

**DRAFT RESEARCH PRIORITIES FOR SVG PARKS AND  
PROTECTED AREAS SYSTEM**

NATIONAL PARKS, RIVERS AND BEACHES  
AUTHORITY

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# **RESEARCH PRIORITIES FOR SVG PARKS AND PROTECTED AREAS SYSTEM**

## **Introduction**

The SVG Parks and Protected Areas System Plan 2010 – 2014 has highlighted the need for research where it is seen as being important for the development of a System of Parks and Protected Areas for St. Vincent and the Grenadines (SVG).

The need for a set of well articulated research priorities and protocols is also in recognition of the abundant biological diversity that is known to exist in SVG. Indeed SVG has been globally recognized as being a part of the Caribbean region that is said to be one of the world's biodiversity hotspots. This biodiversity is still very much under studied and there is much yet to be known to inform sound management and conservation of the country's biodiversity assets, especially recognizing the importance of such patrimony to socio economic development and overall quality life of its people.

It is expected that the research priorities contained will be used to prioritize and guide biodiversity research in SVG, more so in our Parks and Protected Areas. Having such research priorities and accompanying research protocol will enable promotion of such research needs with necessary controls within a well developed research management framework.

## **Rationale for a Research Programme**

The research program for SVG Parks and Protected Areas and by extension biodiversity assets is seen as playing a crucial role in the following:

- As much as possible ensuring that research attention, efforts and resources are directed to the most needed and understudied deficient biodiversity knowledge and information gaps critical to the conservation and management of such biodiversity.
- To be in position where management decision on critical biological diversity can be made on good science, especially where trade-offs and development pressure for alternative uses can be detrimental. The information gleaned from research should help to guide decision making and influence adaptive management at species and ecosystem levels.
- To garner information needed to identify and establish baselines against which the effectiveness of management interventions or change in resource occurring naturally over time can be assessed.

- By and large SVG's marine and terrestrial flora and fauna, their population ecology, status, dynamics, and viabilities are still largely unknown/not well studied and not comprehensively documented, especially where they exist with major stressors both natural and anthropogenic, including climate change.
- SVG is a party to several multilateral environmental agreements (MEAs). Most notably among the MEAs is the Convention on Biological Diversity (CBD). Focused research in key areas is instrumental to the fulfilment of such convention obligations at a country level, for example specific commitments from the PoWPA.

### **Who is the research program for?**

Protected areas planning and management in SVG is shared between several agencies and non-governmental organizations (NGOs). The main institutions namely are:

- Fisheries Division, ,
- Ministry of Health, Wellness and the Environment (MoHWE – Environmental Management Department ),
- The Forestry Department
- National Parks, Rivers and Beaches Authority (NPRBA)
- The SVG National Trust (SVGNT)
- The Tobago Cays Marine Park (TCMP).
- The Physical Planning Department (PPD) (especially in the absence of a coastal zone management unit)

It is expected that research, monitoring and evaluation of the biological and physical resources, and historical and cultural heritage will be under the purview primarily of the agencies named above. Additionally, the research priorities and protocol document will provide overall guidance. The information obtained from research is therefore most useful on an ongoing basis to inform resource management and for decision making by these institutions. Ultimately the country will benefit from a well developed and implemented research program administered through the key protected areas agencies.

### **Goal of Research Priorities**

To establish the prioritized research needs that supports effective and efficient PA resource management and decision-making within an adaptive management framework at the species, ecosystem, site and PA system levels.

## **Objectives**

The objectives of the prioritize research program are:

1. To improve knowledge and fill information gaps relative to biota and associated processes at the species, ecosystem, site and PA system levels;
2. To compile and make accessible research and monitoring information for decision-making that will improve management effectiveness;
3. To identify trends in resource condition;
4. To provide critical biodiversity resource and status data that can feed into national socio-economic and development processes; and
5. To garner support and appreciation for national parks and PAs.

## **Research by whom**

Research will be promoted to be undertaken by both local and external entities or personnel including independent researchers, universities, state agencies, students, specialized research institutions, established NGOs with research expertise and private sector research interests.

## **Research Priorities**

Researchers interested in carrying out PA research will be encouraged to address one or more of the following priorities as part of their research plan:

1. Characterization of the environment and condition of the PA resources including but not limited to littoral forests, SVG protected wildlife, mangroves, beaches, sea grass beds and coral reefs;
2. Trends in the condition of flora and fauna within PAs/ and species of special interest or protected status occurring outside PAs;
3. Impact analysis and assessment of critical ecosystems, sites and habitats;
4. Species inventories and population ecology studies of flora and fauna, especially endemic, vulnerable or threatened species;
5. Life histories, population and distribution studies of key species;

6. Threshold levels for disturbances to wildlife populations, especially the St. Vincent Parrot (*Amazona guildingii*), Whistling Warbler (*Cathropeza bishop*), St. Vincent Black Snake (*Chironius vincentii*), the Whistling Frog (*Eutherodactylus shrevi*), Frigate Bird (*Fregeta magnificens*), Angel Fish ( ), Parrot Fish ( ), Pelagics, marine mammals and other key note species;
7. Economic valuation studies of ecosystem service functions;
8. Studies that establishes the ecological processes important in maintaining a healthy wildlife and diversity.
9. The value of wildlife in particular habitats as ecological service providers, and as tourist attractions for various forms of ecotourism;
10. Effects of habitat fragmentation and degradation on wildlife including the relationship between the intensity of anthropogenic activities on healthy and viable wildlife populations;
11. Alien/invasive species research, and how these alter habitats for wildlife and impact on other indigenous and endemic species;
12. Identification and monitoring of indicator species that can be used to assess habitat condition or biodiversity value;
13. Impacts of recreational disturbance on ecology of wildlife at key sites;
14. Potential impacts of climate change on protected wildlife species , habitats and ecology of wildlife as well as vital ecosystem functions;
15. Population viability analyses, ecological predictive modeling of wildlife populations in a changing landscape;
16. Visitor use impacts on biodiversity elements, especially as part of SVG Parks and Protected areas;
17. Biodiversity inventories including indicators for conservation;
18. Analyses and study of wildlife diseases on native populations;
19. Modeling of fish harvesting using different fishing techniques that could assist in determining fish yields, especially relative to catch and effort and sustainability;
20. Specific studies of impacts of chronic stresses, such as sedimentation and nitrification on marine resources, especially corals, sea grass, etc;

21. Studies of the coastal currents dynamics to assess pollution and siltation threats from various pollution sources on coastal marine resources;
22. Assessment of the impact of coastal fisheries, namely beach seine fishing, on herbivore fish species;
23. Water quality research of water pH, dissolved O<sub>2</sub>, coliforms, N, P, phosphates, TSS, oil and grease in aquatic and marine ecosystems;
24. Perception of communities within and outside of PA on the benefits and costs of such PA; and
25. Impacts on communities resulting from the establishment, operation and management of parks and PA bordering or encompassing such communities.

### **Incentives for Researchers**

The encouragement of research through incentives is highly desirable as it can generate important information for use in decision-making beneficial to the conservation and management of vital biodiversity resources at no or minimum cost.

The following Incentives will be offered for researchers/ research institutions having satisfied the necessary research criteria:

- Access to the Park/agencies library and local data base open to research access;
- Efficient processing of research requests and the granting of permits within stipulated times;
- Provision of guide services and support staff by Park agencies;
- The provision of in-kind terrestrial or marine transport, wherever possible; and
- Negotiations with concessionaires to assist with obtaining preferential rates for accommodations, etc for researchers.

The specific incentives to be offered to each researcher/ research institution and the information to be provided to the researcher will be stipulated as part on any research agreement.

## **ADDENDUM: FOR SVG PA AGENCIES USE ONLY**

### **Need for Collaboration**

Being cognizant of the fact that research can be expensive, it is highly recommended that every effort be made where possible for PA agencies and their partners to collaborate to optimize resources to be expended on proposed research and to position themselves to absorb the potential benefits from research undertaken.

### **Some Existing & Potential Research Partners**

Several regional and international institutions have been working with local PA agencies and NGOs here in SVG; among them are the following:

- *University of the West Indies, Cave Hill, Barbados - Centre for Environmental Resources and Management (UWI-CERMES)*
- *University of Trinidad and Tobago*
- *St. Georges University, Grenada*
- *University of the Virgin Islands, St. Croix, USVI*
- *Clemson University, USA*
- *Waterloo University, Canada*
- *Caribbean Natural Resources Institute (CANARI), Trinidad and Tobago*
- *Caricom Climate Change Centre (CCCC), Belize*
- *Caribbean Hotel & Tourism Association (CHTA)*
- *The Nature Conservancy (TNC) – Eastern Caribbean Programme, St. Croix, USVI*
- *Society for the Conservation and Study of Caribbean Birds (SCSCB)*
- *Environmental Protection in the Caribbean (EPIC), USA*
- *International Institute of Tropical Forestry (IITF), Puerto Rico*
- *US Forest Service – International Programme*
- *US Fish & Wildlife Service (USFWS)*
- *National Fish & Wildlife Foundation (NFWF), USA*
- *National Oceanographic & Atmospheric Administration (NOAA)*
- *National Park Service – International Programme, USA*
- *Caribbean Marine Protected Areas Network and Forum (CaMPAM), USA*
- *United Nations Environmental Programme (UNEP)*
- *United Nations Development Programme (UNDP)*
- *United Nations Food and Agricultural Organization (FAO)*
- *United Nations Educational, Scientific and Cultural Organization (UNESCO)*
- *Organisation of American States (OAS)*
- *BirdLife International (BI)*
- *Conservation International (CI)*

- *Flora and Fauna International (FFI)*
- *Royal Botanical Gardens Kew*
- *Botanic Gardens Conservation International (BGCI)*

While some of these institutions such as the universities may engage in actual research, others such as CaMPAM, CANARI, OAS, FAO, UNDP and UNEP may build capacity and provide grant funding to undertake research in critical areas under their respective programmes, yet others such as EPIC, SCSCB, TNC and those under the aegis of the US Federal Government may be positioned to conduct joint research, build capacity and provide funding simultaneously.

Where research to be undertaken is project-driven, the onus will be on the respective PA agency or NGO to mainstream the results of such research into its annual work programmes and strategic plans, as well as to use the preceding research as a spring board for a more meaningful research programme at the agency, site and system level.

### **Research Permits, MOUs and Agreements**

It would be expedient for a particular PA agency to engage in some form of contractual arrangement with an independent researcher or institution to conduct PA research. These may take the form of a permit, Memorandum of Understanding (MOU), contractual best practices in use elsewhere or other similar instruments that may be specified under various PA agencies Laws.