

Sustainable Finance Plan for Grenada's Protected Areas System

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SUSTAINABLE FINANCE PLAN FOR GRENADA'S PROTECTED AREAS
SYSTEM

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ACRONYMS

ART	Agency for Rural Transformation
GRENCODA	Grenada Community Development Agency
CEC	Carriacou Environmental Committee
CBD	Convention on Biological Diversity
DFID	Department for International Development
FAO	Food and Agriculture Organization
FNPD	Forestry and National Parks Department
NGO	Non-Governmental Organization
OECS	Organization of Eastern Caribbean States
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
USAID	United States Agency for International Development
WINDREF	Windward Islands Research & Education Foundation

EXECUTIVE SUMMARY

The tri-island state of Grenada, located in the South Eastern Caribbean, has set a goal of protecting 25% of its terrestrial and marine habitats by 2020. This is more than double the Convention on Biological Diversity's target of 10% protection of terrestrial and marine habitats. In order to achieve this goal however, Grenada faces many challenges in terms of legislation, management and financing.

Grenada's protected areas legislation and management systems are both in need of restructuring. Certain laws have never been implemented while the management system operates understaffed with resources spread thinly across three different government agencies: the Ministry of Tourism, and the Fisheries and Forestry Departments in the Ministry of Agriculture.

In 2005, the latest year for official figures, the government of Grenada spent about EC\$2.00 million on protected areas. This was spent on recurrent costs. Capital expenditures have historically been, and continue to be, funded by external donors. In 2006, this totaled around EC\$1.3 million. Funding from external donors has historically been volatile requiring the need for diversification of funding sources. A needs assessment showed that the system currently needs EC\$7.9 million per year, leaving a current gap of EC\$4.6 million per year.

To fulfill the goal of 25% habitat protection, the current financial needs were projected forward and it was found that in 2020, the protected areas system would need approximately EC\$14 million per year. To meet such an ambitious goal, a variety of financing mechanisms were evaluated. A feasibility analysis was conducted and differentiated between potential revenue generating activities that could be implemented now and others that could possibly be implemented in the future. Two financial mechanisms with high feasibility are the creation of a conservation trust fund capitalized by the United Nations Global Environment Facility and the establishment of a nation wide uniform user fee system.

Despite the potential for increased funding sources, and even with a 7% increase over 14 years of the government's financial commitment to the protected areas system, there will be a gap in financing of about EC\$4.6 million if Grenada wants to achieve its 25% protection goal. This implies that external funding sources will have to increase greatly and the future potential financing mechanisms would have to be implemented. A simple cost benefit analysis shows that the value of conserving 25% of Grenada's habitat provides 16 times more value than the cost of protection indicating that protection of habitat is good financial as well as environmental policy.

I. INTRODUCTION

In March of this year, Grenada revealed an ambitious target for protecting its natural resources. At the Convention on Biological Diversity's COP8 summit in Brazil, Grenada declared a new goal of protecting 25% of both its terrestrial and marine habitats by 2020, surpassing the CBD target of 10% by 2010 and 2012 for the terrestrial and marine habitats respectively. Grenada is an example to everyone that the protection of its ecosystems must be a top priority, but especially for Small Island Developing States whose economies are almost completely dependent on the sustainability of their natural resources. This 25/25 declaration is a daunting yet achievable goal if the proper planning, management, and capacity are put in place and if there is the necessary political and public will and determination. A crucial aspect of achieving this goal is financial sustainability of the protected areas system.

The Convention's Programme of Work on Protected Areas highlights the importance of this in Article 3.4 which states: **To ensure financial sustainability of protected areas and national and regional systems of protected areas.** According to the CBD, protected area financial sustainability may be defined as "the ability to secure stable and sufficient long-term financial resources, and to allocate them in a timely manner and appropriate form, to cover the full costs of protected areas (direct and indirect) and to ensure that Protected Areas are managed effectively and efficiently."(UNEP/CBD/PoW)

A sustainable finance plan has been identified as one of the Convention's primary tools to achieve Article 3.4. According to the ad hoc open-ended working group on protected areas, a sustainable finance plan must have the following:

- a. Analysis of current financial income and expenditures, overall financial needs and gaps
- b. Definition and quantification of protected area goods and services and potential sources of investment to pay for such goods and services
- c. Screening and feasibility analysis of potential finance mechanisms
- d. Elaboration of a comprehensive financial plan for ensuring long-term financial support for the system (UNEP/CBD/WG-PA/1/1, 2005)

1.2 Methodology

The sustainable finance plan for Grenada's Protected Areas system is based on a collection of conservation finance and business planning tools. It is also based on the criteria noted above in the CBD's working group for sustainable finance plans. The plan tries to answer the following structural and financial questions:

- What is the current legislation and related management structure of the protected areas system, and is it adequate for the current and proposed protected areas?
- If the legislation and management structures are not adequate, what new legislation and/or management structures need to be developed to meet the needs of the protected area system?

- What is the current level of protected areas financing, what are its sources, what is it being spent on and how efficiently and effectively are funds being used?
- Taking existing and planned protected areas into account, what are the unmet financial needs over the next decade or so?
- What is the range of options for filling the funding gap and what is the potential of each option to generate revenue for the protected areas system?

To answer these questions, the plan gives a general overview of Grenada's Protected Areas System and the current legislative and management structures governing protected areas. A market analysis follows and provides the economic context by presenting information on the goods and services provided by the natural resources and their impact on the economy. This market analysis includes a list of stakeholders, users and a SWOT analysis as well as a valuation of the natural resources in Grenada.

The plan then delves into the financial analysis by researching the historical and current funding available, the needs of the system, and the gap between what is needed and what is currently available. This needs assessment covers the protected areas that are designated as well as those that are soon to be designated. This grouping was established in the representational gap analysis developed previous to this plan. The needs and available funding are then projected forward to determine the funding gap over the next 14 years to meet the 25/25 goal. Forecasting is based on current needs and costs projected forward using estimates on inflation and using a constant growth rate to integrate the expansion over time.

The plan then evaluates funding strategies to fill the gap. This involves identifying potential financial mechanisms to generate revenue from the goods and services provided by protected areas. These financial mechanisms are then screened for complexity and impact of implementation. A feasibility analysis of the funding options with the most potential is reviewed, followed by an analysis of funding options that may be pursued in the future. A long term cost and revenue projection concludes the financial analysis.

This overall funding analysis is followed by an examination of the legislative and administrative challenges, needs and opportunities for financial sustainability of the Protected Areas system and the recommendations to overcome these challenges. A five year action plan is developed. Based on this plan, criteria will be developed to guide the implementation process and measure its success.

Much of the information gathered for this report came from individual interviews with staff from the Ministry of Agriculture's Forestry, Fisheries and Physical Planning Departments, WINDREF, the Ministry of Tourism, the Grenada Board of Tourism, the private sector involved in tourism, the Grenada Hotel and Tourism Association, project consultants, park staff, and community stakeholders (For a list of participants, please see Annex I, Table I). Other data was collected from various government and project reports, budget records, ticket sales, and policy and legislation review papers. Feedback was collected during a presentation held on May 10th in St. George's, and incorporated into the final document.

II. OVERVIEW OF PROTECTED AREAS SYSTEM

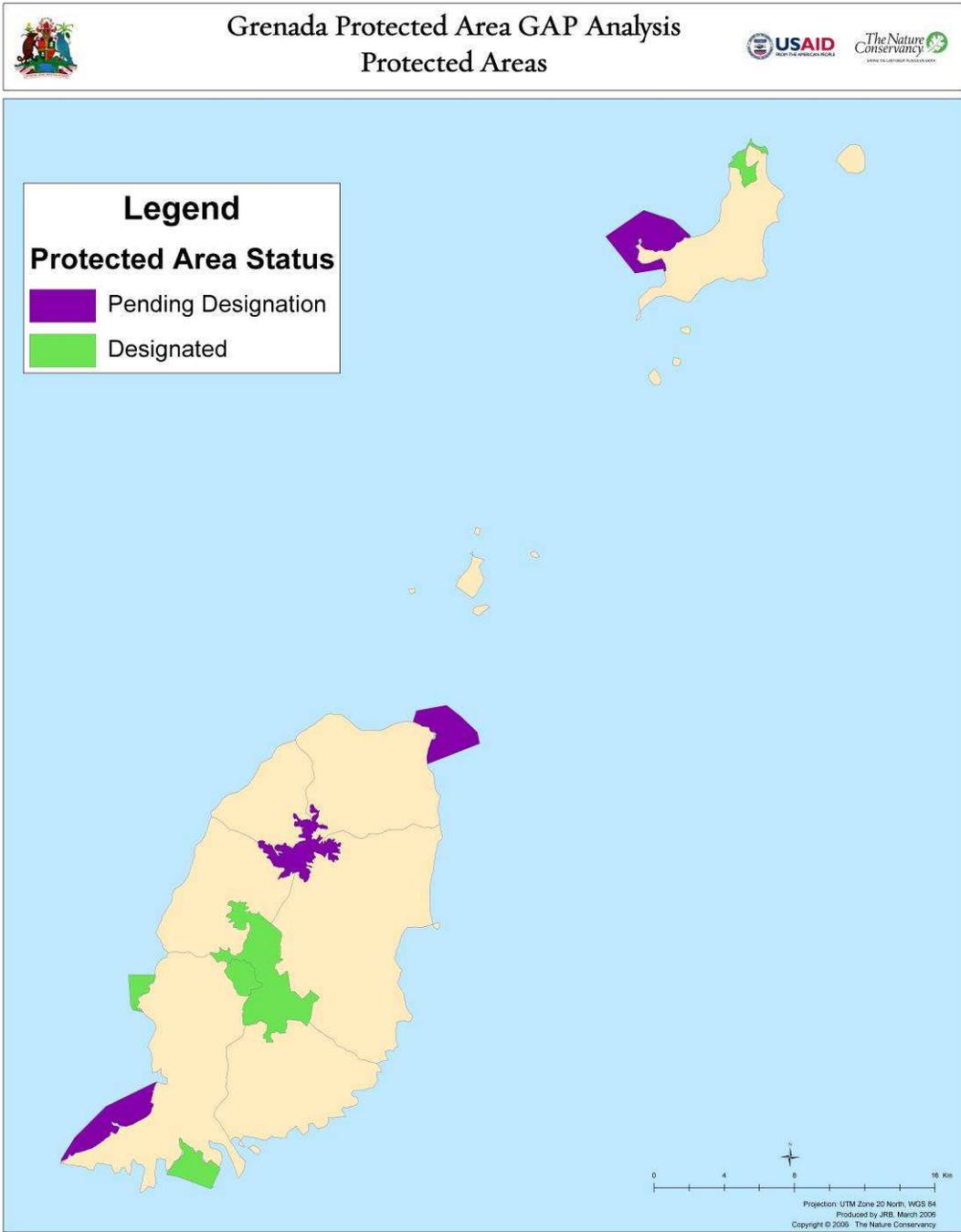
Grenada is a tri-island state comprised of Grenada, Carriacou and Petite Martinique. It is located at the southern end of the Lesser Antilles chain of islands. Grenada is considered the mainland as it is the biggest geographically of the three islands and holds the largest population of around 90,000. It is 312 sq km and has 121 km of coastline. It has eleven designated or proposed terrestrial protected areas. Grand Etang (3800 acres), Annandale (600 acres), and Mt St. Catherine (2300 acres), which is a proposed protected area soon to be designated, are the three largest forest reserves under management. Mt Hartman Forest Reserve (200 acres) and Perseverance Sanctuary (300 acres) are two smaller areas which protect the national bird: the Grenada Dove. Mt Moritz, Morne Gazo, Richmond Hill, Levera, Lagoon and Camerhogne Park are much smaller parks ranging from 60 to 3 acres. There are two designated marine protected areas: Molinere/Beausejour MPA and Woburn/Clark's Court Bay MPA and one proposed MPA called Levera.

Carriacou is the second biggest island and measures 34 sq km. It is located 23 km northeast of Grenada. It is home to High North National Park; a terrestrial forest reserve located at the northern tip of the island, and will soon be home to Sandy Island/Oyster Bed Marine Protected Area. Carriacou has about 6000 inhabitants. Petite Martinique is the third island and measures just 2.3 sq km and has only about 800 people living there. It lies east of the northern section of Carriacou.

Grenada's forest types include cloud forest, rainforest and lower montane Rainforest, Evergreen and semi-evergreen forest, deciduous forest and cactus scrub, Littoral woodlands, and mangrove woodlands. In terms of flora and fauna, Grenada has 450 species of flowering plants, 15 plant species endemic to the Lesser Antilles, four amphibian species, thirteen species of reptiles, 150 species of birds, four native species of terrestrial mammals, and four species of sea turtles (Dunn, pg 11, 17-18). Grenada has about 60 watersheds which supply the country's water demand. One of the main watersheds for the capital city of St. George's is in the Annandale Estate area which was just approved to become a protected area (Paterson, pg 5).

The National Parks System of Grenada has three distinct types of Parks: terrestrial, marine and heritage. This plan includes the heritage parks, which are mainly colonial forts, within the terrestrial group. Within the terrestrial protected areas, there are three types of Parks: Forest Reserve, Protected Area and Sanctuary. For the purposes of this plan, the terms Forest Reserve, Park and Protected Area are interchangeable and are defined as any geographic area that has been legally granted special management rights over the use and protection of the natural resources.

The protected areas system currently manages 8% of all terrestrial land and 3% of marine habitats. Including areas that are soon to be designated and proposed this percentage increases to 11% and 12% respectively.



The above map was generated from information gathered to create a representational gap analysis. It does not include smaller areas currently under protection such as city parks like Camerhogne Park. Please see Annex I, Table II for a list of all the major habitats and the respective percentages protected in terrestrial and marine protected areas, both designated and proposed that were included in the representational gap analysis. This classification was used for forecasting the growth of the Protected Areas System.

2.1 Terrestrial Protected Areas

The first law that established a protected area in Grenada is the Grand Etang Forest Reserve Act which in 1906, granted the area the highest form of protection because a forest reserve cannot be sold by the government at a later date for any other purpose or use. In 1928, the Wild Animals and Birds Sanctuary Act established a sanctuary within the Grand Etang Forest Reserve for wild birds and animals. The most critical legislation relating to protected areas however is the Forest, Soil, and Water Conservation Act passed in 1949, which was the first law to give the government the authority to declare any state (crown) land a Forest Reserve and any private land a Protected Forest. It also gave the government the right to establish rules and regulations and vested the Forestry Department responsibility for implementing a forest policy. It gave forest officers the ability to arrest or fine anyone committing an offense within the Parks. A more recent and equally important legislation for protected areas is the National Parks and Protected Areas Act which was passed in 1990. This act provides for the designation and maintenance of national parks. It establishes a National Parks Authority and a National Parks Advisory Council which are responsible for the administration, management, and the control of the national parks system. This act states that a National Parks Development Fund should be established to meet the needs of the Parks. Another important act is the Birds and Other Wildlife Act which declared closed seasons for birds, lobsters, fish, turtles, and oysters.

The terrestrial parks in Grenada are managed by both the Ministry of Agriculture's Forestry Department and the Ministry of Tourism. The Forestry Department, officially known as the Forestry and National Parks Department has as its mission to "sustainably manage (directly and indirectly) Grenada's forest resources and cultural landmarks in order to optimize their contribution to environmentally sound social and economic development." It consists of eight separate program areas: 1) Forest Conservation unit, 2) Tree establishment and Management unit, 3) Watershed Management unit, 4) Environmental Education Unit, 5) Forest Recreation unit, 6) Wildlife Conservation unit, 7) Mangrove and Coastal Woodland Conservation unit and 8) Heritage Conservation Unit. These eight units are supported by Rangers and other support staff. Most of their work is geared towards national park management, natural resource conservation, stakeholder engagement, and education.

The Forestry Department used to be much more involved in the commercial timber industry until the Department underwent a process of review, culminating in a new Forest Policy in 2000. The review consisted of re-examining relevant and related legislation as well as conducting stakeholder consensus building consultations to get broad-based ideas of public opinion. The legislative review led to a consolidated draft legislation which aimed at integrating the various laws into one that was consistent, and easily implemented and understood. The stakeholder engagement process identified key areas which the Forestry Department should be focusing on. One of the highest priorities was found to be education. Much lower on the list was timber sales and so the forestry

department changed its mandate and began to concentrate much more on watershed management, education, and wildlife conservation. Although some of the activities of the Forestry Department, notably in the Watershed Management and Tree Establishment units, do not directly involve or occur in protected areas, they do affect buffer zones, stakeholder engagement, biodiversity conservation, and habitat restoration. All of these are critical to protected area management; therefore it is assumed that all activities undertaken by the Forestry Department should be included in the costs of protected area management. This simplifies the accounting and does not inflate overall costs beyond an acceptable margin of error.

In September of 2005, The Ministry of Tourism was given responsibility to manage visitor related aspects of certain parks. The National Parks division used to be under the Ministry of Tourism until 2000. At this time, the Forestry Department had developed its new forestry policy and in order to integrate the management of protected areas, the national parks were placed under the Ministry of Agriculture in the Forestry Department. However, the Ministry of Tourism was receiving complaints from visitors and so recently the decision was made to give the handling of visitor related areas of the National Parks back to the Ministry of Tourism. This gives the Ministry of Tourism responsibility for the visitor centers, visitor interpretation, bathroom and concession facilities, and cleaning and maintenance of buildings and trails. At this point in time, the Ministry of Tourism's management role is limited to Fort Frederick, Fort George, Grand Etang Forest Reserve, Annandale Forest Reserve, Camerhogne Park, the Botanical Gardens and Bathway/Levera. Other National Parks, such as Mt. Hartman or Perseverance Sanctuary, are still under the jurisdiction of the Forestry Department as they are part of an ongoing project administered by the Forestry Department.

This co-management structure between the Forestry Department and the Ministry of Tourism is not legislated. The National Parks and Protected Areas Act states that National Parks should be managed by the National Parks Authority and the National Parks Advisory Council. In practice, the National Parks Department, which was part of the Forestry Department and has now been moved to the Ministry of Tourism, is considered to be the National Parks Authority but the Advisory Council does not exist. The Act does not specify which ministry should have jurisdiction over the National Parks Department which allows for the shuffle of responsibilities between the Forestry Department and the Ministry of Tourism.

2.2 Marine Protected Areas

Marine Parks are a new concept in Grenada relative to terrestrial parks. In 1996, two marine zones were designated as MPAs, Brizan/Molinere and Clark's Court Bay. These areas evolved into the Molinere/Beausejour Bay and Woburn/Clark's Court Bay and were officially declared MPAs by Cabinet vide conclusion # 842 on June 2, 1997. They were published in Government Gazette No. 44 Vol. 117 pages 376-378 on September 3, 1999 and made official public legislation. The Molinere/Beausejour MPA was set-up in response to conflict between fishermen and boaters who were fighting over the right to

use the site. The Woburn/Clark's Court MPA was established in order to protect one of the best mangrove sites on the island.

MPAs were further strengthened with the introduction of the Fisheries Act (2000) and the Fisheries (Marine Protected Areas) Order SRO# 77 (2001) which legislated regulations. The regulations prohibit the taking of any animal or plant except in a fishing zone, the removal of sand or rock coral, anchoring except in an anchoring zone, dumping, etc within an MPA. The regulations also include the establishment of an MPA Management Authority and a Management Committee, the designation of four types of areas and nine types of zones, as well as the types of activities that can take place, fees that can be charged, and the means of enforcement of the regulations. Unfortunately, the Management Authority and Committee were never institutionalized and so these MPA's have been designated but not managed beyond the conflict resolution activities among users in Molinere/Beausejour. They are in effect "paper parks". Recently however, the Fisheries Department along with WINDREF, have been working to revitalize the MPA Project by reconvening the Management Committee and developing management plans. They have also started to examine the status of the MPAs by conducting baseline studies of the resources, evaluating the resource users, and determining the threats to and overall impact on the resources in the MPAs. They are developing a monitoring plan and will be conducting stakeholder workshops to identify strategies to protect the habitats in the MPAs.

The Fisheries Division is mandated by the MPA regulations to provide technical assistance to MPA management and serve on the MPA Authority. According to Fisheries staff, in practice they are focused more on assisting fishermen and managing fisheries stock through regulation of fishing practices, licensing, fishing gear, closed seasons, and fishers engagement. The Fisheries Department is also in charge of managing large marine zones in cooperation with other countries in the OECS. Those interviewed felt that there was a lack of staff to adequately fulfill both mandates. Currently there is one full time staff person contracted to work specifically on MPA management, assisted periodically by the Fisheries Biologists.

For a list of all relevant protected areas legislation please see Annex I, Table III.

In addition to understanding the way in which protected areas are structured and managed, it is important to be aware of the context in which these structures operate in society and in the market place. Who uses protected areas? How do they view them? What economic impact or value do protected areas have in Grenada? The next section answers these questions thru user and SWOT analysis as well as thru valuation techniques.

III. MARKET ANALYSIS FOR THE PROTECTED AREAS SYSTEM

3.1 Resource Users

The following table separates resource users into three categories: stakeholder, direct users, and competitors. This gives a better understanding of all the actors involved in protected areas.

<p>Stakeholders: Fisheries Division Forestry Division Land Use Division Physical Planning and Land Development Control Authority Ministry of Tourism Ministry of Carriacou and Pte Martinique Grenada Board of Tourism Carriacou and Pte Martinique Tourism Association Port Authority, Customs and Excise Police, Coast Guard Solid Waste Management Authority Marinas Grenada Yachting Association Dive shops Local residents ART GRENCODA CEC GWCA Youth Development Groups Tour operators Vendors Accommodations sector Eateries and restaurants Hunters Fishermen – subsistence, commercial Taxi Association Water taxi operators</p>	<p>Users: Residents (youth and adults) Schools Local fishermen (subsistence & commercial) Foreign commercial fishermen Charter boats Cruise ship passengers Divers Snorkelers Sportfishermen Hunters Tourists Yachters Hotels Tour Operators Water Taxis</p> <hr/> <p>Competitors: Individual Parks which offer similar activities Grenada (mainland) vs. Carriacou Tobago Cays Marine Park, St Vincent and the Grenadines Soufreire Marine Park, St. Lucia Bonaire Marine Protected Area, Bonaire Regional terrestrial protected areas</p>
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3.2 SWOT Analysis – Participants were asked to identify any strengths, weaknesses, opportunities and threats facing the protected areas system, protected area management, natural resources and the environment.

<p>Strengths: Unique landscape Natural beauty Botanical diversity Safety Residents treasure the areas for recreation Well known and used beaches, dive sites Infrastructure exists: bars, dive shops, visitor centers, bathroom facilities Natural resources: forests, lake, watersheds, flora and fauna, coral reefs, fish, turtles, sea grass beds, mangroves etc Local community support for management Critical sites for yacht racing, local boat use Interest from foreign tourists Accessible Return visitors, divers Stakeholder engagement process institutionalized thru Forest Policy (2000) Commitment to expand Protected Areas with 25/25 Declaration</p>	<p>Weaknesses: High use rates and associated littering and pollution Stress on resources Inappropriate and harmful development practices Lack of environmental education Unpredictable weather and Hurricanes Access to some sites Lack of financing Lack of incentives to generate revenue Lack of funding transparency, accountability GBoT markets island, not PA's Capacity: business planning, management, tourism skills and guide training, marketing Inter-agency cooperation and communication Lack of standards for PA's Lack of law enforcement Low # of visitors to levy fees Lack of waste management Lack of awareness Lack of land use policy Lack of institutional and civic responsibility Maintenance of park facilities and amenities</p>
<p>Opportunities: Increased tourism Eco-tourism and community development Increased revenue Research and education Youth engagement Non-timber forest product development Medicinal plants Industrial archaeology within Parks Alternative livelihoods thru nature guide positions and park staff positions Volunteering</p>	<p>Threats: Overuse by both locals and tourists Ignorance and inertia Bureaucracy and government inefficiency Local opposition from private landowners, fishermen and residents Increased sewage and other discharge Increased run-off Lack of management capacity especially as system expands Lack of inter-agency cooperation Enforcement problems Lack of buy-in regarding user fees Lack of sustained funding Over fishing, over hunting Destruction of natural resources from weather and anthropogenic factors</p>

As evident from the above table, Grenada's Protected Areas and environment face critical threats which may be mitigated by the opportunities that exist. The political will to expand the Protected Areas System and community engagement are two strengths which are important for the future implementation of additional parks. Yet an increase in protection requires more financing, which at the current number of protected areas is already lacking and thus a weakness. The fact that there are opportunities for increased tourism and increased eco-tourism specifically implies that more funding could be generated from users. A system wide user fee system must then be implemented and enforced. More users however mean that more management capacity will be needed and again, current management capacity is low and weak. This lack of financing and capacity were further identified in the threats column as the system expands.

A lack of financing and capacity are inter-related issues. Without proper funding, managers cannot train staff and build capacity of the government and of communities to better manage and participate in protected area management and conservation. Concurrently, without management capacity, available funding is not used as efficiently as possible, and financial planning and management are lacking. Also, additional funding may be hard to secure.

An important aspect of raising capital for protected areas and conservation is to understand the value of the resources that are being protected. This knowledge also helps in protected area management and advocacy. There are several techniques for resource valuation that are analyzed in the next section.

3.3 Impact Analysis of Goods and Services Provided by Natural Resources

The natural resources that protected areas conserve offer many goods and services that society benefits from. Watershed protection is perhaps one of the earliest recognized services offered by forests in Grenada and this is evident in the Soil, Water, and Forest Conservation Act. Forests also provide soil erosion control and habitat for an abundance of plants and animals. Oceans and seas provide habitats for much of the food eaten in Grenada, notably fish, conch, and lobster which in turn provide jobs and income for fishermen. Mangroves provide shelter and nursery grounds for juvenile fish. Corals, algae, shellfish and parrotfish all produce sand that provides the beautiful beaches which locals and tourists alike enjoy immensely. For a complete list of functions provided by natural resources please see Annex I, Table IV.

These natural resources provide both use and non-use value which can be captured in terms of economic value both directly and indirectly. However, natural resources also provide value that is unquantifiable. For example, marine protected areas enhance fish stocks. This benefit can be measured directly by the additional income fishers receive as well as the increased diving revenue due to an improved diving product. This increased revenue has indirect spillover effects into the greater economy as people have more disposable income to spend. Increased fish stocks however also ensure that traditional

livelihoods can continue (existence value) and that future generations can enjoy seeing and eating fish (bequest and option value). These benefits are almost impossible to quantify monetarily but the value still exists and is perhaps more important than any monetary value that can be calculated.

Determining the economic value of protected areas however is helpful to highlight their importance compared to other economic and or policy choices. Protected areas do have a cost which initially can be quite high. The returns on this investment tend to take at least a few years if not a decade. Therefore, it is important to understand what the economic benefits are and to see that these benefits offset the initial investment and provide a return on that investment in the long run. There are several ways to calculate this value. One method values the natural resources conserved by the protected area and assumes that without the protection these resources and their value would be lost. Contingent valuation is a method that values natural resources by looking at the cost of replicating the services they provide if the natural resources were no longer there. Another method values natural resources by looking at the direct and indirect revenue generated by them.

3.3.1 Valuation of Natural Resources

Coral Reefs and Mangroves

A recent study conducted by the International Coral Reef Action Network (ICRAN), the International Union of Concerned Scientists (IUCN) and the United Nations Environment Programme (UNEP) suggests that the value of coral reefs in the Caribbean is estimated between US\$2000 per sq km per year in remote areas, to US\$1mn per sq km per year near tourist resorts. Worldwide, the estimate for intact coral reefs is between US\$100,000 – 600,000 per sq km per year. Mangroves are valued between US\$200,000 and US\$900,000 per sq km per year. The average cost of protection of coral reefs was estimated at US\$775 per sq km. (www.iucn.org)

The coral reef surrounding the nation of Grenada totals 12.29 sq km. Most of the dives sites for all of the country's dive shops are located within established or proposed MPA's and are all located within a twenty minute boat ride or less from the shops. Their value would be in the upper range of the study mentioned above. However, if the average of US\$100,000 and US\$600,000 is taken to value coral reefs in Grenada then US\$350,000 is multiplied by 12.29 which is US\$13.6 million. The value of coral reefs in protected areas alone totals US\$1.3 million. In EC, this is equivalent to 3.5 million dollars.

Mangrove areas total 3.4 sq km. If we take the average of US\$200,000 and US\$900,000 for mangroves we come up with US\$550,000 multiplied by 3.4 is US\$1.9 million per year. The value of mangroves in protected areas is approximately US\$300,000 or EC\$800,000. Adding this together with the coral reef estimate, the total value of coral reefs and mangroves in Grenada is approximately US\$15.5 million (EC\$41.4mn) and US\$1.6 million (EC\$4.3mn) in protected areas. However, protected areas consist of more than just coral reefs and mangroves and so this is just a partial valuation.

Other services provided by the resources in protected areas in Grenada include watershed protection by forests, habitat for plants and animals in forests and the sea, coastal protection provided by coral reefs, mangroves and beaches. Sea grass beds provide food and shelter for juvenile fish and green turtles. Mangroves provide nursery grounds for fish, filtration, and water resistant wood. This is not an exhaustive analysis of services provided by natural resources in protected areas but highlights some of the most important benefits provided to society.

Water

Watershed protection from forests is an extremely important function in Grenada as the entire mainland depends on these watersheds for access to clean fresh water. NAWASA manages the water supply and the total revenue generated from the sale of its services can be used as a proxy for valuing water. According to data provided by NAWASA, in 2004, the most recent year with data, the total income derived from water was EC\$10.5 million, or 1% of GDP. Forests protect the watersheds from being contaminated with soil, run-off, and from eroding. Thus, protected areas contribute significantly to protecting water resources in Grenada.

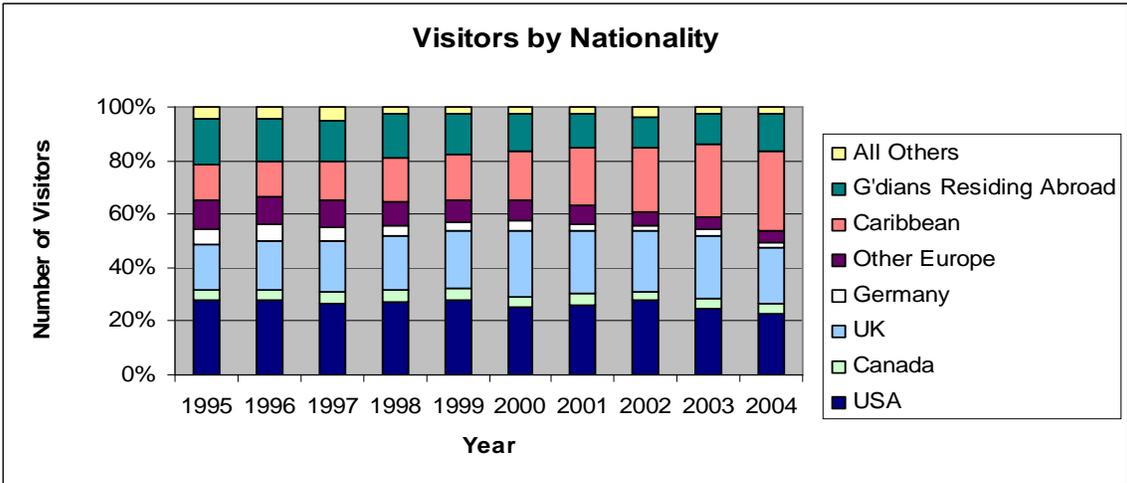
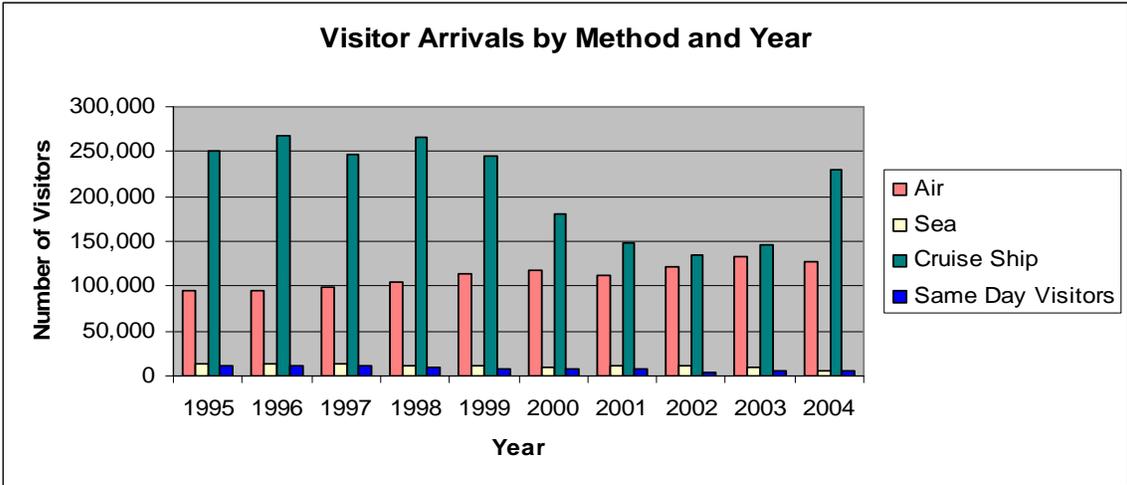
Fishing

Fishing is a multi-million dollar industry in Grenada providing thousands of jobs not only to fishermen but to boat builders, boat suppliers, fish market workers, import/export workers etc. In a more direct way, annual catch reports for Grenada show the tremendous value that fish provide to this culturally and economically important sector of the economy. According to catch reports provided by the Fisheries Department, in 2004, the last year of data, EC\$21.6 million, or 2% of GDP, was generated by all recorded fish, shellfish and turtle species in Grenada. The five top sellers in fish were Yellowfin tuna (EC\$5.6 mn), Backfin tuna (EC\$2.8 mn), Red hind (EC\$2.0 mn), Parrotfish (EC\$1.4 mn) and Atlantic sailfish (EC\$1.1 mn). In the non-fish category, Conch generated EC\$290,000 followed by Lobster which generated EC\$340,000 and Turtle generated EC\$70,000, totaling EC\$700,000 or US\$262,000. There is no data for Grenada on the impact of MPAs on fish stocks as the two MPAs that have been established have not really had any management or monitoring activities. However, studies in other MPAs have shown that fish stocks within the boundaries of an MPA increase markedly after two to five years. The spillover effects have been strong enough to gain the support of fishermen for the expansion of these MPAs.

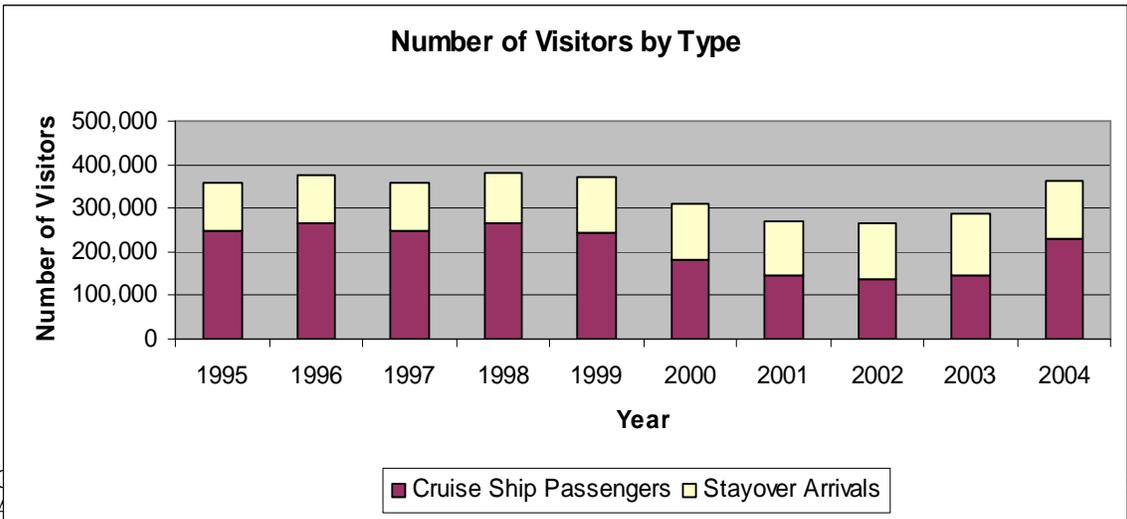
Tourism

Visitors to Grenada are local residents, Grenadians living abroad, tourists from the region and foreign tourists mainly from North America and Europe. About half come for leisure, to enjoy the beautiful vistas, warm weather, sun and beaches. They also come to experience Grenada's natural resources, such as the marine life through snorkeling and diving, and the terrestrial flora and fauna through hiking in forests.

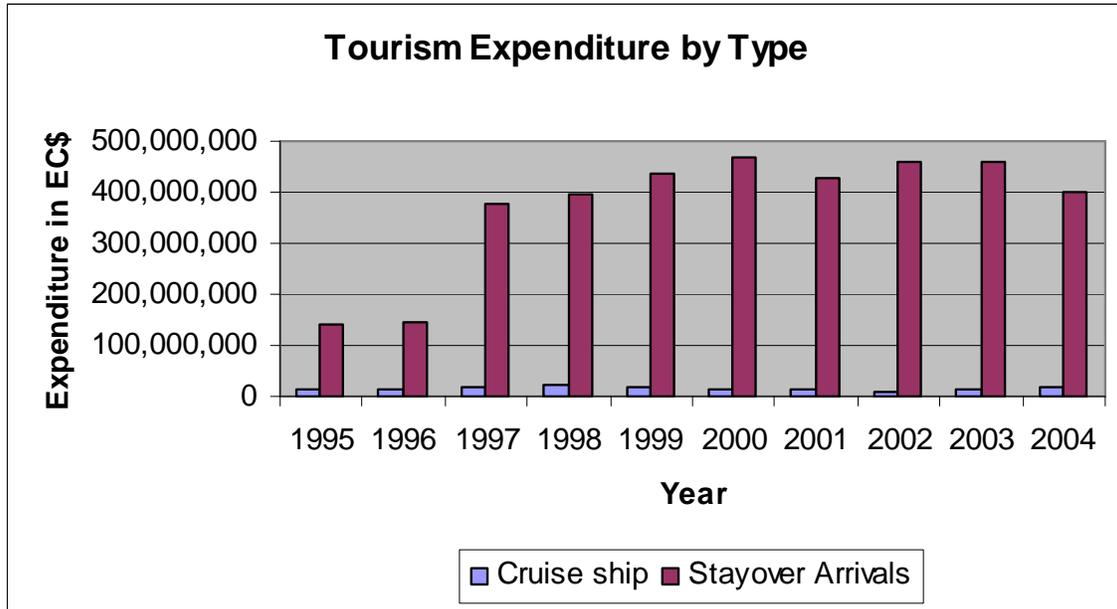
The following graphs, developed from data from the Grenada Board of Tourism, shows historical data over a ten year period of visitors to Grenada by mode of transportation and by country of residence.(Grenada Board of Tourism Statistical Report 2004).



Aggregating these numbers into two groups, the same day visitors and the stay over visitors, produces the following graph.



In terms of indirect revenue generated by tourism over the past ten years, the following graph shows that cruise ship passengers, despite being much larger in number spend much less in Grenada. On average, stay-over visitors spend 24 times as much as cruise ship passengers.



For 2004, total tourism expenditure equaled EC\$417 million or 36% of GDP. Since tourism is primarily based on Grenada’s natural resources, this figure makes evident the importance of preserving them and reveals the market’s indirect value of these resources.

In September 2004, Hurricane Ivan hit Grenada and severely destroyed and damaged much of the infrastructure on the island as well as natural resources such as forests, coral reefs etc. Stay over visitors declined by 20% in the June to December period of 2004 and accommodation capacity decreased by about 50% due to the severe damage suffered by large hotels. This was followed by Hurricane Emily in 2005 which affected Carriacou more than Grenada mainland but still had a negative impact on tourism for the country. Estimates predicted that tourism numbers would be back to pre-Ivan numbers in the middle of 2006 after the rebuilding process was underway.

Looking at visitor data helps to determine demand and expenditure trends for the overall market. However, it is difficult to know how many of these tourists go to protected areas as few data exist. The Grenada Board of Tourism statistics show that in 2004, there were 134,000 stay over visitors of which 55% came for leisure. It can be assumed that many of those visitors would go to at least one protected area. For terrestrial parks, the only visitor information available is for Grand Etang Forest Reserve which is the only park to currently collect fees. For 2003 and 2004, there were approximately 38,000 and 56,000 foreign visitors which generated EC\$100,000 and EC\$150,000 respectively. For 2004, this means that 15% of all visitors went to Grand Etang.

For marine parks, there are no data on entrance fees as fees have never been collected. Since most of the dive sites are either in designated MPA's or proposed sites, it can be assumed that all of the diving occurs in MPA's which could provide an estimate of visitors to the parks. Unfortunately, collection of data on diving and snorkeling in Grenada has just started for this past tourism season alone and does not give enough information to predict demand over time.

Better data collection needs to be implemented so that there are historical annual numbers on visitors to both marine and terrestrial protected areas. This information is important because it helps PA managers know demand for the product they are offering. This has implications for the user fee structure put in place, types and number of services provided and potential revenue generation. It also has implications for visitor impact and capacity of the resources to absorb this impact.

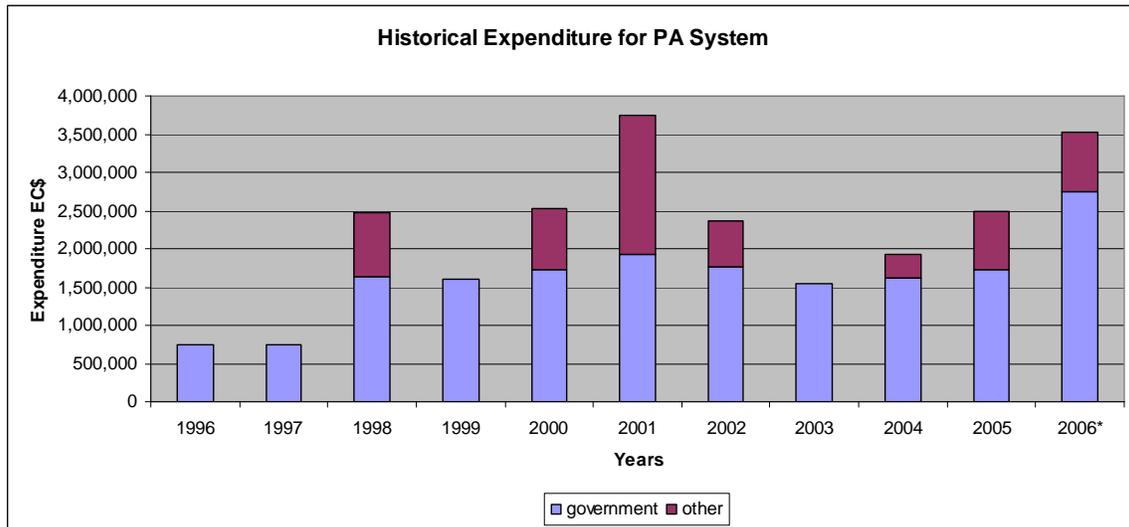
The market context and economic impact of natural resources provides useful information to understand indirect factors related to protected areas and can be used to better advocate for them. However, direct analysis of the financial data provides a more in depth look at management practices and funding needs. The following section presents historical funding data and the financial gap analysis of the protected areas system.

IV. FINANCIAL GAP ANALYSIS

4.1 Historical Funding Analysis

Historically, the protected areas system has been funded through government subvention and project financing from international donors. The government has primarily paid for recurrent costs, and matching funds whereas externally financed projects have financed the costs of infrastructure, equipment, training, research and monitoring.

Total expenditure for the past eleven years for the entire protected area system can be seen in the following graph divided by funding from government for recurrent expenses and other funding from government and external sources such as bi-lateral funding agencies for capital expenditure. The graph shows that recurrent expenses for protected areas seems to be on the rise but that project funding is volatile, with some years showing zero funding.¹



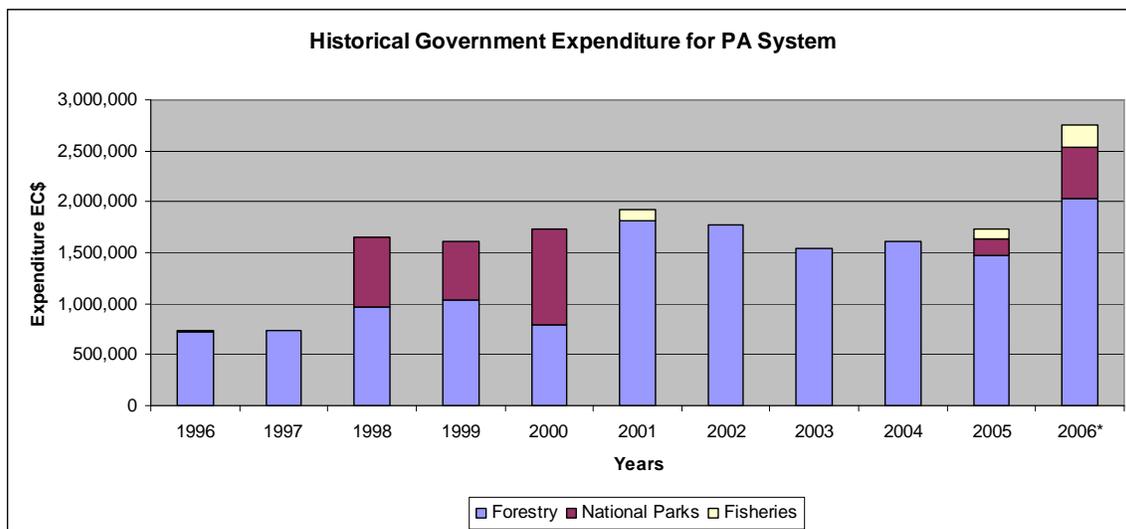
Sources of revenue from project funding are not well documented. There have been projects funded by individual countries' development organizations such as France, United Kingdom, European Union, the United States and Japan as well as international multi-lateral organizations such as the UNDP, World Bank, and the OECS. For a list of environmentally related projects funded by these organizations please see Annex II, Table I.

The above data for recurrent and capital expenditure and project financing come from the published budget reports printed by the Ministry of Finance. According to staff interviewed in the various ministries however, this data does not always accurately reflect

¹ Data for other project funding for 1996 and 1997 was not available however for 2003 the financing was zero.

government budget allocations nor project funding. In addition, budget estimates for the following year are grossly inflated and do not indicate what the government will actually allocate. Unfortunately, this is the only data available for recurrent and capital expenditures. Although much of the detail is lost, it does help to give a sense of the past needs of the agencies managing protected areas.

The following graph highlights the variance between departments in PA expenditure. The forestry department has consistently had the largest expenditure and this has increased over the years. National Parks shows expenditures when the management was under the Ministry of Tourism in 1998 to 2000 and again when it was moved back in 2005. When National Parks was integrated into the Forestry Department in 2001, the budget seems to have also been integrated, a process which was then reversed in 2005. The Fisheries Department has the lowest expenditure which is made up primarily of project funding.



In order to better estimate the financial gap, extensive interviews were conducted that focused on determining the future needs of the various departments to manage designated and proposed protected areas

4.2 Needs Assessment

The needs assessment was determined based on future estimated recurrent costs as outlined by current staff in the different departments. Added to this were the capital expenditures listed in the 2006 budget that were both estimated to be funded and not funded. The needs were determined for parks that are designated, proposed and likely to be proposed in the near future. This needs assessment was then subtracted from the available funding as measured by recurrent and capital expenditures listed in the 2005 budget. The only exception is for the Ministry of Tourism’s capital expenditure which was calculated as an average of capital expenditure spent over nine years since there was

no 2005 figure since National Parks had only just moved to the Ministry in September of 2005.

Terrestrial Protected Areas

The New Forest Policy review process in 2000 evaluated much of the needs of the Forestry Department to achieve its mission and it found that more staff along with more training, equipment, and other recurrent operating expenditure were needed. The structure that was developed from the review process is deemed by forestry staff to fulfill the needs of the Forestry Department to manage the terrestrial parks (minus the recreational aspects under Ministry of Tourism). However, the structure itself was never fully implemented and this problem deteriorated after Hurricane Ivan. Currently, the Forestry Department has 18 vacant positions, many of which have been unfilled for over a year. Therefore, the needs assessment for the Forestry Department was based on fully implementing the existing operational structure in terms of staff and increasing the operating expenses by the same proportion as the staff increase. The needs assessment was then subtracted from the available funding for recurrent expenses as allocated in the budget for 2005 to determine the funding gap.

The Ministry of Tourism's National Parks Division needs assessment was based on a proposed staffing structure that will be submitted to Cabinet. The structure would put in place a management team to oversee all recreational activities in the terrestrial Parks under the Ministry's care, including new positions such as site managers, a community development officer and a technical officer. This was subtracted from the average expenditure since there was no expenditure for 2005.

Marine Protected Areas

The MPA's needs assessment was conducted slightly differently. The Nature Conservancy previously developed a financial gap analysis for one of the proposed marine parks, Sandy Island/Oyster Bed MPA. This financial analysis for SIOBMPA was the basis for conducting the MPA system gap analysis, as many of the activities and expenses would be the same. The needs assessment was tailored for each MPA but for the most part the content is very similar. In addition, according to the MPA legislation, a Management Authority along with a Management Committee were supposed to have been set up to manage MPA's in Grenada therefore this structure was used as part of the overall recurrent costs. Each MPA needs assessment was added together along with the costs of running the Management Committee and Management Authority. This cost was then subtracted from what is currently being done for MPAs by the Fisheries Division.

4.3 Financial GAP Analysis

Current funding available is \$2.0 million in recurrent costs, and \$1.3 million in project funding. This totals \$3.3 million. For the current year, if all designated and proposed protected areas were implemented and managed effectively, the PA system would need \$4.1 million in recurrent costs, and \$3.8 million capital costs, totaling \$7.9 million. The financial gap for the entire protected areas system is \$4.6 million.

V. Funding Analysis

5.1 Current Revenue Generation by Protected Areas

In terms of revenue generation by PA's, the only park that has historically charged an entrance fee is Grand Etang Forest Reserve. Much of the data from ticket sales was lost during Hurricane Ivan. The following information was the only available data.²

Revenue EC\$					
Year	1998	1999	2001	2002	2003
Total	138,750	86,886	55,000	77,800	49,000

The following table shows monthly revenue generated from Grand Etang for 2003 and 2004.³ The data for 2003 from the above table does not match the same year's total below which raises doubts about the data as a whole. However, the data below is more complete as it is monthly data whereas the above table was missing much of its monthly data and so yearly totals were taken.

Year	Revenue in \$EC	
	2003	2004
Jan	11,737.00	29,771.00
Feb	16,038.00	29,676.00
Mar	11,348.00	20,987.00
April	10,022.00	6,328.00
May	4,104.00	19,658.00
Jun	1,725.00	13,471.00
Jul	267.00	4,008.00
Aug	1,421.00	3,578.00
Sep	1,068.00	
Oct	25,513.00	
Nov	4,189.00	8,102.00
Dec	13,221.00	13,620.00
Total	100,653.00	149,199.00

² All values are in Eastern Caribbean dollars with an exchange rate of EC\$2.67 to US\$1.

³ Data for September and October of 2004 are missing due to Hurricane Ivan which hit Grenada on September 7, 2004.

The revenue collected from the Protected Areas is deposited into the government's consolidated fund. The Ministry of Tourism just submitted a proposal to increase the cost of entrance fees from EC\$3 (US\$1) to EC\$5 (US\$2) for foreign visitors, charge EC\$1 (US\$0.37) for local visitors and expand the number of Parks that charge an entrance fee. The proposal also cut the 15% discount that tour operators received when they bought ticket books directly from the Ministry. This proposal was approved and should be implemented soon.

The fee is kept relatively low because what is currently offered at national parks is not at a high enough standard to warrant higher entrance fees. The Ministry of Tourism is developing standards for recreational aspects of the national parks and once these standards are met, then entrance fees will be re-evaluated. In addition, there is perceived resistance from tour operators at raising fees because tour operators feel that rates should be raised only after visitor facilities, visitor interpretation, and trails are upgraded and properly maintained.

The collection of user fees has not been an important aspect of the national parks system. National parks have never been seen as sources of revenue but rather as a cost of protecting natural resources. The amount of money collected in 2004, \$149,200, is only a small percentage of recurrent expenses. In addition, any revenue collected from the system is not earmarked for conservation or to finance national parks' activities, therefore there are no incentives to improve the system and charge higher user fees. Additionally, there is no system that tracks the life cycle of money generated from, and/or spent in, the national parks. This makes it difficult to identify areas where efficiency could be improved.

5.2 Other Environmental Funding

There are currently two types of environmental levies, fees and a percentage tax. Fees are charged to cruise ship passengers and airport stay over passengers. Cruise ships are charged EC\$8.00 (US\$3.00) per passenger which goes to the Solid Waste Management Authority and EC\$4.00 (US\$1.50) per passenger which gets deposited into the consolidated fund. The Airport Authority also charges EC\$50.00 (US\$18.73) as an exit tax which goes directly back to funding the operation of the Airport. These fees are collected by the Ports and Airports Authorities which charge a 5% handling charge. Both the Solid Waste Management Authority and the Airport Authority are statutory bodies who charge fees to help cover their costs.

The other type of environmental levy is a percentage tax on electric bills and certain large imported goods, as well as a hotel per occupancy tax. The percentage tax on electric bills depends on the amount of Kw/h used per month. Zero is charged to those households which use less than 100 Kw/h per month. EC\$5 is charged for households who use between 100 – 149 Kw/h per month. EC\$10 is charged for households who use more than 149 Kw/h per month. The electric company gets a lump sum handling charge.

Another environmental levy is a tax on bulky items and “White Goods” such as refrigerators, microwaves, TV’s, stoves etc. The tax is 1% of the total cost including insurance and freight (CIF) and is collected at the Port. Vehicles get charged 2% CIF. The percentage tax revenue is also deposited into the consolidated fund.

Hotels are charged a per occupancy tax of 8% which is also deposited into the consolidated fund.

These types of environmental levies or taxes indicate that the government and statutory bodies have experience raising funds to cover their operational costs and also to reduce the associated externalities.

5.3 Funding Strategies

In applying a more business oriented approach to protected areas management, a portfolio of funding sources is used to diversify risk. By presenting a variety of financial mechanisms to raise revenue rather than relying on only one or two sources, such as user fees or international funding agencies, the volatility in funding is decreased. However, the first step towards sustainable financing is identifying areas where management operations can be streamlined and efficiency increased thereby reducing costs. In order to do this, the management actors must understand what activities are being done, what money is being spent on and how much, where it is coming from and how much revenue is generated, and how it is distributed among workers involved in protected areas. This is currently not well known among the various agencies involved in protected area management. There is a lack of an institutionalized co-management structure between the various agencies involved in PA management. This creates a lack of understanding of roles and responsibilities, a lack of legal authority, and gaps in management and capacity. Due to this fragmented management structure of the current protected areas system, it has been difficult to gain accurate information on spending.

A study should be conducted to examine in detail where and how much money is being generated from environmental related levies and activities. Where is that money, in addition to government and external funding earmarked for environmental activities, being spent? If agencies are not receiving enough government contribution or cannot meet their operating costs, why is this occurring? Is this due to poor management or is it because not enough revenue is being generated? The study should then outline a data collection, budgeting and monitoring system so that managers are better informed to make financial decisions and plans.

5.3.1 Potential Financing Mechanisms

Two factors for the funding gap are 1) a lack of understanding in the public sector of the importance and overall value of protecting the natural resources hence lower contributions to such activities and 2) a lack of available government funding, especially

after Hurricane Ivan which destroyed a majority of the island including the forests and facilities at national parks. The rebuilding process is costly but it gives an opportunity to determine what is important and to plan accordingly. The Hurricane did bring attention to the role that natural resources and biodiversity provide during and after natural disasters. The overall socio-economic well being of society is a priority for the government and for the public but both must also realize that a healthy environment contributes to the well-being of the entire island and must be an integral part of the rebuilding process.

In order to fill the financial gap, new and more adequate sources of funding must be discovered. The following is a list of potential financial mechanisms which could be implemented to help fill the financial gap in protected area management.

Possible Funding Sources	Source of Revenue
Multi-lateral Funding	GEF, FAO
Bi-lateral Funding	DFID, French Dev, Japan, USFS
International NGOs	TNC, WWF, CI,
International Foundations	Macarthur Foundation
Payments for Environmental Services	Downstream users, water consumers
Land Conservation Fund	Land transfers
Park User Fees	Individuals, Tourists, Researchers
Privatization of Park Services	Tour operators, private sector
Debt for Nature Swap	Donors, Government, NGO's
Per Tourist Exit Tax	Stay-over visitors
Environmental Levies	Individuals
Government Contribution	Government
Hotel Occupancy Tax	Hotel clients
Cruise Ship Fees	Cruise ship passengers
Fines	Individuals, Corporations
Permits and Licenses	Fishers, Hunters, Researchers,
Biodiversity Prospecting	Pharmaceutical Companies
Carbon Sequestration Payments	Corporations, Government
Green Investments	Corporations
Fish Catch and Service Levies	Commercial Fishers

5.3.2 Feasibility Analysis

These potential mechanisms have been analyzed according to criteria that determine overall complexity of implementation versus impact of implementation. These criteria assist in determining whether these funding strategies should be pursued in the short-term or might be more appropriate later on. Three key criteria are the potential for generating revenue, the certainty or volatility of that revenue generation, and the complexity of implementation. Feedback from stakeholders also helped to determine overall feasibility. In the following section, only the most viable financial mechanisms will be described followed by other mechanisms that may be pursued in the near to medium term.

5.3.2.1 Viable Financial Mechanisms

Government Contribution

Historically, the government has funded salaries and operating costs of departments who manage protected areas, as well as provided matching funds for projects. However, this contribution has been insufficient and has lacked transparency. The funding analysis showed that the government currently provides EC\$2.1 million in recurrent costs whereas the needs are EC\$4.1 million to fully staff and operate the various protected area management teams. It is unlikely that the government will double its contribution to cover the needed recurrent costs. What can be done in the short term however is to put mechanisms in place that enable protected area managers to have more decision making powers when it comes to PA spending. In addition, the government must support PA managers in such a way that legislation can be implemented and enforced. It is not realistic to believe that user fees or international funding alone will sustain the PA system. The government must begin to incrementally increase funding so that in the future, departments are fully staffed and are operating by their mandates according to the relevant legislation. As Grenada rebuilds and its economy begins to strengthen, it is feasible for the government to involve PA managers more in the budgeting decisions and to increase spending on protected area management.

Multi-lateral Donor Funding

The Global Environmental Facility is the financing arm of the Convention on Biodiversity. The new four year GEF financing window begins in 2006 and Grenada is eligible for up to US\$3.1 million. Forty percent is available for PAs and 40% for mainstreaming biodiversity. A medium sized project of up to \$1 million for protected areas system management, as well as the same sized grant for biodiversity mainstreaming, would enable Grenada to access a substantial amount of money which it could leverage to fund sustainable revenue generating activities such as the establishment of a systematic user fee system or the capitalization of an environmental trust fund. The latter activity would require the creation of such a fund as well as a board of trustees. This is discussed in detail in the long term revenue analysis following this section. Legislative changes however are not needed as this type of fund was created in the National Parks and Protected Areas Act. The necessary capacity exists to develop these types of activities which would greatly contribute to the sustainability of the PA system. The overall feasibility therefore is high.

Bi-lateral Donor Funding

Most of the capital expenditures and project funding in the Forestry and Fisheries Departments comes from bi-lateral donors such as the French, UK, US and Japanese development agencies. For example, reconstruction of Grand Etang after the hurricane was funded by USAID. Valuation of reef ecosystems and MPA establishment was paid for by the French FFEM. The UK's DFID funded the Forestry Department's participatory review process. The EU is funding a multi-million dollar watershed management project. The nine year average of project funding is EC\$1.4 million but this

includes government funding as well as bi-lateral projects. According to the budget reports, over 9 years, the average has been about EC\$800,000 per year from bi-lateral agencies towards protected area relevant projects. This number however is only for projects that fell under the Forestry, National Parks or Fisheries Departments and does not include projects in other departments that may have contributed towards PA management and/or conservation. In addition, there is some discrepancy according to government staff interviewed between actual funding and what is recorded in the budget reports which could affect this average. Better data needs to be recorded and made available to managers to better understand bi-lateral funding. Assuming that bi-lateral funding doubles to match the more than doubling in overall area protected with the 25/25 declaration, bi-lateral funding could increase to EC\$1.6 million per year. As Grenada demonstrates that it is not only meeting its conservation targets but actually surpassing them thru effective management and political support, this financial support from bi-lateral agencies should increase in the future.

International Non-Governmental Organizations

There are quite a few international non-governmental organizations which offer project funding for protected area planning and management, capacity building, scientific monitoring and research, sustainable livelihoods etc. This type of funding has the added value that cost sharing and collaboration can take place which reduces the costs for parks to conduct research or for the government to conduct gap assessments, workshops and research to establish new protected areas. These organizations also transfer expertise and provide funding for training, materials, and other costs. This source of funding can be more effective as it can give funds directly to departments and projects rather than have to go through the government as does multi-lateral funding. No data exists on total NGO funding in Grenada. It would be interesting to know how much money is coming in from this sector to better understand the feasibility of this support increasing in the future.

User Fees System

As mentioned earlier, entrance fees have not been an important source of revenue for Protected Areas. In the past, only one forest reserve, Grand Etang, charged an entrance fee of EC\$3 (US\$1) to foreign tourists. This has recently changed to two parks, Grand Etang and Mt Hartman charging EC\$5 (US\$2) to foreign visitors and EC\$1 (US\$0.37) to local residents. The process of changing the Park's entrance fee by the Ministry of Tourism was not systematic across all parks. There was no willingness to pay study to determine the average fee visitors would be willing to pay to enter a park and the kinds of facilities and services they would expect to experience and feel they are paying for with the entrance fee. Fees have been kept low due to low standards of visitor facilities and trails at the parks. The development of standards for national parks is a step in the right direction to ensure uniformity of services, safe and clean facilities and a pleasurable experience for visitors. However, standards need to be implemented and not just written on paper, which seems to have happened before in the tourism sector in Grenada. Once standards are enforced and maintained throughout the Protected Areas system, than fees can be charged at all of the major terrestrial and marine parks. For MPAs, the legislation states that \$1 should be charged but currently no user fee system is in place at any of them.

Increasing user fees must be based on studies and standards but also must be done in a participatory manner so as to learn how best to implement fee increases. In discussions with a tour operator specializing in cruise ship oriented tours, it was found that the recent announcement of an EC\$1 increase in entrance fees to EC\$2 by the fall was not well received. This was not because the rate was increasing but rather because of the way in which the fee increase was done. Cruise ship contracts are signed at least one year if not two in advance as they sell their packages that far ahead of time. Announcing fare increases six months beforehand does not give tour operators time to ease into the fare change with new contracts but rather forces them to either eat the cost of the increase or cancel the contracts. The participation of stakeholders in determining fees is essential in getting their support for the implementation of a fee system and their continued participation in the system.

Based on current visitor levels and fee structure, it can be assumed that if Grand Etang, Annandale and Mt. Hartman all charged EC\$5 per foreign visitor and the same number of tourists visited all three sites, then EC\$840,000 could be generated versus the 2004 figure of EC\$150,000 generated at Grand Etang. This doesn't include the EC\$1 entrance fee that will be charged to local visitors, as there is no information on the number of local visitors to any of these terrestrial parks, nor does it include entrance or mooring fees for MPAs. Thus, the total revenue generated from user fees would be substantially greater than EC\$840,000.

Figures for diving and snorkeling are incomplete but using available data and estimates it could be assumed that 20,000 visitors come to Grenada to dive or snorkel. If they go twice and pay EC\$5 each time then that could generate EC\$200,000. If we use the statistics on yacht calls in Grenada and we assume that 25% of all yachters would visit the MPAs and pay EC\$10 to moor per year, then that would generate EC\$15,000.

User fees would total then around EC\$1,055,000.

Establishing or changing entrance fees at Parks requires a submission to cabinet and their subsequent approval. Entrance fees are already incorporated into the National Parks legislation and the Marine Protected Area legislation so no further legislation is needed.

Once standards are enforced and maintained throughout the Protected Areas system, than fees can be charged at all of the major terrestrial. There needs to be a system wide user fee structure and collection process to incorporate the MPAs as well. The EC\$5 fee is fairly low compared to regional entrance fees which range from EC\$13 (US\$5) to EC\$27 (US\$10) on average so there is potential for fees to increase above EC\$5.

Payments for Environmental Services

Payments for Environmental Services is a financing mechanism which generates revenue by applying a cost to services provided for "free" by nature. Users who benefit from the service pay to ensure that nature continues to provide the service. This is usually at a much lower cost than man made substitutions. One such service provided by nature is

clean water. Grenada is blessed with an abundant source of water which, for now, meets 100% of its needs. Forests are instrumental in enabling watersheds to provide this clean water to the public. They prevent soil erosion and act as filters as well as aiding in the hydrological cycle. Therefore, in order to protect the valuable services provided by watersheds, the forests must also be protected. This important relationship has been recognized throughout the legislation on terrestrial protected areas. However, there are no laws or regulations which establish a system to pay for this protection directly.

The National Water and Sewerage Act, 1991, gives authority over water management to the National Water and Sewerage Authority (NAWASA) which is responsible for the provision of water supplies, conservation, augmentation, distribution, preservation and protection of catchments areas. Although the act states that conservation and preservation are responsibilities of the Water Authority much of this falls on the Forestry Department. The fees charged by the Water Authority fund the Authorities operating costs rather than going into forest and watershed protection.

A new source of revenue for such protection could come from implementing a conservation surcharge which would be used to protect the forests surrounding watersheds and to manage these important and strategic areas. Currently, the Forestry Department's Watershed Conservation Unit is involved in a multi-million dollar Watershed Management Project funded by the European Union. Within this, much of the research and monitoring needs of watersheds will be conducted as well as studying the supply and demand for water. There is a component which will examine the fee structure and identify the potential for a water fund to be established specifically for protection and conservation of the watershed and relevant forest areas. A surcharge could capitalize this fund.

NAWASA just finished its metering project which means that 89% of all households are connected. The metering project also added government properties to the metered system. Due to changes in revenue from the metering system as well as a need for capital expenditure, NAWASA is currently re-evaluating its tariff structure. This creates an excellent opportunity to integrate into the tariff structure a small fee for conservation of watershed areas and the surrounding forests determined from the research gathered during the Watershed Management Project. This could enable NAWASA's natural resources department to implement conservation projects as it is legislated in the Water Act. If NAWASA does not have the capacity to manage and protect the watershed areas, then the funds could go towards the management efforts conducted by the Forestry Department.

According to a draft report, NAWASA plans to have 98% of all households connected to the metering system. The report also forecasted demand and found that there would be an 81% increase in water demand by 2014. A surcharge of EC\$1 (U\$0.37) per month per connection could generate EC\$414,648 in 2006 and EC\$446,556 in 2014. A flat rate would be the simplest system however a percentage of total water use could also be implemented as in the electricity levy.

The important aspect of such a surcharge is that, as water demand is expected to almost double in the next eight years and the alternatives to supplying water, such as desalination plants or digging for aquifers or boreholes, are much more expensive, conservation of watersheds is the most cost-efficient way to at least maintain if not increase the supply of clean, fresh water. Therefore, it is economically prudent to invest in protective management today which also offers other indirect benefits like preserving bio-diversity in the forests, sequestering carbon etc.

With the watershed management project and NAWASA's fee changes, the feasibility of a water fund capitalized by a water use surcharge is possible. One obstacle comes from users as many people feel that they are already paying too much for water. An extensive public awareness campaign would have to coincide with any surcharge on water consumption to educate people as to the necessity and long term efficiency of such a program.

Fines, Permits and Licenses

More recent legislation for protected areas, such as the National Parks and Protected Areas Act and the MPA Regulations, enabled Forestry and Fisheries Officers to charge fines as well as issue permits and licenses for various activities such as hunting and researching. However, the former Act has never been implemented and rules and regulations were never drafted specifying amounts for fines or permits, which meant that the Forestry officers had no simple legal recourse when they found or heard of someone committing an offense within a forest reserve or protected area. They could only arrest someone or seize their property. In terms of the MPA regulations, the fines that were prescribed in the legislation are outdated and too low to act as a deterrent. There is very little enforcement in general and there are no management structures in place for them to do so within MPAs. Enforcement seems to be one of the toughest issues in protected area management and historically, fines have not been issued making it unlikely that a lot of revenue would be generated however the development of rules and regulations would be a first step towards the enforcement of fines.

The permitting structures for both fisheries and forestry currently are only for a few activities and do not charge a fee and so are not collecting any revenue. Permitting and licensing not only could generate a fairly stable source of revenue but it would also provide information on who is using the resources and for what purpose.

Political support must be given to both Forestry and Fisheries for them to develop, implement and enforce a legally binding, simple, and clear fining, permit and licensing structure. This will not only improve protection and conservation efforts but also generate some revenue which could add to these efforts.

5.3.2.2 Summary of Potential Revenue Generation

To summarize, the above financial mechanisms could generate at a minimum EC\$3.7 million in additional funding. This is based on the following assumptions: 1) Government funding increases by EC\$1 million, which is the projected increase in

funding from 2005 to the 2006 estimate, 2) Funding from the GEF is leveraged to capitalize an environmental fund which provides annual disbursements of EC\$400,000⁴, 3) Bi-lateral and NGO project funding increases by EC\$900,000, 4) The water surcharge revenue generates EC\$400,000, 5) User fees generate an extra EC\$1 million with all parks, both terrestrial and marine charging a EC\$5 entrance fee for foreigners. This is still EC\$800,000 short of filling the funding gap so other potentially more complicated or less feasible financial mechanisms would have to be implemented.

5.3.2.3 Future Potential Financing Mechanisms

Land Conservation Fund

A land conservation fund is the establishment of an independent account whose funds are used to acquire new lands for the establishment of new protected areas and/or green spaces. Revenue is generated by charging a small percentage fee for all transfers of land. Currently, Grenada has a land transfer tax which is 5% of market value paid by the vendor if both parties are citizens. If the purchaser is not a citizen, he or she pays 5% and if the vendor is not a citizen then he or she pays 15% of the market value of the land. A surcharge could be added to land transfers where the market value is above EC\$250,000.

Per tourist exit tax

Visitors come to Grenada to enjoy its beaches, the sea, the forests, the beautiful vistas, and so would likely be open to contributing a small fee to preserve these natural resources as long as the funds were properly managed and information was made available to visitors on how the funds are preserving the environment. There would have to be a public outreach and awareness campaign conducted in Grenada but especially at ports of entry to explain what the tax is for and what the funds are being spent on to help conserve the natural resources that visitors come to enjoy. It would have to be explained that the tax is distinct from other fees charged to visitors such as the airport tax which funds the Airport Authority.

According to 2004 statistics, arrivals by air totaled 128,000 visitors. If only US\$1 was charged, that would generate EC\$342,000. Belize currently collects US\$3.50 per person at its airport and US\$2 per person from all cruise ship arrivals to fund its protected areas trust.

In terms of implementing such a financial mechanism, there would need to be extensive government support from the Ministry of Finance, and the Customs and Airport Authority Departments. A willingness to pay study would have to be conducted and the overall Caribbean market would have to be analyzed in terms of exit taxes at airports to determine competition among other similar destinations. Legislation would have to be enacted to establish such a tax and to ensure that the money goes back into protected area or environmental management. An independent fund separate from the government's

⁴ This is assuming an EC\$8 million (US\$3 mn) environmental trust fund with 10% annual returns and a 5% of principal disbursement amount. For more information on the environmental fund please see the long term revenue analysis.

consolidated fund and a transparent system of collection would have to be established to ensure that this is implemented correctly.

Due to the complexity of implementation this financial mechanism would take quite a bit of time to achieve. Government support and initiative to increase the airport tax to fund an independent protected areas fund is unlikely to exist in the near-term, especially as the government struggles to rebuild the country and provide socio-economic support to the general public. This is a similar situation for increasing other taxes or levies.

Environmental Levy, Cruise Ship Fees, Per Occupancy Hotel Tax

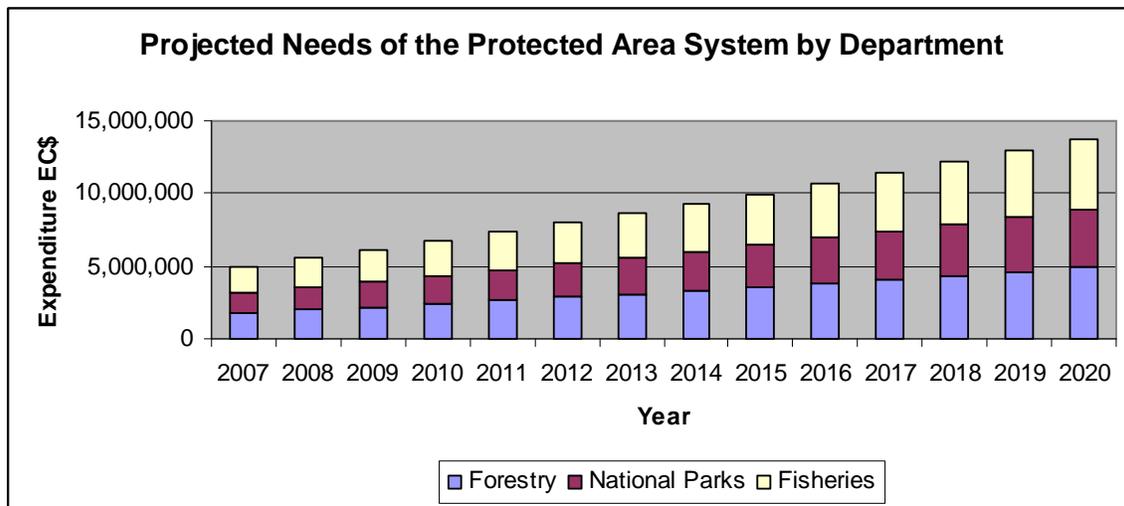
As mentioned earlier, Grenada has a few types of environmental levies on electricity, and large import items known as “white goods” as well as charges for cruise ships and hotels. These levies or fees finance statutory bodies which have the legal right to raise revenue. Increasing the current rates of environmental type levies or taxes or redirecting proceeds to fund protected areas does not seem feasible at this time, according to stakeholder opinion. For example, when the government attempted to increase the cruise ship fee, one cruise ship company decided to go elsewhere. With 230,000 cruise ship visitors per year this generates EC\$921,000 for the consolidated fund and \$EC1.8 million for the SWMA and so the government would not want to risk losing that source of income. As it is, the statutory bodies which use environmental levies to fund their operations are not receiving enough money from the government. It is not clear if this is because they do not receive the amount they are supposed to or if the amount is simply not sufficient to cover costs. Either way, there would be a lot of resistance from both the statutory bodies and the public at increasing rates and diverting the money to the protected areas system. Finally, redirecting funds from the consolidated fund to an independent protected area fund doesn't seem likely as the government is highly indebted and is running budget deficits to cover the costs of the rebuilding effort. Any money currently going into the consolidated fund would continue to do so at this stage. However this could change in the future as the rebuilding process ends and the economy strengthens.

VI. Long-Term Sustainable Finance Plan

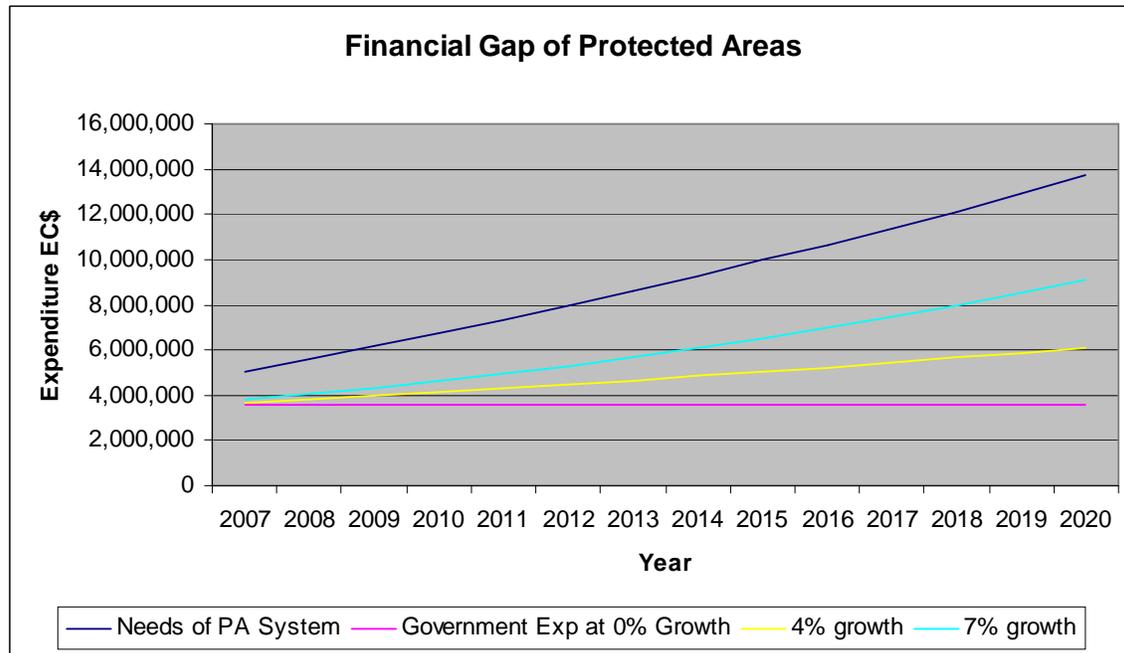
6.1 Long-Term Cost Projection

Grenada has certain habitats that are protected above the ten percent CBD target and other habitats that are not protected. Please see Annex I, Table II for exact percentages of habitats protected. It remains to be seen how this ten percent target and ultimately the greater twenty-five percent goal will be defined. It may be that each habitat must have twenty-five percent of its current area protected or it may be that overall land and sea have twenty-five percent of their areas protected. In order to calculate future costs of the protected areas system over the next fourteen years, it was assumed that the target would be defined as the percentage of the sum of all habitats. No habitat was given greater value. Using this assumption then, Grenada currently has 3% (12% with proposed parks) of its marine habitat protected and 8% (11% with proposed parks) of its terrestrial habitat protected. If, 25% of the habitats need to be protected by 2020, and we assume that the proposed parks will be implemented soon, then the protected areas system would have to increase by the difference in what is soon to be protected and the 25% target. This means that the total area of marine parks would have to increase by 13% and terrestrial parks would have to increase by 14% to meet the goal. These same percentage increases can then be applied to the total needs to determine the cost of expansion over the next fourteen years.

Assuming that the rate of expansion is constant over the next 14 years, the annual costs would have to increase by a proportional rate to the required 9% increase in total area for marine protected areas and similarly for the 10% increase in total area for terrestrial protected areas. Adding to that an annual inflation rate of 3% and the annual needs for the protected areas system are as follows in the graph below.



The following chart shows the gap in funding if the government expenditure stayed the same over the next 14 years, or if it increased by four percent or by seven percent.⁵ It shows that even at seven percent growth, there would be a gap of about \$4.6 million.



6.2 Long-Term Revenue

In order to leverage revenue generated and make it sustainable in the long term a conservation trust fund could be established. A trust fund is a mechanism which mitigates the variability of revenue flows to ensure that selected management activities receive stable and continuous funding regardless of the short-term variability of revenue generating mechanisms. A conservation trust fund is an independent non-governmental source of funding for a specific environmental issue or cause. In this case, it would be a protected areas trust fund which could be initially capitalized by a medium sized grant from the GEF as well as other funding from bi- and multi-laterals and international NGOs. A board of trustees would be established which would develop an investment management plan, oversee the financial management of the fund and decide how to distribute the annual disbursement of money from the interest and dividends of the fund. This board would consist of individuals from both the public and private sector who work in or know about finance and investment as well as environmental and conservation issues. The board would administer the funds in such a way as to meet certain criteria that are in line with the trust's mission and goals. Transparency and financial reporting would be built into the structure of the trust fund by contracting an independent auditor to

⁵ Four and seven percent respectively are the government expenditure increases between 2003 and 2004 and between 2004 and 2005.

review accounting and financial statements. As an independent body from the government a fund like this avoids the bureaucratic inefficiencies of government and can respond more quickly and more flexibly to the changing needs of the protected areas system. A conservation trust fund also gives donors more confidence that their money is being directly spent on conservation.

Although trust fund management costs can be high, there is currently a movement to group small trust funds from different countries together and share the management costs through the establishment of a collective trust where each individual fund is a shareholder. Funds with larger endowments have had higher returns at a lower cost. Not only are fees proportionally lower but administrative time is also reduced. Due to the complexity of a collective trust, it is advised that a large NGO with experience managing large trust funds, and money invested in the conservation funds, would oversee the management of the collective trust. This would further reduce management costs and time for the individual conservation trust members.

The National Parks and Protected Areas Act establishes the foundation for a National Parks Development Fund to be created. This act was never implemented. According to government staff interviewed, there was a lot of resistance from the government at setting up an independent fund. Government officials in the Ministries of Finance, Agriculture, Health and Environment and Tourism must be educated about the benefits of having an independent long-term sustainable funding source for protected areas. The need for an independent funding source from the government is high not only to have a secure and stable source of financing but also because it provides more flexibility and faster response time to get things accomplished.

Government funds and the trust fund would be the most certain source of funding, followed by visitor fees and surcharges. Bi-lateral funding and multi-lateral funding in the long term are less certain and much more volatile, as seen in the market analysis. This implies that recurrent expenditure should be covered by government subvention. All capital expenditure should then be financed by the revenue generated by protected areas and the endowment of the trust fund as well as any project funding that is secured annually.

VII. Challenges to Implementation and Recommendations

The factors involved that hinder sustainable financing of the protected areas system can be attributed to three categories: 1) Legislation, 2) Management, and 3) Capacity. The most glaring obstacle is the lack of terrestrial protected area legislation enacted that also has rules and regulations that can be enforced. A draft forestry legislation has been written that addresses many of the deficiencies of previous laws but the associated rules and regulations have not been drafted due to lack of funding. In addition, there is no legislation which cements the co-management structure between the Forestry Department and the Ministry of Agriculture. The National Parks and Protected Areas Act doesn't specify which ministry is responsible for the act and there has been no written and legal determination of roles and responsibilities between the various PA managers. However, this gap in legislation provides an opportunity to streamline the management structure of protected areas. One route is to legislate a Protected Areas Authority. This would be a statutory body with its own independent account that revenue and project funding would flow through. Another avenue would be to implement existing legislation, with slight modifications, and create a Protected Areas Advisory Council, headed by a Protected Areas Director.

The creation of a statutory body that would be wholly responsible for all aspects of protected areas, both terrestrial and marine, would remove many of the inefficiencies that exist in the current fragmented structure. It would also enable the creation of an independent fund which would allow the agency to charge its own fees and manage its own money. This would require new legislation, the creation of an entirely new body, and a lot of shuffling of staff currently working in the Forestry and Fisheries Department and the Ministry of Tourism. These agencies would then provide technical assistance and regulatory functions. This could be a very difficult task to achieve as it would require immense cooperation and support from the government and the various PA managers.

An alternative to creating a statutory body would be to implement the current legislation and establish a Protected Areas Advisory Council that would act as a policy review and advisory body. This council would combine the National Parks Advisory Council and the Marine Park Advisory Council into one since many of the same agencies and stakeholders would be represented on both. There would be two sub-committees, one with terrestrial stakeholders and one with marine stakeholders. This ensures that previous legislation is still applicable and that the issues and concerns relating to terrestrial or marine protected areas are addressed. The PA Director would oversee the coordination of all PA management agencies and actors and ensure that decisions made by the Council are followed through and implemented. The position would also act as an advocate for protected areas within the government, the public sector and the private sector. Much of the problems within PA management are due to a lack of inter-agency coordination and communication and a lack of accountability to one person or group. Both the Council and the Director would solve that problem. The Council would also audit the PA systems finances and certain members of the council would also be on the PA trust fund's board of trustees.

As mentioned earlier, the PA trust is an important mechanism to ensure long-term financial sustainability. Its implementation is crucial to establishing a transparent and sustainable financial mechanism and would be created with either of the two options outlined above.

Another challenge in the past has been the implementation of legislation. If a new management structure needs to be determined and legislated, who would actually take this on and then implement it? A new committee called the Environmental Management Committee, established by the Ministry of Health and Environment, brings together all actors involved in environmental management issues. This would be an appropriate body to begin the process of restructuring protected area management and enabling the implementation of existing legislation as well as pushing forward necessary legislative changes. To ensure the institutionalization of the management structure that PA managers and stakeholders determine to be the most effective, the process must be as participatory as possible within all the different agencies, and the public and private sector throughout all of the stages. The process must also involve the permanent secretaries and ministers of the different ministries involved.

A detailed capacity assessment will be conducted as part of the overall CBD gap assessment program of work but it seems that the capacity to implement PA legislation and manage parks efficiently does exist. The problems lie in understaffing, and a lack of resources. There must be a strong commitment from the government to enact and fully implement the legislation on PAs and to fully enable and support the agencies charged with PA management. Staff training to improve capacity at all levels should also be integrated into the management structure.

VIII. Five Year Strategic Plan

Year 1:

1) Sustainable Finance Plan

- Develop a GEF Medium Size Project to support the implementation of the Sustainable Finance Plan, with a focus on PA infrastructure needs so as to raise standards of the PA system and charge fees at all parks.
- Identify at least one other Bi-lateral entity to support implementation of Sustainable Finance Plan and/or to capitalize PA Trust –

Hold a donor's conference and present the plan to highlight total needs and the action plan, as well as PA management structure changes.

2) Protected Area Management Structure

- Through the Environmental Management Committee, create a PA sub-committee that develops a program of work with goals, targets and indicators to achieve a new PA management structure.
- The sub-committee conducts a participatory planning process to determine whether to create PA Authority or PA Advisory Council.
- Develop appropriate legislation to enact the new PA management structure and concurrently create rules and regulations, along with fines and permits that are clear and simple to understand and enforce.
- Formalize the roles and responsibilities among all PA related agencies.
- Make a 5 yr plan of work.

3) Develop legislation to create a PA Trust and the fund's management structure

- Educate government officials about the benefits of a trust

4) Use momentum of changing the PA structure to gain financial support for PA's by using the sustainable finance plan to present to government, parliament the needs of the entire system to achieve conservation and expand the system.

- Lobby the government to increase spending over the next 10 years.

5) Develop, in cooperation with Grenada Board of Tourism, a visitor data collection system at the site level to better understand where tourists go once they arrive in Grenada, what they do, how much they spend etc.

Year 2:

1) Once PA management structure is established by law:

- Conduct a public awareness campaign to disseminate information on new rules and regulations that will be enforced by Park staff and government officials in the Forestry and Fisheries Departments.
- Hire appropriate number of staff
- Train management staff to better manage and record use of resources, sources of revenue, visitor information

2) Once the PA Trust is established by law:

- Develop GEF Medium Size Project to capitalize PA Trust
- Create the PA Trust's Board of Trustees
 - Board determines management guidelines for the fund's assets, disbursement structure, and develops a monitoring and evaluation system of funded projects.
- Organize meeting with another Caribbean environmental fund's board to better understand how a fund works, and to hear about lessons learned.

3) User Fee System:

- With money from GEF medium sized grant, develop a system wide user fee structure
 - Conduct a Willingness to Pay study
 - Engage all PA related government agencies, the private sector (related to tourism) and the public to determine user fee structure.
- Implement the user fee system at Parks that have the staff to collect the fees and which meet the standards first and gradually at others as they are developed and meet the standards.
- Work with private landowners to include their properties in the PA system and develop a funding mechanism for them that provide incentives/benefits for them to provide services such as upkeep of access trails, or security measures.

Year 3

1) Once the Forestry Department's Watershed Management Project is concluded, use research to develop a cabinet brief to create a water fee system to support management of watersheds and protect surrounding forests.

2) Develop a resource tracking system that provides data on revenue generated by parks, levies and other environmental fees as well as how money is spent for protected areas, efficiency and effectiveness of money spent and proper budget records. - The system should act as a monitoring and evaluation system so that managers are better informed to make financial decisions and plans.

Year 4

1) Review PA Structure

- Review PA management structure in practice and identify challenges and obstacles. Make appropriate changes to rectify problems.
- Review whether rules and regulations have been enforced by measuring revenue generated from fines and permits issued.

2) Water Fund

- Develop water fund
- Capitalize water fund by implementing a water surcharge in cooperation with NAWASA.

- Conduct a public awareness campaign to inform water consumers about the surcharge and the merits of protecting watersheds and forests to ensure future supply of clean water.

3) Ensure that PA agencies are fully staffed and have adequate tools and resources to do their job.

3) Investigate whether other sources of funding for PA management, such as an airport surcharge or a land conservation fund, are now more feasible.

4) Expansion of Protected Areas System

- Develop a ten year plan to expand the protected areas system.
- Begin identifying new areas for protected areas to expand the system to meet the goal of 25% marine and 25% terrestrial habitats protected by 2020.

Year 5

1) Determine potential for privatization of PA services with public and private sector participation.

2) Review PA user fee to determine whether the fees can be increased or if the system needs to be changed.

3) Implement watershed conservation activities funded by water fund. Demonstrate to the public the direct link between the water surcharge and conservation.

IX. Cost Benefit Analysis

The Millennium Development Goals set clear targets to eradicate extreme poverty, improve health and education and ensure environmental sustainability using specific indicators to measure progress. Goal 7, *ensure environmental sustainability*, has two indicators related to protected areas. The first indicator measures the percentage of total land area that is forested. The second indicator measures the percentage of total land area that is nationally protected. A third indicator is access to an improved water source, which Grenada has achieved 95% access thanks to its extensive watershed system. By increasing protected areas and managing them effectively and by conserving watershed areas, Grenada is working towards meeting the millennium development goals.

By effectively protecting its natural resources, Grenada is also conserving the foundation of its economy. As the tourism sector grows and the fishing industry expands, it becomes even more important to ensure that the environment that tourists come to enjoy and the fish that fishermen harvest are conserved. This assures the continuation of the many jobs that depend on tourism and fishing.

As seen in the natural resources valuation, coral reefs, mangroves, water, fishing and tourism for the entire island are valued at EC\$490 million per year. Whereas annual costs of the protected area system should total EC\$7.9 million. If we assume that since the maximum percentage of total area that will be protected is 25% and we apply that to the valuation we get EC\$123 million. This is sixteen times the cost of conserving and protecting natural resources in Grenada.

X. Conclusion

Effective management and expansion of the protected area system are both possible and necessary for sustainable development in Grenada. Sustainable financing and proper financial planning is required to achieve this as well as a strong management structure that is not fragmented. In addition, existing and new legislation must be implemented and enforced. This necessitates strong political will and cooperation among protected area managers and departments and organizations involved in conservation.

As Grenada rebuilds after two Hurricanes and economic development continues to strengthen, the value of protected areas only increases. Tourism, which is 36% of GDP, is highly dependent on the natural marine and terrestrial resources. Protecting these resources not only sustains the economy but also ensures the continued existence of other environmental services such as clean water, biodiversity, medicinal supply etc. In terms of economic value, the cost benefit analysis shows that these resources are more valuable than the cost of protecting them. With the new commitment to protect 25% of both marine and terrestrial habitats by 2020 Grenada is a leader among SIDS regarding protecting its natural resources. It is hoped that Grenada will be able to achieve this goal and show the rest of the world that conservation and economic development are complementary goals that can be reached simultaneously.

Annex I, Table I

Participants of the Presentation of Findings of the Sustainable Finance Plan for Grenada's Protected Areas System

Name	Organization and/or Title
Johnson St. Louis	Fisheries
Junior McDonald	Fisheries Extension Officer
Crafton Isaac	Fisheries Biologist
Jerry Mitchell	Fisheries
Anthony Jeremiah	Forestry Conservation Officer
Wilan Hamilton	Forestry Education Officer
Aden Forteau	Forestry Tree Establishment Officer
Alan Joseph	Forestry Director
Jeanette James	Ministry of Tourism
Frances Robertson	Ministry of Tourism
Lima Frederick	Ministry of Tourism, Acting Permanent Secretary
Dr. Spencer Thomas	Ministry of Finance
Ian Blaikie	Sunsation Tours
Pancy Bross	Grenada Hotel & Tourism Association
Wayne Bubb	Huggins Tours
Claire Morrall	University of St. George's
Rickie Morain	Agency for Reconstruction & Development
Lazarus Joseph	Port Authority
Rob Weary	The Nature Conservancy

Annex I, Table II

Marine Targets	Total Hectares	Molinere	% of Total	Woburn Clark	% of Total	Levera	% of Total	Sandy Island/Oyster Bed	% of Total	Grande Anse	% of Total					High North	% of Total	Hectares Protected	% Protected	Hectares Protected with Designation	% Protected with Designation
Seagrass	1,229.28		0.00%	119.42	9.71%		0.00%	10.02	0.81%	133.66	10.87%						0.00%	119.42	9.71%	263.10	21.40%
Fore Reef	2,678.76	12.63	0.47%	19.21	0.72%	85.86	3.21%	8.82	0.33%	159.52	5.95%						0.00%	31.84	1.19%	286.04	10.68%
Reef Flat	1,219.39		0.00%	13.55	1.11%	64.32	5.27%		0.00%	5.22	0.43%						0.00%	13.55	1.11%	83.09	6.81%
Pinnacle	2.97		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
Outer Slope	390.30		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
Mangroves	339.52		0.00%	1.23	0.36%		0.00%	43.67	12.86%		0.00%				17.34	5.11%	18.58	5.47%	62.25	18.33%	
Leatherback Nesting	43.41		0.00%		0.00%	4.55	10.48%	1.82	4.18%		0.00%				2.04	4.70%	2.04	4.70%	8.40	19.36%	
Lagoon Terrace	2,201.13		0.00%		0.00%	7.92	0.36%	167.98	7.63%	166.74	7.58%						0.00%	0.00	0.00%	342.65	15.57%
Intertidal Reef Flat	269.57		0.00%	8.64	3.21%		0.00%	13.41	4.97%		0.00%						0.00%	8.64	3.21%	22.05	8.18%
Hawkbill Nesting	26.22		0.00%		0.00%	0.51	1.96%	4.31	16.45%		0.00%				0.95	3.62%	0.95	3.62%	5.77	22.02%	
Enclosed Lagoon	3.60		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
Deep Terrace	145.98		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
Black Sand Beaches	22.13		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
White Sand Beaches	101.31		0.00%	4.87	4.81%	5.32	5.25%	5.05	4.98%	13.42	13.24%				2.38	2.35%	7.26	7.16%	31.04	30.64%	
Shoal	156.06		0.00%		0.00%	2.34	1.50%		0.00%		0.00%						0.00%	0.00	0.00%	2.34	1.50%
Shelf Slope	10,864.89	70.23	0.65%	251.80	2.32%	517.33	4.76%		0.00%	412.63	3.80%						0.00%	322.03	2.96%	1,251.99	11.52%
Shallow Terrace	73.54		0.00%		0.00%		0.00%		0.00%		0.00%						0.00%	0.00	0.00%	0.00	0.00%
Rocky Shore	295.72	8.07	2.73%	13.82	4.67%	9.42	3.18%	10.03	3.39%	3.90	1.32%				3.94	1.33%	25.84	8.74%	49.18	16.63%	
Total	20,063.78																	550.15	2.74%	2,407.90	12.00%

Terrestrial Targets	Total Hectares	Molinere	% of Total	Woburn Clark	% of Total	Levera	% of Total	Sandy Island/Oyster Bed	% of Total	Mt. St. Catherine	% of Total	Grand Etang	% of Total	Annadale	% of Total	High North	% of Total	Hectares Protected	% Protected	Hectares Protected with Designation	% Protected with Designation
Lake	184.52	0.00	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	0.00	0.00%	0.00	0.00%
Pond	203.37	0.00	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	0.00	0.00%	0.00	0.00%
Coastal Lagoon	7.62	0.00	0.00%	0.07	0.97%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	0.07	0.97%	0.07	0.97%
Unclassified Water	22.50	0.00	0.00%		0.00%	0.05	0.23%		0.00%		0.00%		0.00%		0.00%	0.03	0.12%	0.03	0.12%	0.08	0.35%
Cloud Forest	239.85		0.00%		0.00%		0.00%		0.00%	155.30546	64.75%	68.37802	28.51%	2.438327	1.02%		0.00%	70.82	29.53%	226.12	94.28%
Cloud Forest Transiti	711.27		0.00%		0.00%		0.00%		0.00%	162.39648	22.83%	437.6307	61.53%	17.24745	2.42%		0.00%	454.88	63.95%	617.27	86.78%
Coconut Plantation	241.65		0.00%	0.72	0.30%	0.216874	0.09%		0.00%		0.00%		0.00%		0.00%		0.00%	0.72	0.30%	0.94	0.39%
Drought Deciduous Fo	2,889.99	0.2727	0.01%	25.82785	0.89%	13.20276	0.46%		0.00%		0.00%		0.00%		0.00%		0.00%	26.10	0.90%	39.30	1.36%
Emergent Wetland	264.06	5.7144	2.16%	26.22287	9.93%	5.49	2.08%		0.00%		0.00%	10.98	4.16%		0.00%		0.00%	42.92	16.25%	48.41	18.33%
Evergreen and Season	5,739.12		0.00%		0.00%		0.00%	0.601588	0.01%	350.43409	6.11%	1092.104	19.03%	230.8257	4.02%	8.08589437	0.14%	1,331.02	23.19%	1,682.05	29.31%
Forest Dry Deciduous	1,624.68		0.00%		0.00%		0.00%	19.35766	1.19%		0.00%		0.00%		0.00%	66.10379627	4.07%	66.10	4.07%	85.46	5.26%
Mixed Wood Agricultu	9,477.00		0.00%	1.330317	0.01%	1.08	0.01%	0.449999	0.00%	13.093147	0.14%	86.99824	0.92%	19.85675	0.21%	1.93206728	0.02%	110.12	1.16%	124.74	1.32%
Semi-Deciduous Fore	5,953.50	1.1011	0.02%	0.81	0.01%	0.36	0.01%	10.37105	0.17%		0.00%		0.00%		0.00%	78.70567308	1.32%	80.62	1.35%	91.35	1.53%
Total	27,559.13																	2,183.39	7.92%	2,915.80	10.58%

Annex I, Table III

Terrestrial Protected Areas Relevant Legislation

- Forest, Soil, and Water Conservation Act, (Cap 116)
- National Parks and Protected Areas Act, (Cap 206)
- Grand Etang Forest Reserve, (Cap 124)
- Botanical Gardens Act, (Cap 35)
- Birds and Other Wildlife (Protection) Act, (Cap 34)
- Wild Animals and Birds Sanctuary Act, (Cap 339)
- National Water and Sewerage Authority Act, (Cap 208)
- Land Development Control Act, (Cap 160)
- Town and Country Planning Act, (Cap 322)
- Prohibition of Birds Exportation Act,
- Noxious Weeds Act, (Cap 213)
- Protection from Disease (Plants) Act, (Cap 258)
- Land Settlement Act, (Cap 161)
- Carriacou Land Settlement and Development Act, (Cap 42)

Marine Protected Areas Relevant Legislation

- Grenada Fisheries Act #15 (Cap 108)
- Grenada Fisheries Regulations (Cap 108)
- Fishing Vessels Safety Regulations (SRO#3, 1990)
- Fisheries Conservation Regulations (SRO#24, 1995)
- Ports (Amendment) Regulations (SRO#12, 1997)
- Fisheries Amendment Act #1, 1999
- Yachting Act #17, 2000
- Fisheries Act, 2000
- Fisheries (Marine Protected Areas) Order (SRO#77, 2001)

Annex I, Table IV

CHECKLIST OF FUNCTIONS OF PROTECTED AREAS (deGroot)			Resource in PA's Provides Function
I. Regulation Functions			
Regulation of chemical composition of the atmosphere and oceans	A	X	Forests
Climate regulation	A	X	Ocean
Watershed Protection	A	X	Forests
Water catchments	A	X	Forests
Coastal protection	A	X	Reefs, beaches, mangroves
Erosion prevention and sediment control	A	X	Mangroves, trees
Fixation of solar energy/biomass production	A	X	Mangroves, trees, sea grass
Storage and recycling of organic matter, nutrients, and human waste	A	X	Mangroves, forests, sea grass
Biological control	B	X	
Nursery function and migration habitat	B	X	Mangroves, sea grass, reefs
Maintenance of biological diversity	B	X	Forests, Reef ecosystem
II. Carrier Functions			
Habitation (indigenous people)	C		
Cultivation (sustainable)	C	X	Fish, Turtles, Conch, Lobster, Trees
Energy conversion	C	X	Mangroves, trees, sea grass
Recreation and Tourism	C	X	Reef ecosystem, beaches, forests, waterfalls
Nature protection	B	X	Forests, reefs, mangroves
III. Production Functions			
Food/nutrition	C	X	Fish, Conch, Squid, Urchin, Turtles, Manicou, Fruits,
Genetic resources	C	X	Plants and animals
Medicinal resources	C	X	Plants
Raw materials for clothing etc	C	X	Plants
Raw materials for manufacturing	C	X	Mangroves, coral, sand, trees, plants
Biochemicals	C		
Fuel and energy	C	X	Mangroves, trees
Ornamental resources	C	X	Coral, coconuts, seeds
IV. Information Functions			
Aesthetic information	B	X	

Spiritual/Religious Information	B		
Historic Information	B	X	Industrial Archaeology
Cultural/artistic information	C	X	Traditional activities
Educational/scientific information	B	X	Forests and reef ecosystems
A. Function is performed regardless of mgmt objective, no special mgmt measures needed (other than maintenance of the natural integrity of the area in question)			
B. Main objective of protected areas; in principle compatible with conservation objectives and national park mgmt			
C. Secondary objective, only to be utilized when this is possible in a sustainable manner (i.e. w/out interference w/ primary objectives), preferably in special use zones			

Annex II, Table I

Project Name	Time	Amount	Description or Objective
Preventing Land Degradation in Small Island Ecosystems in the Caribbean Implementing Agency: UNEP Executing Agency: ROLAC Funding Agency: GEF	Not Yet Approved	Total Project Cost ⁶ : US\$12.0m	The overall objective of the project will be to build local and regional capacity to support sustainable land management and develop pilot demonstration activities to address land degradation through sustainable land management at community level in the project sites identified by the Island States. Essentially, the project will focus on two major themes, namely the establishment of integrated national and regional sustainable land management planning frameworks; and capacity building and implementation of demonstration sustainable land management practices at the community level
Marine Protected Area Realization in Grenada, Caribbean Implementing Agency: WINDREF Funding Agency: NFWF	1 yr – 2006	US\$25,000	Implementation of coral reef protection in hurricane stricken Grenada, using a partnership approach to develop an adaptive management plan and coral reef monitoring program at a designated MPA.
Securing Water Resources through Watershed Rehabilitation in Grenada in the Post Ivan Era Implementing Agency: UNEP Executing Agency: FNPD Funding Agency: EU	2 yrs – 2006 – 2008	Project Cost ⁷ : EUR \$1.5m	To protect the country's water resources through watershed rehabilitation, the implementation of an adequate monitoring and evaluation framework, improved strategies, policy and legal frameworks; improved management systems and people's participation and development.
Integrating Watershed and Coastal Area Management in SIDS of Caribbean Implementing Agency: UNEP/UNDP Executing Agency: The Secretariat of the Cartagena Convention; The Caribbean Environmental Health Institute Funding Agency: GEF	Approved: May 21, 2004	Total Project Cost: US\$112.3m	The overall objective of the proposed project will be to assist participating countries in improving their watershed and coastal zone management practices in support of sustainable development. The project will include the following components addressing areas of priority concern: coastal area management and biodiversity; tourism development; protection of water supplies; land based sources of pollution; climate change. Activities undertaken during the full project will include, amongst others, demonstrations in the fields of marine pollution reduction and waste management, land use, soil degradation and watershed management.
Caribbean Environmental Regional Program (CREP) Implementing Agency:	Grenada Project 2003 - 2006	Grenada Project Cost: EUR\$ 100,000	The Grenada Amenity Area Project will build capacity to manage and utilize the resources of the Carriacou Sandy Island/ Oyster Bed Marine Protected Area in a sustainable manner.

⁶ Total Project Cost is the regional or multi-country project cost not the individual country project cost.

⁷ Project Cost refers to the individual country's project cost.

Funding Agency: EU			Resource management plans will be developed, and partnerships formed between government, civil society and the private sector for the sustainable use and development of the protected area.
Organization of Eastern Caribbean States (OECS) Protected Areas and Associated Sustainable Livelihoods Implementing Agency: World Bank Executing Agency: Environment and Sustainable Development Unit (ESDU) of the OECS Funding Agency: GEF	Approved: March 22, 2004	Each country eligible for US\$0.8m Total Project Cost: US\$7.8m	To contribute to the economic development of the SIDS of the OECS region through (I) the strengthening of existing and the creation of new protected areas; and (b) providing environmentally sustainable economic opportunities for communities living in the surrounding areas. This will be accomplished by: (I) improving the relevant, policy regulatory, and institutional arrangements in the participating countries; (b) establishing or strengthening a number of demonstration PAs including providing support for the development of new and alternative livelihoods for communities living in the proximity of these sites; and (c) improving institutional capacity to manage PAs in the region.
National Capacity Self-Assessment (NCSA) for Global Environmental Management	Approved: February 20, 2004	Project Cost: US\$0.3m	The NCSA process will provide Grenada with the opportunity to articulate a thorough self-assessment and analysis of national capacity needs, priorities and constraints facing national efforts to meet global environmental management objectives as set forth in the Rio conventions and related international instruments. The process will facilitate a cross-sectoral process of consultations, stocktaking, sequencing, and prioritization of capacity needs, especially for identifying obstacles that impede the country from fully meeting its objectives under the relevant conventions.
Climate Change Enabling Activity (Additional Financing for Capacity Building in Priority Areas) Implementing Agency: UNDP Executing Agency: Ministry of Finance Funding Agency: GEF	Approved: November 21, 2002	Project Cost: US\$0.1m	Description Not Available
Assessment of Capacity Building Needs and Country Specific Priorities Implementing Agency: UNDP Executing Agency: Ministry of Finance Funding Agency: GEF	Approved: March 20, 2002	Project Cost: US\$0.2m	The project proposal is to address in-situ and ex-situ conservation, incentive measures, specific threats to biodiversity, traditional practice, second report consultation and CHM.
Regional Promotion of Global Environment Protection thru the	Approved: July 11, 2001	Total Project Cost: US\$2.0m	1. Increase public awareness of global environmental issues and international environmental agreements (MEAs)2. Increase

Electronic Media Implementing Agency: UNDP Executing Agency: Television Trust for the Environment Funding Agency: GEF			motivation, interest and participation of general public and Latin American & Caribbean owners of SMEs in global environment issues, and in replicating environmentally sustainable initiatives.
Dry Forest Biodiversity Conservation Implementing Agency: World Bank Executing Agency: FNPD Funding Agency: GEF	Approved: June 30, 2000	Project Cost: US\$1.1m	The proposed MSP would build on activities supported under the IBRD/GEF OECS Ship Waste project related to the Grenada Dove. The proposed MSP would take a broader approach, with the goal of promoting the conservation of the dry forest ecosystem and component species of special significance in Grenada. Project activities would be based on effective stakeholder participation, and would include: (1) Environmental education, (2) Ecosystem management, (3) Biodiversity conservation research.
Enabling Grenada to Prepare its Initial National Communication in Response to its Commitments to UNFCCC	Approved: August 27, 1998	Project Cost: US\$0.2m	This project will assist the national Government to comply with the provisions of the UNFCCC.
Development of a National Biodiversity Conservation Strategy and Action Plan and Country Report to the CBD Implementing Agency: UNDP Executing Agency: Ministry of Finance Funding Agency: GEF	Approved: April 16, 1998	Project Cost: US\$0.1m	This project will assist the national Government to meet its obligations under the Convention on Biological Diversity.
Forest Management Implementing Agency: FNPD Funding Agency: DFID	1998-2001	Grant funding: EC\$2.6m	
Trail Development Implementing Agency: FNPD Funding Agency: French Government	2000	Grant Funding: EC\$77,000	
Hooked Bill Kite Monitoring Project Implementing Agency: FNPD Funding Agency: Peregrine Fund		Grant Funding: EC\$53,000	

Valorization and Protection of Reefs Implementing Agency: Fisheries Department Funding Agency: FFEM	2001	EC\$151,000	
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