



Joint Research Centre • Sito di Ispra



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BIOPAMA Regional Workshop

for the Caribbean

Workshop Report

22 –24 January 2013

University of West Indies – Cave Hill Campus

Barbados

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1 Introduction

The Biodiversity and Protected Area Management Programme (BIOPAMA) regional workshop for the Caribbean was convened in Barbados on January 22-24, 2013, with the participation of representatives from Jamaica, Belize, Bahamas, Grenada and the Dominican Republic as well as regional and international institutions. The workshop took place at the University of West Indies (UWI)-Cave Hill Campus, thanks to the support of UWI's Centre for Resource Management and Environmental Studies (CERMES).

As the inception for the BIOPAMA program in the Caribbean, this workshop served to engage with relevant stakeholders on priority issues that could be addressed through BIOPAMA related to information needs and capacity for improved decision making and effective management of Protected Areas in the region.

The overall aim of the BIOPAMA project is to assist the Africa-Caribbean-Pacific countries in developing a framework for improving technical and institutional approaches to manage biodiversity conservation, particularly in Protected Areas, through capacity building and regional cooperation. It has two main components: one concerning protected areas, jointly implemented by the International Union for Conservation of Nature (IUCN) and the European Commission's Joint Research Centre (EC-JRC), and another one dealing with access and benefit sharing (ABS), implemented by the Multi-Donor ABS Capacity Development Initiative managed by the German Development Cooperation (GIZ). The World Conservation Monitoring Centre (WCMC) of the United Nations Environment Programme (UNEP) also collaborates on this program.

In order to strengthen protected area management, BIOPAMA combines improving data availability with capacity development. To achieve it, the BIOPAMA project is proposing to set up regional **"Observatories for Protected Areas and Biodiversity"** that will provide a framework to (i) develop and progressively implement Capacity Building Programmes; (ii) coordinate the support (experts, infrastructure) to national services and regional organizations; (iii) facilitate networking of experts and institutions, (iv) develop and implement regionally tailored Communication and Awareness Raising Programmes and (v) provide useful indicators for decision-making of regional and national institutions in charge of natural resources management (in particular for the preservation of access rights to natural resources for the most vulnerable populations, women and indigenous peoples). Information to be collated in the Observatories may include data and information on biodiversity values, pressures and threats, Protected Area management, environmental and economic services provided by Protected Areas, in particular for the livelihoods of local people.

The regional observatories will use two key outputs generated and managed by the Joint Research Centre (JRC). These outputs are: the Regional Reference Information System (RRIS) and the Digital Observatory for Protected Areas (DOPA). The aim of the RRIS is to support the provision and exchange of information for decision making for biodiversity and protected area management. The RRIS will be based around the framework and the technology and services developed within the DOPA. DOPA has been created by the Joint Research Centre (JRC) in collaboration with other international organizations including the Global Biodiversity Information Facility (GBIF), the UNEP-World Conservation Monitoring Centre (WCMC), Birdlife International and the Royal Society for the Protection of Birds (RSPB). DOPA is conceived as a set of distributed databases combined with open, interoperable web services to provide a large variety of end-users including park managers, decision-makers and researchers with means to assess, monitor and forecast the state and pressure of protected areas at the global scale allowing for prioritization according to biodiversity values and threats.

Specific Objectives and Tasks outlined in the BIOPAMA proposal to establish the Observatories include an initial process of **defining regional priorities for the work of these Observatories**. The workshop was therefore carried out with this in mind, given the opportunity to discuss BIOPAMA's objectives and outlook, as well as the information services that these Centers could provide, with government, NGO and academic stakeholders from the Caribbean. The framework of the proposed functions of the Observatories (see paragraph above) will need to be refined based on the specific situation and needs in the Caribbean region.

Two regional assessments were conducted prior to the workshop to provide background information and serve as a starting point in the discussions to be held at the workshop:

- 1) Regional Assessment of Protected Area and biodiversity data and information needs in the region.
- 2) Regional Assessment on capacity building needs related to improved decision making and management of protected areas and biodiversity in the region

These assessments build on previous assessments for the region and aggregate available published information as well as some strategic consultations with relevant stakeholders in the region. The preliminary findings of both assessments were presented at the workshop.

The **Objectives of the Workshop** were to:

1. Increase the understanding of BIOPAMA, its objectives, expected results and key components as well as expected contributions from countries and organizations involved in implementation.
2. Assess and validate regional, national and local priorities and strategic needs in terms of data/information, models and web based tools that can contribute to better decision making on Protected Areas.
3. Identify regional priority issues for capacity building, effective modalities for its delivery and existing institutions/resources that can contribute to the design and implementation of a Regional Capacity Building Program.
4. Assess key priorities and challenges for the work of the regional observatories.

The first sessions of the workshop were dedicated to introducing the project and its various components in more detail, as well as setting the scene for the discussions to be held in working groups. Some of the main project partners presented their perspective on the program and the workshop. In addition, there was an important message delivered by Mr. Saboto Caesar, Minister of Agriculture, Forestry & Fisheries, from St. Vincent and the Grenadines, on the need to value and mainstream into national development plans the services to society provided by Protected Areas.

The rest of the morning and the afternoon of the first day were dedicated to presenting the results of the assessment on data and information needs in the region as well as discussing (through group work) modalities of how the DOPA and the RIS should work in this region, including discussions on data sharing as well as the use of web-based models for information provision. At the end of the day a side event was organized on “The ABS Initiative and BIOPAMA.”

The second day of the workshop focused on reviewing the results from the previous day and on discussing topics related to the capacity development. The preliminary results of the capacity needs assessment for the region were presented as well as the initiatives led by the IUCN’s World Commission on Protected Areas (WCPA). The participants contributed, through group work, with their inputs on capacity needs and capacity development institutions in the Caribbean. At the end of the second day, two side events took place. The first one was “A Global Standard for Key Biodiversity Areas” and the second one, “The IUCN/UNEP World Database on Protected Areas.”

The last day of the workshop focused on using the inputs from the previous days to start building a preliminary work plan for 2013 in the Caribbean. In addition, participants identified next steps in terms of gathering further information needed for both information/data needs and capacity building needs.

2 Presentations Day 1

The morning of the first day of the workshop was dedicated to introducing the BIOPAMA project and related initiatives. In the paragraphs below, the presentations of the morning are briefly summarized.

09:15	Introduction to BIOPAMA	P. Rosabal (IUCN)
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This presentation introduced participants to the general aspects of BIOPAMA. In summary, this program:

- Will improve access to and availability of information on biodiversity and socioeconomic issues in order to improve decisions for protected area management
- Is funded under the EC/ Intra ACP Envelope for Biodiversity
- Has a geographical focus on ACP (Africa, Caribbean, and Pacific) countries
- Is jointly implemented by IUCN, EC-JRC and GIZ

The program objectives, rationale, structure and principles for implementation, beneficiaries, expected outcomes, and the importance of the observatories were presented as well.

09:35	ABS component of BIOPAMA	H. Meyer (ABS Initiative)
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The presentation explained the set-up and work of the multi-donor ABS-Initiative, implemented by GIZ with a focus on the activities in the Caribbean region as component of the EU-ACP BIOPAMA Project. A historic overview about the development of the CBD was given including the 2012 decision of the Council for Trade and Economic Development (COTED) to request the CARICOM to cooperate with the ABS-Initiative in awareness raising and capacity building activities for the implementation of the Nagoya Protocol. Participants were informed about the prominent cases from Africa on the utilisation and marketing of products derived from genetic resources: The Hoodia case from Southern Africa and the Argan Oil case from Morocco. Possibilities to govern these utilisations through ABS-agreements were discussed. Guided by the 2015 objectives of the ABS Initiative, the 1st Regional ABS Workshop convened in 2012 in Trinidad and Tobago developed suggestions for regional and national activities in the eight areas relating to capacity development.

10:00-10:30	Introduction to the JRC and DOPA	N. Hoepffner / A. Cottam (JRC)
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The Joint Research Centre (JRC) presented the aim of the Regional Reference Information System (RRIS) the aim of which is to support the provision and exchange of information for decision making for biodiversity and protected area management. As the heart of the “Observatories for Protected Areas and Biodiversity”, the RRIS will provide a platform and tools for accessing and leveraging data, performing analyses, generating and reporting indicators. The RRIS will be based around the framework and the technology and services developed within the Digital Observatory for Protected Areas (DOPA). DOPA has been created by the JRC in collaboration with other international organizations including the Global Biodiversity Information Facility (GBIF), the UNEP-World Conservation Monitoring Centre (WCMC), Birdlife International and the Royal Society for the Protection of Birds (RSPB). DOPA is conceived as a set of distributed databases combined with open, interoperable web services to provide a large variety of end-users including park managers, decision-makers and researchers with means to assess, monitor and forecast the state and pressure of protected areas at the global scale allowing for prioritization according to biodiversity values and threats. Seven elements (or web-services) are supporting DOPA, including species analysis, global ecosystem services, habitat modeling, terrestrial ecosystem monitoring, land cover change and threats, marine ecosystem monitoring and governance and management (see figure below)

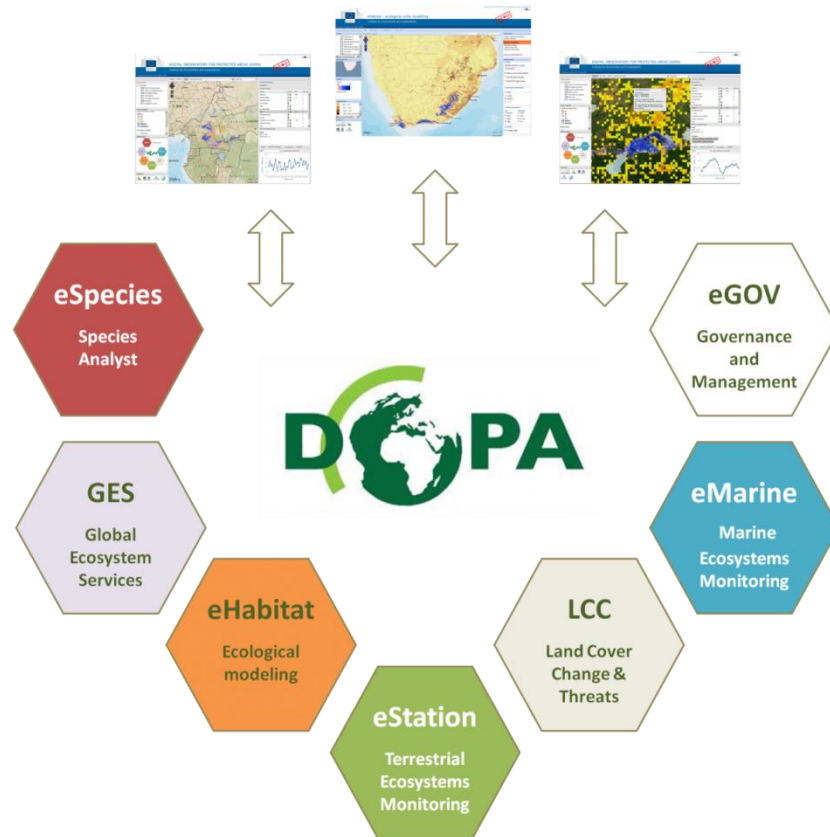


Figure 1: the seven building blocks (also web-services) of DOPA

DOPA allows for better sharing of data and models (which means improved automation and reusability) through distributed responsibilities and easier maintenance, easy customization of tools for different end-users and hence increased potential for multidisciplinary analyses. The strength of DOPA can be summarized as follows:

- DOPA is free: the analytical tools and web based services developed at JRC are open source
- DOPA can be used outside of PAs (simulation of new parks)
- DOPA is scalable (can be adapted to local/ regional needs)
- DOPA builds on partnerships (improved services and indicators)
- DOPA represents a much needed global reference information system for biodiversity

On the other hand, the weakness of DOPA is its strong internet dependence. In addition data sharing issues needs to be discussed and well defined.

BIOPAMA foresees to build a Regional Reference Information Systems (RRIS). DOPA – conceived as a global system - will provide fundamental services to support the RRIS, but

regional specificities have to be taken into account (technical and thematic issues will vary), as well as the need for additional tools, methods and data to address these specificities

10:30-11:00	Regional review of protected area management information and data needs/gaps in the Caribbean	S. Schill (TNC)
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An overview was given of TNC's conservation strategies that are being employed within the Caribbean region, specifically 1) Expansion and strengthening of protected areas, 2) Sustainable fisheries, 3) Sustainable tourism, and 4) Ecosystem-based adaptation to climate change. Many of these strategies are part of the Caribbean Challenge Initiative which TNC helped to launch in 2008. Examples and case studies were provided of how these strategies are being implemented throughout the Caribbean. Together with an overview of the protected status for each of the 15 countries as well as a listing of all relevant GIS data layers that have been collected over the years by TNC. Data gaps were highlighted showing countries that are lacking key datasets and indicating these as potential data needs that could be addressed by BIOPAMA. The presentation also showed the results of an inventory of regional institutions and initiatives, strengths and weaknesses of existing databases, recommendations for filling data gaps, and steps for developing a protected area observatory for the region.

11:00-12:30	BIOPAMA Objective 1: The Reference Information System for Biodiversity and Protected Areas Facilitated discussion	A. Cottam (JRC)
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This presentation focused on the deployment of an information system for the BIOPAMA by the JRC. It introduced the concepts of collect, manage, analyze, share, and use of information. The purpose of this effort is the use of information for conservation gain, for instance aimed at the development of conservation tools.

Progress in the collection and availability of different biodiversity data sets (species specific) and examples of analyses were presented. Also issues with data gaps, analyses and information sharing were listed (Licensing, Sensitivity and access control, Offline delivery, Data standards, and Harmonisation /generalisation).

Participants were given examples of tools available through web browsers: Species lists for a protected area, Species richness visualization tool, WebGL Globe, Mash up of services, DOPA Explorer, DOPA Ecological Niche Modeling, Fire Ecology tool.

It was stressed that any data management system should respond to existing needs for protected areas such as: CBD reporting needs, capacity development needs, planning needs, management effectiveness, etc.

Finally, it was recalled that the Regional Reference Information Systems may need: Ecologists, Database administrators and custodians, Information scientists, Developers, as well as Physical infrastructure (for example, offices and computers).

14:00-15:00	Data and Information: JRC questionnaire. Capturing 1 st data and information requirements for decision making	L. Gurney, A. Cottam, N. Hoepffner (JRC)
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This presentation focused on the importance of collecting information from the region. The JRC has developed a questionnaire as a guide for obtaining such information. Its aim is to better understand interactions and processes supporting the exchange of information between key actors in the field of biodiversity conservation in Protected Areas, and to identify Key data needs and challenges directly from the people involved in the decisions.

The JRC stressed the importance of identifying who are the information ‘users’: Protected Area managers, NGOs, researchers, policy makers and community leaders. This process is essential for connecting with existing networks and identifying scientific, technical and institutional requirements for data and information that could enhance these networks and institutions.

The presentation included a summarized view of the questionnaire and also provided instructions for the group work to identify data needs, data gaps and who owns the data.

Questions and Comments from Participants

Question: Asking Minister from St. Vincent about mainstreaming message.

Talked mostly about tourism, but seems that also have important fisheries and agriculture component. How do you think we should mainstream and use things presented this morning in these countries?

Answer:

I will address forest as fisheries have been dealing mainly with marine parks and aquaculture. The issue of food security is one we have to face. In region we’re net importers of food. Food security is a major issue in the region. The Caribbean and sub-region needs to play a role in producing more food. St. Vincent and Grenadines, producer

of primary commodities, don't add value. Speaking of issues about protecting and preserving forest, how can we do this with a small area, small island, without using it to be productive? It is difficult to do so on a small landscape when we need to be productive using limited landscape. We are working on project to create condiments, where agro-forestry will be playing significant role.

Another answer:

Natural resources are intertwined into the development of the country. There's an urgent need to put more emphasis on management, forest resources, marine resources. To bring these issues into the mainstream we need to do sensitizing programs. In PPAs we have stakeholders involved in the sector in order to have the highest level involved because if we do not have the political buy in then it likely will not be effective when it comes to policy making. There is the need to work at and through the national level also those that play critical roles, like Min. of Agriculture, Min of the Environment. From that perspective we have to be mindful as to how to do things to influence the general public as well as policy makers. The intended long term objective needs to ensure that by preserving natural resources we are preserving the future of the country.

Another answer:

Based on CaMPAM experience with SIDS it is our opinion that what they need more is assistance from our project in order to get technical assistance and small grants to implement what they already know they need. In SVG and St. Kitts and Nevis we have spent lot of resources and awarded grants to get them to declare MPAs declare we encourage them to use the acquired information to follow up and continue the process. But nothing happened. They need very high resolution data. They need help o use data for adaptation, management and for planning.

Many of these countries has lots of MPAs but only few of them are been implemented. We now consider Grenada one the most successful, the government has focused on this. Grenada projects have been active in getting resources out of projects. They are getting things done. They ask if they can take politicians to Belize to see how reserves are managed. There is a project for Grenada this year from TNC small grants and they ask CaMPAM to coordinate it as they have a structure of procedures. We supervise implementation of project, there is a process in place that they think is efficient. We are trying to rationalize our performance of the programme through feedback. Stakeholders, community base management and small grants are what they want and what is working in Grenada. At this stage of MPA capacity building has been done before so they are not

starting from scratch. Technology is good and they need to have access of it such as smart phones to assist with surveillance so they can have a way to prove infractions. This is another area we have been asked for help. UNEP also has problems with buying equipment [with their funding]. CAMPAMM is more flexible in using funding for their needs. We recognize the capacity of managers and at government level is high, so we need to cater to them and what they need to get their business work as MPA is their business.

Question:

We are working on monitoring system that integrates data from ecosystem. Information on management in the area is been done with the GEF project. The question is what exactly are you looking for? We have a data base but it's been hard to determine what tools we need to put that into running so it would be helpful to have what is it we need exactly to begin with the process.

Answer

How do we go about delivering it? We have technology we need to work on plans and be more strategic. How can you do it regionally? Technology is easy bit we need to build the people skill.

Comment:

We had two trainings: one to develop the forms and the other for the monitoring of ecosystem. We train the mappers to do it and yes that is one of the most difficult parts. We are limited amount of personnel at the Ministry so we have to multitask in order to get things done.

Comment:

That is a good case study that we could use to work out what to use, and take on a plan, develop how to identify data. The technology is the easy bit; we need the network of people and skills that you could pass the data to. Need to be developing capacity of people to support you.

Comment:

She introduced SPAW protocol.

BIOPAMA is for three regions in the world. Here we are aware; we already have here a number of ongoing projects and initiatives. We have major players in the region working in MPAs such as, TNC, UNEP, CaMPAM, with other tools and initiatives. We need to take the opportunity of this workshop to explore how to use BIOPAMA projects to complement what exists, not recreate tools and initiatives already in place. We have huge room for improvement, but important to make different initiatives more complementary; it is important for managers, government, and donors as we probably have the same donors, this way we can showcase that we are making the best of what we have. Use this workshop as an opportunity to talk about how best to coordinate information systems.

Answer:

The idea is to make the best possible use of what is there. In all regions, we have institutional barriers that have to be broken to work together. We need to bring all thinking in one strong voice and bring this to donors and to resolve problems at national levels. This is what the European Commission had in mind. We have to come together the idea is to have a greater impact.

Question:

What is the reluctance of many countries to sign protocols?

Answer:

My experience from Caribbean workshops is that in many countries they need to have basic legal system in place before they can ratify treaties as it gives u obligation that are not easy to comply with. The countries, so far do not have structures in place to take over the obligations, they do not have agencies that would be the natural focal point. This is what was told to us in the Caribbean workshop. It is not easy to set up such a system as they are several issues such as traditional knowledge and indigenous people to take into account prior to ratifying treaties. This does not happen only in the Caribbean it happens in European countries also such as Germany.

Question:

Is BIOPAMA more interested in developing new data or collecting data?

Answer:

It is requirement driven, based on priorities (whether we create or collect information) if at the end of the day we get information then we make it available if possible.

Question:

Objectives of BIOPAMA – reducing poverty (from earlier presentation)
How is that factored in when setting priorities at a higher level?

Answer:

There are many ways to do so if you wish, a better plan and activity that will involve the population and permit them to have better income. You can increase the capacity of local people, enhance labor where people around can work in the protected areas. By enhancing capacity you may create options so people can get much more benefit from MPAs. They could be production of non timber products for example, not just tourism (although that's the obvious one). There is a component of this work were we look forward to see how people have been benefit from the project.

Comment:

People that know they'll benefit from a project will have a certain level of ownership. We can develop people for guides in protected forest area and they will also help to look out for the resources. Also community are involved in the MPA and we explain to them possible benefit they are more enthusiastic to participate. There are a lot of advantages to taking this approach.

Question:

What is the culture in Caribbean for sharing information? Is it easy to share and collect information from other agencies? Is it usually difficult?

Answer:

It's different from country to country. We have a data sharing agreement, sign an MOU. When we provide data to someone else we have a data sharing disclaimer. We try to build relationships and trust. Data is a commodity; you do your best to try to respect that. When we go into a relationship to share data we need to understand the data and know what we are able to share. There's often no meta data, so people don't realize the limits of data, so bad data is often used.

In terms of sharing data within country, each country is working in a silo, not a lot of sharing between countries. Hard to bring things together at a regional level. It's a matter of building relationships. Some countries want to sell data, usually other than ecosystem datasets. It's a matter of focusing on what we want as a group, and then follow up on that

Another answer:

They are open to data sharing. There is data sharing going on within the Caribbean. There are people here involved in knowledge linking, building apps for smart phone, using data. They are links worth making.

Comment:

Increasingly in the Caribbean we are recognizing the immense need for having data because clearly it is needed in order to move forward. Recently we recognize the strengths of collaborating. In general terms there is a need and movement to ensure a collection system so we are improving in that aspect.

Comment:

We are overwhelmed with requests; we get people asking for assistance in surveys. Lots of researchers and students are looking for data. All the surveys, all the requests, overlap, but they're not the same. Managers get tired also of same requests all the time. So it is also our fault.

3 Determining data and information needs

In the first group work session, the discussion was focused on assessing regional data and information needs and availability. In this session, two groups worked to address three topics:

- What decisions related to PA are you struggling with?
- What data / information is needed to support decision making?
- Data/ information availability, gaps: Stakeholder mapping exercise

In the table below the results from the two groups are presented.

RESULTS FROM GROUP WORK ON DATA/INFORMATION

Country	Category	Issue	Data Needs	Data exists?	Who has it?
Jamaica	Protected Areas, Governance / Enabling Conditions	Protected Area Management	-Species location and mapping of movement, e.g. elevation -Only have broad habitat/community mapping -Species management needs	Some	-Researchers? But they don't repatriate the information -Blue & John Crow Mountains National Park – at risk given previous experience with computer crashes
	Habitats, Threats	Habitat destruction and degradation	-Species – status, distribution -Ecosystem services and functions -Value of surface/underground waters -Legal status, regulations -Protected area -Zoning and environmental planning	Limited/partial	-Universities -Government *Water resources Authority *National Environment and Planning Agency *Forestry Department
Belize	Threats	Mining (threat of)	-Biophysical data, e.g. habitat, species, soils,	-Some, but not necessarily	-PA manager -Forestry Department -NEPA

Country	Category	Issue	Data Needs	Data exists?	Who has it?
			<ul style="list-style-type: none"> climate, hydrology -Species ranges -Value/cost of impacts -Land tenure, land use -Ecosystem services values -Concessions -Exploration current and future 	<ul style="list-style-type: none"> in detail – small scale within a PA, e.g. species ranges -No: valuations and costs of impacts 	National Land Agency – land tenure data, but are reluctant to share
	Technical	<ul style="list-style-type: none"> Lack of Metadata -Provide metadata catalogue that governments or organizations can feed into -Inform data sharing access 			
	Threats	<ul style="list-style-type: none"> Climate change (Importance is still not recognized) 	<ul style="list-style-type: none"> -Current changes -Trends (not only long-term modeling) -Applied adaptation measures / management responses Information not available/not used by PAs and PA systems. 		
	Governance	<ul style="list-style-type: none"> Accurate stakeholder mapping / Governance issue 	<ul style="list-style-type: none"> -Information on who is responsible for what. -Jurisdictions 		
	Technical, Habitats	<ul style="list-style-type: none"> Coastal and Marine data 	<ul style="list-style-type: none"> Ecosystem services -Fisheries -Tourism -Coastal protection 		

Country	Category	Issue	Data Needs	Data exists?	Who has it?
		When projects end, the information flow/data provision ends NB: Institutionalise the project to ensure continuity			
	Governance/ Enabling Conditions	Laws/regulations	Revised laws	Yes	Government How to fill the gap: Revamp laws
	Habitats, Governance/ Enabling Conditions	Transboundary issues		Yes	-Government -NGOs How to fill the gap: Information sharing
	Governance/ Enabling Conditions	Governance and Communication	Data operator/Data entry personnel	Yes	How to fill the gap: Share the information/keep it alive and updated
	Governance/ Enabling Conditions	Human resource / lack of enforcement		Yes	Who has it: -Government -NGOs -CBOs How to fill the gap: Information sharing
	Governance/ Enabling Conditions	Funding		Yes	How to fill the gap: Find the data and share with NGOs
	Habitats, Species, Protected Areas, Technical	De-reservation/boundary limits		Yes	-Government – Lands Department How to fill the gap: One set of data
	Threats	Oil exploration/Mining	Zonation map	Yes	-Government – Geology and Petroleum How to fill the gap: Share maps

Country	Category	Issue	Data Needs	Data exists?	Who has it?
	Threats	Illegal logging and illegal harvesting of NTFPs	-Value of material -Effects of rate of harvesting	Yes	Who has it: ??? How to fill the gap: Taking up data and replicate or blow up
Bahamas	Habitats, Species, Protected Areas	Issue: State of the resource -Logistics -Funding -Capacity -Lack of political will (do politicians understand the value? Money talks) -Coordination and information sharing (in some instances) needs to be improved	-Conservation data *Some has been collected, but there is more to be done. This can be done using research data -Baseline data for some areas (e.g. fisheries stock) *A "state of the resource" priority of the Bahamas	Yes	Who has it: -There is existing data housed with various agencies: o BEST o BNT o DMR o TNC -More information can be found possibly through researchers who do data collection in various parts of the country -RAPPAM and gap assessment included useful data -Data is mostly accessible
Grenada	Species	Lack of information on wildlife dynamics, distribution, etc.	-Wildlife population data -Data on wildlife population in department -Habitats	Partial	-Department of Forestry -Ministry of Agriculture Accessible: Yes
	Protected Areas, Technical	Information gap in MPA data	-Capacity development for collection and assessment of data information -Parameters to be assessed: *Biomass *Water quality *Human impacts *Impacts from land based sources *Composition/diversity of flora and	Partial	-Department of Fisheries -Ministry of Agriculture Accessible: Yes

Country	Category	Issue	Data Needs	Data exists?	Who has it?
			fauna		
	Threats	Sea-level rise mitigation and coastal erosion	-Coastal vulnerability index -Shoreline erosion and accretion -Rate of relative sea level rise	At a gross resolution	
	Habitats, Species, Protected Areas, Ecosystems	Connectivity	-Pathways/currents -Habitat patterns -Species movements including larvae and juveniles -Scales (region-wide maps vs. local data needs) -Data sharing when exists (to get the full picture) -Regular monitoring: staff, training and basic equipment	Partially	-GCFI -Countries -NGOs Accessible: Accessible, but not always standardised.
	Habitats, Species, Protected Areas, Ecosystems	Connectivity conservation and ecological resilience (How your PA is connected with outside influences)	-Fragmentation -Gap analysis -PA layers -Ecosystem layers -Wildlife migration routes	Yes, in the past	
	Ecosystem Services	(Priority) Compare value(s) of protected areas	-Present -Potential	<u>Very</u> partial data	
Regional	Threats	Illegal ganja growing	Ecosite map of potential growth sites	No	Comment: Need fine scale ecosystem maps that include land cover, topography, elevation
	Habitats,	Sedimentation	-Reef condition	Partial	

Country	Category	Issue	Data Needs	Data exists?	Who has it?
	Species, Protected Areas	on coral reefs	-Sediment loads -Source areas		
	Protected Areas	Boundaries of Protected Areas (WDPA data fields)	-WDPA fields -Boundaries	Partial	
	Threats, Governance, Ecosystem Services	Tourism impacts	-Coastal development real estate -Non-distribution of benefits aside from 'jobs' -Impact on resources 'carrying capacity' -Political/economic influence -Information on true benefits/costs		
	Threats	Unsustainable fishing practices	-Inventory of country fishing practices	No	
	Threats	Eutrophication	Nutrient loading	No	
	Threats	Mining Oil Gas (Actual/Potential)	-Biophysical data, e.g. habitat, species, soils, climate, hydrology -Species ranges -Value/cost of impacts -Land tenure, land use -Ecosystem services values -Concessions -Exploration current and future	-Some, but not necessarily in detail – small scale within a PA, e.g. species ranges -No: valuations and costs of impacts	
	Species, Protected Areas	Threatened species	-Lists -Ranges	Yes	-National and regional level

Country	Category	Issue	Data Needs	Data exists?	Who has it?
	Threats	Port infrastructure (cruise ships, cargo)	-Current and projected facilities -Numbers of passengers/ships/tons	Yes	-Government
	Habitats, Species, Protected Areas	Coral reef health	-Coral monitoring and assessments	Yes	
	Habitats, Protected Areas, Governance	Land and coastal planning	-Land use -Land use change	Yes	
		Invasive species	-List of species -Dispersion modeling	Yes– list Some – dispersion Probably not at a fine scale	
	Habitats, Threats	Sedimentation	-Elevation -Soils -Land cover	Data exists partially to varying levels of accuracy	
	Threats	Issue: Climate change -SLR -Erosion -Warming oceans	-Topography -Beaches -Reef -SLR estimates	Yes, at coarse scale	

4 Presentations. Day 2.

9:00-9:45	Presentation on the IUCN WCPA Protected Area Capacity Development Program	D. Reynolds (IUCN)
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IUCN's programs in relation to PA:

- *Professionalizing PA Management:* Shift from “knowing” (cognition) to “doing” (behavior), focusing on competencies and not only professional titles. Without training, it is hard to know what tools you need!
- *Scholarship Fund:* With private sector financing. For individuals, not institutions. Could promote exchanges. Could include high level staff (Ministers, authorities)
- *Green List of PAs:* Global initiative in order to have national lists that recognize well managed areas (and disseminate what works well). PA management effectiveness has grown substantially in recent years.
- Creating capacity requires continuity, bringing in same people. Training-of-trainers approach is best. Training needs to be taken to NGO boards and decision-makers as their attitude often changes after receiving training on PAs.

PA effectiveness:

- Growth in PA has been huge. But BD is still declining. WCPA-SSC Task Forces is looking into the reasons: PAs are not in right places - not working - not enough of them.
- Where PAs are not working, it is mainly due to low management effectiveness. Low staffing is a huge limitation. More could be done with co-management schemes but communities /NGOs need incentives to become involved, legal backing and clear definition of responsibilities. Pressures from private investments can weaken co-management arrangements, especially if not well delineated.
- Species in PAs are less threatened (correlation between low Red List index and populations in PAs). Factors of low influence: IUCN Category, PA size, external factors around the PA. Factors that matter most: Socio-economic variables (HDI, GDP, corruption index) – proxys for management effectiveness? Model is being developed for this analysis in marine ecosystems.

10:15-11:00	IUCN WCPA-SSC joint Task Force on Biodiversity	S. Woodley (IUCN)
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The WCPA-SSC Joint Task Force on Biodiversity and Protected areas was established to deliver on 2 key objectives, both of which are linked to BIOPAMA

(http://www.iucn.org/about/work/programmes/gpap_home/gpap_biodiversity/gpap_wcpabiodiv/gpap_pabiodiv/):

Objective 1 is to conduct global and regional studies to determine the best predictors of success for protected areas in conserving biodiversity. The Task Force has completed a peer reviewed literature review of protected areas effectiveness. We have also assembled a global data base on biodiversity outcomes (over 4000 individual time population time series) from over 1000 protected areas. For each protected area in the database we have assembled and calculated a set of 50 predictor variables covering the relevant areas of ecology, geography, park management, economy and social conditions. We have put these variables together into a set of models we call the "global study". This global study is currently being refined and we expect to publish it in the scientific literature in the next 5 months.

The Task Force has completed a memorandum of understanding with the Zoological Society of London and the World Wildlife Fund. Under this memorandum, we are joining our time series data base with the Living Planet Index and jointly making additions to the data base. With funding from the IUCN/JRC's BIOPAMA programme, we have hired Dr. Sarah Whitmee and she is located at the ZSL offices in London. Dr. Whitmee is focused in building the biodiversity outcome data base in the 3 BIOPAMA regions. Her particular focus is on the Pacific and Caribbean.

For the Caribbean regions, our goal is to develop regional models for both land and marine protected areas. The aim is to help protected area managers understand and demonstrate the reasons for protected areas success in the region.

On objective 2, the Task Force is developing a global standard for defining, delineating and providing information about Key Biodiversity Areas (KBAs). The goal is ensure a consistent global standard for national efforts. The Task Force has made significant progress toward this goal with a global framing workshop held in Cambridge on May, 2012. The workshop established a strong, consensus definition for KBAs; and made substantial progress in specific scientific and technical themes (scope and scale; thresholds; end-user applications; and governance). It also placed KBAs in the context of other "knowledge products".

In addition to the Framing workshop, the Task force has initiated a global cross taxa study to define thresholds of irreplaceability. Options papers have also commissioned on KBA criteria, delineation and end-user applications. Final drafts of the papers on criteria and thresholds, and delineation have been completed. Regional consultation workshops were held in Auckland (New Zealand), Abu Dhabi (UAE), Portland (USA), Bangalore (India), Glasgow (UK), Jeju (Korea), and Johannesburg (South Africa).

For the Caribbean and BIOPAMA the Task Force's goals are to gather information on existing KBAs in the area, provide a standard for national efforts to further define KBAs and help ensure KBAs are effectively conserved.

11:00-11:45	Overview of the Regional Capacity Building Needs Assessment	A. Hayman (consultant)
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Included literature review (with summary of previous assessments), on line survey, calls and skypes. Human and institutional capacity needs. Looked into skills and knowledge to manage PA adaptively, and needs for change or reform for effective management.

TNC Institutional self-assessments (from 2004 to 2009). OECS PA and Associated Livelihoods training needs assessments. CaMPAM needs assessment (2011)

On-the-job learning is common. Opportunistic courses are common, from GIS to policy, reef managements, business management, etc. Most PA managers have a degree but lack inter/cross-disciplinary training or specific PA training. Have very wide range of tasks and responsibilities.

Needs identified: (i) Institutional level: PA governance. Inventories and assessments. Socio-associated livelihoods. Financing and resource mobilization. Education. Other. (ii) Human level: Enforcement, communication, financial management, proposal writing, monitoring, legislation, other

Capacity development planning: Most countries have done RAPPAM (Rapid Assessment and Prioritization of PA Management Effectiveness Assessments). Many have defined strategic directions for capacity development

There are projects with training components. E.g. GEF project for financing and management of marine ecosystems (5 Eastern Caribb countries) has training component for board members of national PA trust funds, and for NGO PA managers.

More long-term efforts: Mainly from TNC, CERMES, CEPF. TNC's Conservation Training Week (2004, 2006) was designed based on weaknesses identified in institutional self-assessments. CERMES has program that focuses from policy to site-specific management aspects, does training in socio-economic monitoring for coastal management (Soc Mon). CEPF (administered by CANARI) covers 290 key BD areas (45 are priority) and supports civil society organizations and fosters stakeholder collaboration. Are there funding regional training needs assessment for terrestrial PA?

UWI has degree level training and M.Sc. program.

There are NGOs and regional bodies actively providing training: IIC (Guyana), CARIBSAVE (Barbados), CANARI (T&T), CaMPAM (part of UNEP-CEP), GCFI, CEHI

Emphasis must be on tailoring trainings to site-specific and country-specific needs, and on learning by doing (practical applications). E.g. CANARI assist in searching funds for financing projects developed by trainees seeking to apply what they have learnt in training courses.

Topics missing /not highlighted by PA managers as “needs”: climate change adaptation, financing through public-private schemes, risk management, use of web-based tools. Often staff trained then change jobs. Gap: Are lacking a network like CaMPAM for terrestrial PA. Need a more systematic approach, focused on human capacity (negotiation power, communication skills, leadership), not so much on technical capacity or knowledge.

Comments on Capacity Needs:

Integration of disciplines and approaches. Empowering staff (through vision, leadership). Competency-based capacity building. BIOPAMA likely to impact more at the institutional than individual level. Could assess if right competencies are being used in the right posts. Exchanges between institutions, sites, could help broaden visions. Must target operational, managerial and decision levels

5 Identifying capacity needs for better decision making. Day 2.

In this group work session, the overall aim was to have participants provide feedback on:

- Key priorities and challenges for the design and implementation of a Regional Capacity Building Program
- Stakeholder mapping (institutions and experts) at regional and national levels for a Regional Capacity Building Program
- Ongoing and new projects in the Caribbean that could relate to a Regional Capacity Building Program

Organized into two groups, the participants provided the following ideas.

Group Work: Prioritizing needs

Group 1 - Need technical support in: (1) Design and implementation of zoning and management plans. (2) Research, monitoring and data management systems, covering human resources, finance and equipments. How to use the info to support planning and management decisions. (3) Law enforcement processes. Prosecutors, lawyers, legislators and judges, even managers, do not give priority to this issue.

Group 2 – Capacity needs are: (1) Data hub for PA info. Lack of funding and of culture of data sharing between organizations. (2) Meeting WDPA standards. Could be centralized work. (3) Legislation and legal instruments. IUCN CEL could be a resource, as well as IUCN’s guidelines for

developing PA regulations. (4) Systematic regional approaches, for greater coordination and emphasis on relevance for PAs in development agenda. (5) Assistance with NBSAPs. (6) Technology transfer. Need assistance with hardware and software use, even with open-source tools. (7) Sustainable financing. Caribbean Challenge and BD Fund, and GEF, are relevant sources. ABS could be a funding source.

Current reality for developing a Capacity Building Programme under BioPAMA

Identified the strengths/advantages, weaknesses/challenges, opportunities and threats. The issue of sustainability of a CBP was discussed, especially with only 3 years for the project. Also, importance of leveraging funding, especially with the modest funds available and to ensure that the BioPAMA project is working with existing institutions and processes, to minimize duplication and not reinventing the wheel. No regional project manager and concern of not having all the players at the table, example given with the absence of many countries and key players from the region at this important workshop. No terrestrial equivalent to CAMPAM.

6 Development of Preliminary Work Plan for BIOPAMA (Year 2013). Day 3.

The work for this day was conducted with the plenary. The first activity was to identify the key categories to structure the work plan. The topics and their prioritization are presented in the tables below.

The Table 1 presents the topics identified in the group work and the categories from Table 2 to which each one belongs (Categories 1 through 7). Table 2 presents the categories to group the topics from Table 1 and also the prioritization provided by the country representatives.

Table 1. Issues/Themes listed in the group work, category corresponds with list in Table 2

Issue/Topics from group work	Category
Unsustainable fishing	3
Eutrophication	3
Mining, oil and gas	3
Threatened species	2, 4
Ports	3
Coral/reef health	1, 2, 4
Land and coastal planning	1, 4, 5
PA management	4, 5
Habitat degradation	1, 3
Mining	3
Lack of metadata	6
Climate change	3
Stakeholder mapping	5
Coastal and marine data	1, 6
Laws and regulations	5
Transboundary issues	1, 5
Governance and communication	5
Human resources	5
Funding	5
Boundary limits	1, 2, 4, 6
Oil exploration	3
Logging	3
State of resource	1, 2, 4
Wildlife dynamics	2
Information gap	4, 6
Sea level rise	3
Connectivity, conservation, ecological resilience	1, 2, 4, 7
Value of PA	7
Illegal ganja growing	3
Sedimentation	1, 3
Tourism	3, 5, 7

Table 2 Categories developed to group the topics identified by group work in Table 1 and their prioritization

Category	Count of issues from each category listed in group work	Priority Rank				
		Jamaica	Belize	Bahamas	Grenada	DR
1. Habitats Extent, condition, change	9	1		1		
2. Species Distribution, condition, change	6			2	2	2
3. Threats Extent, severity, change	12		3	3	3	1
4. Protected Areas Extent, boundaries, attributes, management, information needs	8	3	2		1	
5. Governance/Enabling conditions	9		1			3
6. Technical challenges Data management, meta data	4					
7. Ecosystem services	3	2				

Notes to go along with the tables:

Habitats

- We're trying to get reasonable ecosystem maps of the region. If I were JRC, I'd go through each of those and see if they're usable (resolution and such), then do a gap analysis to see what regions don't have these maps.
- Resolution might be an important discussion, with these small islands, we need high resolution.
 - Recommending 3m resolution, Quickbird, ground-truthed
- It might be useful to get the governments on board first, communicate it being extremely careful, because this kind of resolution might be touching on sensitive sovereignty and other issues. It would be better to get them to tell us what they need.
- With this kind of resolution, can do habitat, can get theoretical species distribution, can get threats. Can get quite a lot from these maps.
- Would be good for JRC and TNC to work together on maps. Because TNC has maps for a number of islands.
- Some agencies want this type of information, but its cost is prohibitive. Maybe getting multi-country buy-in would bring the cost down.
- Would need consistent classification scheme on the maps
- Need to get the maps that are there, assess quality, and then discuss where they are needed.
- Existing physical datasets could help to fill in the gaps
- There's a LandSat data set for about 6-7 countries from 2000-2002, USGS EROS

Species

- First step would be gathering data from everyone on occurrence of species and put it together
 - But difficult because this information is sometimes sensitive
- Combine with Red List
- There's national protection lists that might not be under Red List (e.g. under SPAW, regional agreements, national, global)
- Each species have a number of different categories they could be under
- There might be a product being developed now combining global and national lists
- Species protection for a country might not match the Red List
- Going down to species level for all species would go through time and money budgets

Threats

- Everyone agreed on invasive species
- Tourism was discussed as a threat, but narrowed to unsustainable tourism, or even development
- Maybe we should be using CAP (Conservation Action Planning) to look at these threats, find the sources, and look at how best to address this threat. MIRADI software.
- Ecosystem services should be brought up here as an activity if they want to be included
- Including tourism (on its own) as a threat might be inappropriate when many countries in the region depend on tourism. Some countries are starting to do more ecotourism. But tourism activities and Ministry of tourism do need to be included in discussions.

Protected Areas

- IT targets, we are currently at 3%, but supposed to be at 10% by 2020, so maybe we should look at what data we need to achieve this
- EBSA workshops last year – information would not be useful because the data was all aggregated for the Eastern Caribbean region
- WCMC should potentially re-establish country level agreements for data

The workshop participants in a plenary facilitated discussion proceeded to complete a preliminary version of the BIOPAMA work plan for the Caribbean for year 2013. The input provided in the previous session was used as a reference for the work plan. The preliminary version of the work plan is included in the Annex 2. This version of the work plan will be revised and consulted with other stakeholders that were not present at the workshop.

14:00-14:30	The ABS Capacity Development Initiative - Caribbean activities (foreseen) to start in 2013	H. Meyer
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Participants were informed in detail about the eight areas of activities for ABS capacity development that form the Policy Cycle of the ABS Initiative: 1) Ratification & Implementation, 2) ABS Policies & Strategies, 3) Domestic ABS Legislation, 4) Institutional Arrangements, 5) Traditional Knowledge, 6) Transboundary Issues, 7) Valorisation Strategy, and 8) Stakeholder Engagement. The methodology for the 1st Regional ABS Workshop convened in 2012 in Trinidad and Tobago aimed at gain clarity about the assets and gaps in the region concerning the eight fields of activity. The workshop concluded that national and regional activity in the fields 2), 3), 5), and 7) are of prime importance. Support for 1) will be mainly sought by the SCBD and CARICOM. Field 8) is crosscutting and needs to be included in all activities. The presentation informed about the planned cooperation in these four fields. The workshop participants finally elected an Interim Steering Group as part of the governance structure of the ABS-Initiative.

7 Next Steps and Final Comments

- Discussion will be summarize and put in right format and circulated
- Information will be used to prepare a draft action plan
- Document will be use to make contact with NGO and governments that were not present at the meeting
- Recommendations can be seen as the first draft of what will be the first year. It can be revised. They will be validated trough consultation with stakeholders and also adopted in order to go on to its implementation.
- The project document and draft action plan will be given to you in CD and also loaded on the website so everyone can be clear on what we are trying to do
- Extend thanks to all involved in making the workshop a success.
- Introduce Nick Cox as the project manager and request people's contribution and support to the project.

8 Annex 1. Participants List

#	Name of Participant	Organization & Country	E-mail Address(es)	Telephone
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9 Annex 2.DRAFT PRELIMINARY Work Plan for 2013

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
Habitats	Mapping – high resolution (3m Quickbird) terrestrial & marine Consistent Classification scheme Existing data (historic maps)	Assess what is available (? Months)	'high'	JRC	TNC JRC Flora & Fauna International (FFI) Birdlife international In-country agencies (general) USGS-EROS (Landsat 30m data from yr2000) MapAction		
Species	Occurrence data Red List Species (local/regional/national/global) Protected species (national / regional lists) At risk species Range modeling of species of			JRC	GBIF OBIS IUCN Red List FFI SPAW Smithsonian Institute INBIO		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
	concern						
Threats -mining (oil & gas) -logging -sea level rise -ganga growing - habitat degradation -unsustainable fishing -invasive species -unsustainable development activities -poaching -climate change -pollution	CAP (conservation action planning) exercise (using MIRADI software) Mapping of threats Valuation of ecosystem services Downscaled climate change models for all the countries in the region Invasive species list			TNC JRC JRC	CANARI UWI CERMES CRFM FAO IUCN WCPA CTO (Caribbean Tourism Organization) GEF In-country agencies CCCCC TRAFFIC NOAA SPAW LBS		
Protected areas -Boundary limits -State of resource -Information gap - Connectivity, conservation, ecological	WDPA updated & validated for the region Management effectiveness information Species trend data in PAs Potential external factors affecting PAs			UNEP-WCMC JRC	UNEP-WCMC IUCN WCPA ZSL In-country agencies TNC CAMPAM		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
resilience -Protected area management -Threatened spp -Coral reef health -Land and coastal planning -Management effectiveness -Ecosystem Services	Governance information IUCN Category information Habitat connectivity data (terrestrial & marine) Coral reef data Valuation of ES				CANARI NOAA UWI Healthy Reefs Initiative Diarena (DR) WRI Stanford Natural Capital initiative (InVEST) Kings College London (CostingNature)		
CAPACITY DEVELOPMENT NEEDS							
Sustainable financing	Learn to raise, budget, administer and report funds Consider for government managed Pas and NGOs managed Pas Learn about proposal writing			IUCN	TNC, CCI, CANPAM, PA agencies, co-mgt NGOs, Ministries of Finance, University of Belize-UNDP-PACT,		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
	and Report from SF by TNC CCI (input by country, includes activities)						
Livelihood development	<p>Various projects being implemented. Collect lessons learned.</p> <ul style="list-style-type: none"> -Income generation for local communities -Manage use of resources from PA (mgt category) -Review PA mgt categories -Review and update legal base of the Pas (linked to livelihood development) -Alternative livelihoods 				<p>CANARI, GEF project in DR border w Haiti</p> <p>WCS</p> <p>Environmental Defense Fund</p> <p>CaMPAM/UNEP</p> <p>WILDTRACK</p> <p>UWI</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
Qualified field staff	<p>To improve mgt effectiveness of the site</p> <p>To build capacity</p> <p>Development of standards, certification of staff (WCPA initiative)</p>				<p>WCPA</p> <p>Regional training centres</p> <p>CaMPAM</p> <p>ELAP</p> <p>CATIE</p> <p>Environmental School (DR)</p> <p>Florida Institute of Technology</p> <p>University of Rhode Island</p> <p>UWI</p> <p>International Ranger Federation</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
Education, awareness and outreach	<p>Directed to communities, schools, visitors</p> <p>Include government decision makers, NGO board members, values of protected areas, trade offs against development (short term vs long term benefits)</p> <p>IUCN's global awareness campaign</p>				<p>IUCN</p> <p>PA agencies</p> <p>Comgt NGOs</p> <p>MARFUND (BZ)</p> <p>OAK (BZ)</p> <p>WB Climate Adoption Fund (BZ)</p> <p>Minister Caesar from St Vincent and the Grenadines in OECS, etc</p> <p>Coral Reef Alliance</p> <p>CARMABI</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
					Ministry of Education? (JAM, GRE) Schools nearby Pas PA agencies Comgt NGOs IUCN's Commission on Education and Communication GEF (BZ, JAM) UNDP (BZ) Belize Audubon Society		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
Qualified managers	<p>To improve mgt effectiveness of the site</p> <p>To build capacity</p> <p>Development of standards, certification of staff (WCPA initiative)</p> <p>Exchanges (NGO staff, university grad students, PA agency staff)</p>				<p>USNPS</p> <p>ELAP</p> <p>UWI</p> <p>CSU</p> <p>CATIE</p> <p>WCPA</p> <p>International Seminar University of Montana, UIdaho, CSU</p> <p>Kennedy School of Government (University of Harvard)</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
<p>Management planning/integrated conservation and development planning</p> <p>++Linked to the reference information system to be developed by JRC and will be accessible to countries</p>	<p>Integrate with the NBSAP process</p> <p>Integrated to land use planning</p> <p>Mgt planning and operational annual planning</p> <p>Managers exchanges</p> <p>Translate and disseminate PA mgt planning guidelines</p> <p>e-modules on mgt planning</p> <p>e-book on PA mgt will include a chapter on mgt planning</p>				<p>CBD Sec</p> <p>WCPA</p> <p>CaMPAM</p> <p>Universities (University of Technology Jamaica;)</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
PA design (zoning, planning)	<p>IUCN PA Mgt Guidelines translated and disseminated</p> <p>Related to the WDPA</p> <p>Related to the RIS</p> <p>EBSAs</p> <p>Related to the habitat and gap analyses (JRC)</p> <p>Send key people/staff to work with JRC to enhance capacity (check with JRC)</p>				<p>WCPA</p> <p>WCMC</p> <p>Caribbean universities</p> <p>CBD Sec</p> <p>TNC</p> <p>USGS</p> <p>JRC</p>		
Law enforcement	<p>Lawyers in PA agencies understand legislation and can implement</p> <p>Pas understand the laws and power and mandate of enforcement</p>				<p>WCPA</p> <p>CEL (Env Law Centre)</p> <p>WCS</p> <p>In country</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
	<p>Judges, prosecutors need to be trained</p> <p>Guidelines from Commission on Environmental Law</p> <p>Done at the national level because it is based on national legislation</p> <p>Methodology in WCS Africa to be shared in the Caribbean</p> <p>ID key institutions in country that could help.</p> <p>Experience in Jamaica</p>				<p>institutions</p> <p>GEF</p> <p>CITES-TRAFFIC</p> <p>UWI</p>		
<p>Research, monitoring and data management</p>	<p>(See all above)</p> <p>Institutional focus</p> <p>USNPS monitoring protocols and internships</p>				<p>Universities in country</p> <p>TNC</p> <p>Reef Check</p>		

Issue / Threat / Topic GAPS?	Activities	Estimated Timeline (year and duration)	Estimated Cost	Primary responsibility	Collaborators	Geographic reference (country, sub-national, protected area)	Other projects (partnerships)
					Coral Reef Alliance CARMABI IWOKRAMA University of Guyana USNPS Cariibbean NGOs: FFI, BI, CARibSAVE, Sustainable Grenadines, (++)These institutions can provide capacity development but at the same time they can contribute data for the RIS)		

