and protection. Each workshop should have 2 days of lectures and 3 days of "hands-on" projects for the participants to organize.

Topics to include doing Interpretive Plans, Management and Operations Plans, Research and Ecological Analysis, and Site Design and Development Plans.

Training courses both in-country and in other countries can be custom-designed to fit specific needs of the Parks Program.

Training programs held to date have been entitled, "Park Planning and Management Techniques", "A workshop to do an Operations Plan for the Grand Etang National Parks", and "A workshop on Interpretive Techniques". As the Parks Program evolves, training needs can be designed to fit specific objectives and goals of the program.

TABLE XV

MANAGEMENT PRIORITIES

Phase 1 - Immediately
 Phase 2 - 2 Years
 Phase 3 - 3-4 Years
 Phase 4 - 8 Years

PROTECTED AREA ESTABLISHMENT MINIMUM PROTECTION IMPLEMENTATION ADMINISTRATION

PROTECTED AREA	ESTABLISHMENT MINIMUM PROTECTION	IMPLEMENTATION ADMINISTRATION
	Establishment as Priority Area	Patrol by Extension Division
	Land Tenure State/Private Agreement of Management and Protection	Operations Plan
		Management Plan
		Construction of Visitor Service Trails - Brochure
		Coordination with Tourism
		Resource Management
		Research Programs
		Education Programs
		Personnel
HIGH NORTH	1	1
GRAND ETANG	1	1
LEVERA	1	1
SALINE/ WHITE ISL.	2	2
MT. ST. CATHERINE	2	1
NORTHERN SEASCAPE	1	2
LAURISTON/ MABOUYA	1	2
TYRREL BAY	2	2
HOG ISLAND	2	2
LA SAGESSE	1	1

LA SAGESSE	1	1	1	1	1	1	1	1	1	2	1	2
SOUTHERN SEASCAPE	1	1	1	1	1	2	2	1	2	2	2	2
MOLINERE REEF	1	1	1	1	1	2	1	1	1	2	1	
LA BAYE ROCK	2	2	2	2	2	2	1	1	1	2	2	
LIMLAIR-THIBOUD	2	2	2	2	2	2	2	2	2	2	2	3
CALIVIGNY ISLAND	3	3	3	3	3	3	3	3	3	3	3	3
LAKE ANTOINE	3	3	3	2	2	3	3	3	3	3	3	2
SABAZAN	3	3	3	3	3	3	3	3	3	3	3	2
MARQUIS ISLAND	3	3	3	3	3	3	3	3	3	3	3	2
ANNANDALE FALLS	1	1	1	1	1	1	1	1	2	1	1	
MARQUIS RIVER	3	3	3	3	3	3	3	3	3	3	3	2
CONCORD FALLS	1	1	1	1	1	1	1	1	2	1	1	
QUARANTINE POINT	2	2	2	2	2	2	2	2	2	2	2	2
RIVER SALLEE	2	2	2	2	3	2	2	2	2	2	2	3
CULTURAL LANDMARKS												
L'ANSE LA ROUCHE	1	1	1	1	1	1	1	1	1	1	1	1
FORT GEORGE	1	State	1	1	1	1	1	1	1	1	1	1
FORT FREDERICK	1	State	1	1	1	1	1	1	1	1	1	1
THE TOWER	1	Priv.	N/A	N/A	N/A	N/A	1	1	1	N/A	N/A	
CARIB'S LEAP	2	Priv.	N/A		1	1	1	1	1	1	1	1
PPETROGLYPHS	2	Priv.	2	2	2	2	2	2	2	2	2	3
LA POINT	3	3	3	2	3	2	2	2	2	2	2	3
BELAIR	3	3	3	1	3	2	2	2	2	2	2	3
FOSSIL BEDS	3	3	3	2	3	2	2	2	2	2	2	3
DOVER RUINS	1	1	1	1	3	2	2	2	2	2	2	3
MARQUIS VILLAGE	1	3	N/A	1	3	2	2	2	2	2	2	N/A
RIVER ANTOINE	1	Priv.	N/A	1	3	1	1	2	2	2	2	1

TABLE XVI
PERSONNEL REQUIREMENTS - NATIONAL PARKS

	PHASE			TOTAL
	1-3 Years	3-8 Years	8-15 Years	
	1	2	3	
Director - National Parks and Wildlife	1			
<u>Park Operations</u>				
Deputy Director - Carriacou	1			
Interpreter/Environmental Educator		2	2	
Park Officer (Forester I)	2	2	2	
Secretary	1	1		
Sub-Total	5	5	4	14
<u>Planning, Design, Construction</u>				
Artist		1		
Park Planner		1		
Engineer Surveyor*		1		
Engineer Civil*		1		
Draughtsman I		1		
Sub-Total		5		19

* To be loaned if possible from Ministry of Works

APPENDIX I**EXISTING LEGISLATION RELEVANT TO
NATURAL AND CULTURAL AREAS
PROTECTION****1. Ordinances for the Protection of Birds
and other Wildlife:**

Grenada Ordinance No. 26 of 1956

No. 26 of 1964

No. 26 of 1966

**2. Protection of Forests, Soil and Water
Conservation Ordinances:**

Grenada Ordinance: No. 1 of 1949

No. 47 of 1954

No. 25 of 1956

No. 129 of 1958

No. 34 of 1984 (Amendment)

**3. Establishment of the Grand Etang Forest
Reserve:**

Grenada Ordinances: Cap. 245 of 1934

No. 29 of 1956 (Revised)

Cap. 314 of 1958 (Revised)

4. Grenada Fisheries Act of 1985**5. Land Settlement Ordinance of 1933****6. The National Trust Act of 1967**

None of this legislation provides adequate authority to both establish and manage national parks and protected areas. However,

various of these Legislative Acts and Ordinances allow for limited protection or regulation of natural and cultural resources in such areas. Those most directly related to that end are:

**An Ordinance to Establish the Grand Etang
Forest**

Reserve as a sanctuary for the wild animals and birds of the Colony, and to make special temporary provision for the protection of the agouti, armadillo and certain snakes.

(Ordinance Cap: 245 - 1934 Revision No. 29 of 256).

This Ordinance prohibits hunting, trapping, and carrying firearms. The protection of agouti, nine banded armadillo and the five species of snakes was authorized from 1957-1962.

**Forest, Soil and Water Conservation -
(Amendment) Ordinance No. 34 of 1984**

This ordinance indicates that the Public Service Commission shall appoint a suitable person to be "Chief Forestry Officer" who will protect such areas as may be required to provide natural and undisturbed habitat for the flora and fauna of Grenada. The Chief Forestry Officer may create where necessary areas within the forest to satisfy man's need for recreation within a peaceful natural environment. According to the original Ordinance (Chapter 129 of August 1st, 1949), the Chief Forestry Officer may negotiate for the voluntary protection of private land. The owner of any land may request that it be supervised or managed on his behalf by the Chief Forest Officer in such a manner as may be agreed upon. According to the Act, any land (crown land included) may be declared as a "protected

area" where deemed necessary for the:

- (a) Protection against storms, winds, rolling stones, floods and landslides.
- (b) Prevention of soil erosion and landslips, deposits of mud, stones and sand upon agricultural land.
- (c) Prevention of wastage of resources of timber and for security and proper management of timber lands.
- (d) Maintenance of water supplies in springs, rivers, canals, and reservoirs.
- (e) Protection of roads, bridges, airstrips, and other lines of communication.
- (f) Preservation of health.

It also contains provisions for controlling squatting on crown lands. Unfortunately, most existing land-use controls are not enforced due to budgetary and personnel constraints.

Grenada Fisheries Act 1986

This ordinance provides for the promotion and management of fishing and fisheries in Grenadian Seas. Part III (Section 23) Marine Reserves and Conservation Measures, indicates that the Minister may declare any area of the "fishery water and, as appropriate, any adjacent or surrounding land", to be a marine reserve where he considers that special measures are necessary to:

- (a) Afford special protection to the flora and fauna of such area and to protect and preserve the natural breeding grounds and habitat of aquatic life, with particular regards to flora and fauna in danger of extinction;
- (b) Allow for the natural regeneration of aquatic life in areas where such life has been depleted;
- (c) Promote scientific study and research in respect of such areas; or
- (d) Preserve and enhance the natural beauty of such areas.

Any person who, in any marine reserve, without permission

- (a) Fishes or attempts to fish;
- (b) Takes or destroys any flora and fauna other than fish;

(c) Dredges, extracts sand or gravel, discharges or deposits waste or any other polluting matter, or in any way disturbs, alters or destroys the natural environment; or

(d) Constructs or erects any buildings or other structures on or over any land or waters within such a reserve is guilty of an offence and shall be liable on summary conviction to a fine not exceeding \$1000.00 dollars.

The Land Settlement Ordinance (chapter 154 page 2069 of December 30th, 1933) which authorizes the acquisition of land for public purposes on land settlement areas.

The Town and Country Planning Act 1978, Article 2, Section 1: the National Plan for physical planning should contain general objectives in respect to the use of land development (that is measured to improve the physical environment).

The National Trust Act 1967

This Ordinance established that the purposes of the National Trust, a private body, are:

(a) The listing of buildings and monuments of prehistoric, historic and architectural interest and places of natural beauty with their animal or plant life;

(b) The compilation of photographic and architectural record of the above;

(c) The preservation of chattels of prehistoric, historic or artistic interest and the establishment of museums;

(d) Making the public aware of the value and beauty of the territory's heritage as set out above;

(e) The pursuance of a policy of preservation, and acting in an advisory capacity;

(f) The acquiring of property for the benefit of the Territory;

(g) The promoting and preserving for the benefit and enjoyment of the Territory of submarine areas of beauty or natural or historic interest and for the preservation (as far as possible) of their natural aspect, features and animal, plant and marine life;

(h) The attracting of funds by means of subscriptions, donations, bequest and grants for the effective carrying out of the objects. The Ordinance also clearly establishes that the Trust may hold or own lands and aquatic areas and that such are to be inalienable:

Whenever after the passing of this ordinance any funds or tenements (including buildings) or submarine areas shall become vested in the Trust, the Council may by resolution determine that such land or tenements or marine areas or submarine areas or lakes or rivers or such portions thereof as may be specified in such resolution are proper to be held for the benefit of the Territory, and such lands or buildings or marine areas or submarine areas or lakes or rivers shall thereupon be so held by the Trust and shall be inalienable.

Analysis of Present Legislation

None of the existing legislation provides adequate authority to both establish and manage a system of national parks and protected areas, in the true sense of that terminology. Although existing and proposed legislation provides for the establishment of both forest and marine reserves, it defines the goals of such in only vague, general terms and does not specify adequately the management regimes which should be applied in them. Moreover, the central focus of that legislation is geared towards forestry and fisheries production and the law does not adequately specify that management also should ensure the protection of natural and recreational resources required for areas within a national parks and protected areas system.

Resource protection is largely ignored in present legislation. The Town and Country Planning Act provides certain tools for

planning but is not for management purposes and does not cover that aspect, nor specifically mentions national parks and protected areas. In summary, existing and proposed legislation does not adequately define nor specify management of national parks, natural landmarks or cultural monuments, multiple use management areas and protected seascapes. The National Trust Ordinance gives a basis for protecting areas with both natural and cultural resources.

APPENDIX II

SPECIFIC POLICIES FOR MANAGEMENT CATEGORIES, THE NATIONAL PARKS AND PROTECTED AREAS SYSTEM OF GRENADA

Definitions and Regulations

Introduction

The following section will eventually be separated from the formal policy document and system plan for use as a manual by field staff charged with managing units of the park system and enforcing establishment regulations. The reader will note that certain sections of the following document are repetitive of the policy statement. This has been done intentionally since the policy document is an overall statement for use by decision makers while the manual is for field use.

NATIONAL PARK

Introduction

The Government of Grenada has for some time recognized the desirability of setting aside outstanding natural areas representative of the diversity of the ecosystems of the country so as to guarantee their protection and use for present and future generations.

Rapid exploitation of natural resources has demonstrated that unless decisive action is taken to protect outstanding examples of the country's natural heritage, these resources may be altered beyond recuperation for park objectives. The continued trend of urbanization, more leisure time and education has increased the need to provide opportunities for outdoor recreation and tourism in a natural setting.

Criteria for Selection:

National Parks are relatively large terrestrial or marine areas which contain representative

samples of the country's major natural regions, features or scenery of national or international significance where plants and animal species, geomorphological features and habitat are of special scientific, educational and recreational interest. They contain one or several ecosystems that are for the most part not materially altered by human exploitation and occupancy. Government will take steps to prevent or eliminate as soon as possible exploitation or occupancy in the area and enforce existing policy.

The resources are managed and developed so as to sustain recreational and educational activities on a controlled basis. The area is managed in a natural or near natural state. Visitors enter under special conditions for inspirational, educational, cultural and recreational purposes.

Management Objectives:

The management objectives of National Parks call for the protection of natural and scenic areas of national or international significance for scientific, educational and recreational use. The area should perpetuate in a natural state representative samples of major ecosystems, biotic communities and genetic resources, and species in danger of extinction to provide ecosystem stability and diversity.

Management Policies:

General:

In so far as possible the resources in national parks shall be maintained in a natural undisturbed state for their inherent educational, inspirational, scientific and recreational values and as a medium for supporting the diversity and the continuation of life processes.

Natural Resources Management:

The use of the area for agriculture, forestry, grazing, mining, housing or any other commercial or exploitative purpose is

prohibited. Fishing, hunting, and collection of flora and fauna, geological items or other natural phenomena, except for authorized scientific purposes is prohibited. Under certain special circumstances traditional fishing may be allowed in marine or coastal areas under regulated conditions called for in the law establishing the area.

- Exotic species of plants and animals will not be introduced into the area.
- The use of pesticides or other chemical products with residual effects is prohibited. However, under extreme circumstances, for example in an effort to fight exotic species invasion, chemicals without residual effects may be authorized by the component authorities.
- The reintroduction of species that have been scientifically proven to have existed in the area previously is permitted if it does not have negative effects on the present desired habitat of species.
- Physical developments within national parks should be limited to those that are necessary for adequate management and appropriate park use and enjoyment.

Visitor Use Policy:

- Visitor use of national parks will be controlled and regulated so as not to damage the natural features that led to the creation of the area. Since the quality of park use depends upon an understanding of the park by the visitor, an imaginative interpretive programme is essential.
- Appropriate visitor use includes both interpretation and wholesome recreation in a natural setting. This does not mean however, that national parks should accommodate all varieties or unlimited recreational use. Outdoor recreation activities such as picnics, hiking, nature observation, photography, swimming and other water oriented activities, bicycling, camping and similar activities can be accommodated.

- A broad programme of interpretation of the natural areas and features of the park will be offered to provide the visitor a clear understanding of the park values and objectives.

- Programmes to promote environmental education should also be encouraged in national parks. They will emphasize cooperation with schools, universities and other organizations for the purpose of communicating environmental principles for application in their daily lives.

- The use of the park for research activities by appropriate educational and scientific organizations should be permitted. Research programmes which aid in the management programmes will be encouraged.

NATURAL LANDMARKS

Introduction

There are many small areas in the Country such as remnant natural forests, areas containing unique species of flora or fauna, geomorphological formations, waterfalls and caves which deserve protective management. For the most part however, these areas are not of the size nor do they contain the diversity of features which would justify their classification and management as a national park. To manage these kinds of natural features, the natural landmark classification has been recommended.

Although a natural landmark may provide for recreation activities, they should be managed in such a way that they are relatively free of man's influences.

Criteria for Selection:

A natural landmark is a land or marine area which normally contains only one or a few natural features of outstanding national significance such as geological formations, unique natural sites, animal or plant species which either because of their uniqueness, natural beauty or because they are

threatened with extinction either as individuals or a population, should be protected. The specific feature to be protected ideally has little or no evidence of man's activities. The area may have potential for public recreation and education.

Although generally smaller than national parks, the size of the natural landmark is not a significant factor as the area need only be as large as necessary to achieve the management objectives. For example, the protection of a unique cave formation might require only a few hectares.

Management Objectives:

Management objectives are to protect and preserve the natural features of interest and to the extent consistent with this, provide opportunities for recreation, environmental education and research.

Activities, which can endanger the perpetuation of species or cause damage to the natural phenomena of the landmark will not be permitted.

Natural Resources Management:

Management to perpetuate flora and fauna of natural phenomena which was a major objective for the establishment of the area is permitted. Normally, however, the natural processes will be allowed to evolve freely.

Fishing, hunting and collection of flora, fauna, geological items or other natural phenomena, except those utilized for authorized scientific purposes are prohibited. Traditional fishing may be allowed in marine or coastal areas under regulated conditions if provided for in the law establishing the area.

The use of the areas for agricultural, forestry, grazing, mining, or other commercial or exploitative purpose will not be permitted unless provided for in specific non critical sectors by the law establishing the area.

Exotic species of plants and animals will not be introduced and, where they exist, should be removed if practical. As natural landmarks will frequently be established within agricultural areas of private ownership, these agricultural uses may be continued.

Visitor Use Policy:

Visitors will be permitted in the area under the conditions established by management unless the feature or site is so fragile that visitor use endangers its preservation.

Interpretation and environmental education programmes will be encouraged.

Provision of outdoor recreation facilities will be permitted although they should not unduly disturb the natural character of the area.

Visitor facilities in keeping with the character of the area may be provided.

Scientific research is encouraged.

CULTURAL LANDMARKS

Introduction:

There are many areas in the country containing cultural features which, because of their potential for education and tourism should be guaranteed protection and maintained.

In the case of Grenada, the protected areas program will tie in so closely with promoting education and tourism, it is appropriate to include Cultural Landmarks.

Cultural Landmarks will include old sugar mills, windmills, rum distilleries, areas of Amerindian importance, military forts, areas of marine history, and religious sites. Often, a cultural site will be developed in conjunction with picnic areas, scenic overlooks, and educational programs. Fort Frederick is an excellent example of an area which merits this sort of attention.

The values of these areas are such that they are capable of providing outstanding opportunities for the development of educational programs with the school system and being included on Island-wide tours for international tourists.

It should be noted that the natural or cultural landmark management category should not be confused with city parks or active recreation areas such as playing fields. The latter should be developed separately in order to have a system of parks and recreation areas.

Criteria for Selection:

A Cultural Landmark is an area of varying size which due to its importance in the historical development of Grenada is capable of supporting educational, touristic and passive recreational uses.

The area may consist of public or private lands which are run in conjunction with the responsible management entity. Private owners may utilize government or international funds to develop the resource, and pending approval of the appropriate bodies charge a modest fee for entrance.

Management Objectives:

The management objectives are to ensure that the cultural and historic features of Grenada are protected, while providing educational, passive recreational, and touristic opportunities in an aesthetically pleasing environment.

Management Policies:

General:

The management and manipulation of the cultural resource will be governed by the specific objectives of the area. Visitor use will be encouraged.

Natural Resources Management:

The use of the areas for agricultural,

forestry, grazing, mining or other commercial exploitative purpose will not be permitted.

Fishing, hunting and the collection of flora, fauna, geological items or other natural phenomena, except those utilized for authorized management purposes are prohibited.

Management will be directed toward maintenance and enhancement of habitat for native wildlife.

Manipulation of the landscape may be carried out for the purpose of enhancing the cultural amenities, aesthetics of the area, maintaining a certain stage of plant succession, or improving interpretative or educational programmes.

Exotic species of plants and animals are permitted for landscaping purposes, but native species should be used if possible.

Reforestation will be carried out on eroded or otherwise deteriorated areas.

Visitor Use and Development:

Visitor use for recreation, interpretation and study is desirable to the extent that it is compatible with the carrying capacity of the resource.

Interpretation and environmental education programmes should be encouraged.

Outdoor recreational activities such as picnicking and passive reflection are permitted.

Anthropological, archaeological and historical studies and educational use should be encouraged.

PROTECTED SEASCAPES

Introduction

In Grenada and the Grenadines there are numerous rocky shores, coral reefs,

mangroves, cliffs and sandy beaches that offer excellent opportunities for recreation and tourism in aesthetic environments. These distinctive coastal and island patterns are created by the integration and interaction of specific natural and cultural features that present aesthetically attractive land and water settings. These littoral, mangrove, reef, seagrass and island ecosystems are of vital importance to the nation and many local communities because of the ecological process and many economically important species which occur in them such as lobster, conch, finfish, sea turtle, black coral and mangroves. Whole communities depend upon those processes and that sustainable production, for protein, charcoal and many products for commerce. In addition coastal ecosystems are an integral part of the breeding and nesting processes of numerous species such as seabirds, wading birds and marine turtles. As coastal habitats are under extreme developmental pressure throughout the Americas, and due to their importance to migratory birds and waterfowl, significant extensions of the coastal shoreline should be protected. In Grenada and the Grenadines, inappropriate uses such as sandmining, unregulated coral gathering, over-fishing, and harvesting of marine turtles are placing pressure on the ecological and economic viability of these areas. The green turtle is recorded as nesting in only area in the Levera-Sandy Island complex area. The Scarlet Ibis has also been recorded in the mangroves of Levera, a species whose habitat is threatened throughout its range. Grenada has an excellent opportunity to be a leader in managing important coastal and marine resources for both sustained production and conservation of ecological processes and species.

The creation of Protected Seascapes implies a desire by the government for economic, aesthetic, cultural and scientific reasons to protect coastal and marine areas and species. As the government owns very little coastal lands, certain provisions will have to be made to gain the cooperation of private landowners. If possible, the most diverse

and scenic areas should be purchased.

Social customs and traditional land practices such as fishing and mangrove cropping for charcoal will be respected provided they do not threaten the viability and regeneration of the ecological systems and processes.

Criteria for selection:

Protected Seascapes include coastal features which possess special aesthetic qualities due to the interaction of man and the edge of the sea and those that are primarily natural areas managed intensively by man for recreational and tourism uses. Special management may be essential to the continued existence of individual species of resident or migratory fauna. The size of the area depends upon the habitat requirements of the important species, the scenic resources and land tenure.

Management Objectives:

It is important to maintain nationally significant seascapes that show the harmonious interaction of man with island, coast, and sea while providing opportunities for public enjoyment through recreation and tourism. These areas also provide for ecological diversity and serve scientific, cultural, and educational purposes.

Management Policies:

General:

To the maximum extent possible natural resources will be maintained in a natural or semi-natural state for their educational, inspirational, recreational, touristic and scientific values. A series of general guidelines will be followed to maximize long-term ecological, economic and social benefits for local communities, the nation and visitors, through carefully established zoning:

- Conservation management over large areas while maximizing economic use, recreation, tourism, public education and research.

- Different degrees of protection and use in different zones within large areas.
- Continued harvesting, in some zones, of living resources at sustainable levels.
- Specification of the uses and activities that can proceed in each zone and the conditions applying to those uses.

Natural Resource Management:

- The area may consist of public land or may include private lands where land and marine water use practices are restricted or controlled.
- Traditional fishing and use of the beach for boat storage is allowed but under controlled management regimes. Use of nets and line is permitted, while use of pots should be strictly prohibited, the former being regulated by specific controls. Specific zoning will be established for all fisheries species such that some zones will be off-limits for all or part of the year to function as nurseries. Other zones will allow fishing for part of all of the year.
- Sandmining will be prohibited.
- Harvesting of sea turtles or their eggs will be strictly prohibited.

Visitor Use Policy:

Opportunities for interpretation and recreation within the area will be provided.

Recreational facilities such as picnicking and camping areas should be offered at suitable spots.

Interpretive facilities such as scenic overlooks, roadside exhibits and nature trails will be encouraged.

Hotels, restaurants, gas stations and similar facilities should be located only in specifically zoned areas. Measures should be taken to avoid destruction of scenic or

natural resources and the area should be landscaped and planted to enhance the scenic values of the sites.

Commercial advertising is prohibited.

Road design should be such that it blends with the natural topography of the area and minimizes impacts on the natural environment.

MULTIPLE USE MANAGEMENT AREA

Introduction

A category of management is needed for terrestrial and marine areas that can protect natural resources and ecological systems and yet contribute significantly to economic, social, and material needs of the nation. The multiple function of these lands or water can provide sustained yields of natural products, preserve genetic diversity, and protect natural features and systems. Watershed protection, for example, may be of particular importance in addition to the timber, forage, or wildlife aspect of the area. In marine areas, protection of biological diversity may be important as well as sustaining the production of fish or other marine products.

Criteria for Selection:

A large area containing considerable territory suitable for production of wood products, water, pasture, wildlife, or marine products or for outdoor recreation may be settled and altered by man. The area may possess nationally unique or exceptional nature features or may have international or national significance.

Management Objectives:

Sustained production of water, timber, wildlife, pasture, or marine products and outdoor recreation should all be ensured. The conservation of nature may be primarily oriented to the support economic activities (although zones may be also designated within these areas to achieve specific

conservation objectives). Within the overall area, zones may be established in which either the conservation of nature or sustainable development is the primary objective.

Management Policies:

General:

Planning programmes to ensure that the area is managed on a sustainable yield basis would be prerequisite. Land ownership will be under government control to the maximum extent possible. Through proper zoning, parts of the area could range from having the equivalent of scientific reserve status to having development consistent with the principles of environmental management. Multiple use is considered to be the management of all renewable resources, utilized in some combination to meet the needs of the country. The major premise in the management of these areas is that they will be managed to maintain the overall productivity of the area and its resources in perpetuity.

Natural Resources Management:

The area should be principally public land. Private land may be included in certain circumstances but under management regimes established by the Government.

Forestry production, agroforestry, grazing, mining, wildlife harvesting, fishing, hunting and marine products harvesting will be permitted under specific regulations and always assuring sustainable production of the resources.

The use of inputs such as fertilizers, pesticides and other agrochemicals will be permitted under strict controls.

A specific zoning scheme will be applied to maximize benefits for all uses and to avoid conflicts amongst those uses. Likewise temporal regulations throughout the year will be established to ensure sustained production of resources and minimize conflicting uses.

Under certain circumstances, exotic species may be introduced into the area in certain zones, under strict regulations.

If possible, wilderness or strict resource protection zones will be established where only scientific, educational and rustic recreational facilities and uses will be permitted.

Public Use Policy:

The establishment of outdoor recreational and educational facilities and activities will be encouraged.

Scientific research will be encouraged, especially that applied to management problems.

Residential sites, industrial developments and similar constructions will not be encouraged and when necessary will be strictly regulated.

Road design will be such that it blends with the natural topography and minimizes impacts on the natural resources.

Commercial advertising is prohibited.

BIOSPHERE RESERVES

Introduction

One focus of the UNESCO Man and the Biosphere Programme, initiated in 1970 is to conserve representative natural areas throughout the world through the establishment of a network of biosphere reserves. In order to propose that areas be declared as such a National MAB Committee must be formed, which then sends nominations to UNESCO, for acceptance or not by the international Governing Committee of the MAB Programme.

Criteria for Selection:

Biosphere reserves should have the following characteristics:

(1) Contain representative samples of one or more ecosystems, ecological zones or biomes, which are self-sustainable to the maximum degree possible and with adequate legal and political base.

(2) Offer opportunities for basic and applied research and monitoring, particularly that directed toward and supporting management and appropriate use of resources, combining human needs and principles of ecology.

(3) Offer opportunities (and eventually facilities) for education and training, for all sectors and levels of society.

(4) Contain types of resource uses and practices, which are appropriate and which can be demonstrated, maintained, improved and promoted.

(5) Where possible allow for rehabilitative or restorative programs for environments totally or partially altered by inappropriate use of other phenomena.

(6) Should be large enough to constitute an effective conservation unit and to accommodate the different uses without conflict.

Management Objectives:

The objectives are:

(1) Conserve representative samples of ecosystems, ecological zones or biomes, which are auto-sustainable to the maximum degree possible and with adequate legal and political guarantees.

(2) Promote and facilitate basic research and monitoring in those ecosystems, their elements and processes, as well as applied research and monitoring on their appropriate use and management, via study of existing uses and experimentation.

(3) Provide opportunities and facilities for education and training of the general public (all sectors), resource managers and scientists, at all levels.

(4) Promote the use of the reserves' natural and cultural resource by appropriate practices, assuring sustained production and permanence of productivity and those practices.

(5) Promote appropriate integrated development in the biomes (ecosystem, ecological zone), via the study, conservation and promotion of resource use practices appropriate to that ecological region.

The biosphere reserve will be zoned to provide direction to management. Four zones may be delineated, the last one being optional depending upon each individual case. The first three are mandatory:

(1) Complete Protection Zone. - Baseline for the ecological region.

- Non-manipulative, baseline research and monitoring.
- Limited/controlled education and training.

(2) Multiple Function Zone(Buffer Zone)

- Basic and applied research, manipulative and non manipulative. Research and monitoring of environment, but also social, economic, cultural parameters.
- Education and training at all levels.

Appropriate uses of resources are permitted, improved, promoted, and demonstrated (fisheries, tourism, hunting, grazing, forestry production, agriculture, etc.) and may have human settlements.

(3) Stable Cultural Zone

Protection and study of ongoing culture and resource use practices which look toward minimizing the conflicts inherent in these processes.

(4) Reclamation or Restoration Zone

Managed to study restoration of damaged resources (human-caused or natural).

Management Policies:

Biosphere reserves will provide opportunities for ecological research, particularly baseline studies, both within natural and altered environments. These reserves have particular values as benchmarks or standards for measurement of long-term changes in the biosphere as a whole and are consequently important sites for environmental monitoring. Biosphere reserves will provide facilities for education and training.

WORLD HERITAGE SITE NATURAL AND/OR CULTURALIntroduction

The International Convention concerning the Protection of the World Cultural and Natural Heritage (UNESCO, 1972) provides for the designation of areas of "outstanding universal value" as World Heritage Sites". These exceptional areas must be recommended by the signatory nation responsible for the site for declaration by the World Heritage Committee.

Criteria for Selection:

Areas to be considered under the convention will be restricted to those of truly international significance. In most cases the sites will be previously designated protected areas of another management category at the national level.

Natural sites must represent one or more of the following:

- The major stages of the earth's evolutionary history.
- Significant ongoing geological processes, biological evolution, and man's interaction with his natural environment.
- Unique, rare, or superlative natural phenomena or formations, features, or areas of natural beauty.

- Habitats where populations of rare or endangered species still survive.

Cultural sites should represent one or more of the following:

Monuments: architectural works, monuments, sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science.

Groups of Buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity of their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

Sites: works of man or the combined work of nature and/or man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view.

Some sites may qualify for both the natural and cultural resources they contain.

Management Objectives:

The objectives of a World Heritage site are to protect the natural and/or cultural features for which the area was considered to be the world heritage quality; to provide information for worldwide public enlightenment; and to provide for research and environmental monitoring.

Management Policies

Natural or Cultural Heritage Sites must fulfill conditions relative to the integrity of the sites.

Management of these sites will stress the maintenance of heritage values, will ensure the continuation of legal protection, and will

promote each site for its significance to each country, its people, and the world.

All such sites must have strict legal protection and will be owned by government

or nonprofit corporation or trust for the long term. While recreation and opposite interpretation will generally be developed, some sites may be of such significance that public use will be either strictly controlled or prohibited.

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