

# Cover Note

**Name of Project:** Strengthening the Cuban National System of Protected Areas

**Date:** March 7<sup>th</sup>, 2002

	Work Program Inclusion	Reference/Note
<b>1. Country Ownership</b>		
<ul style="list-style-type: none"> <li>Country Eligibility</li> </ul>		Cover page and Brief paragraphs 54 and 55
<ul style="list-style-type: none"> <li>Country Drivenness</li> </ul>	Clear description of project's fit within: <ul style="list-style-type: none"> <li>National reports/communications to Conventions</li> <li>National or sector development plans</li> </ul>	Brief paragraphs 14, and 15 Annex A paragraph 1; Annex M SNAP 5 year Operational Plan (in Spanish, prepared during PDF B phase)
<ul style="list-style-type: none"> <li>Endorsement</li> </ul>	<ul style="list-style-type: none"> <li>Endorsement by national operational focal point.</li> </ul>	Annex D
<b>2. Program &amp; Policy Conformity</b>		
<ul style="list-style-type: none"> <li>Program Designation &amp; Conformity</li> </ul>	<ul style="list-style-type: none"> <li>Describe how project objectives are consistent with Operational Program objectives or operational criteria.</li> </ul>	Brief Paragraph 55 Annex C item 3
<ul style="list-style-type: none"> <li>Project Design</li> </ul>	Describe: <ul style="list-style-type: none"> <li>sector issues, root causes, threats, barriers, etc., affecting global environment.</li> <li>Project logical framework, including a consistent strategy, goals, objectives, outputs, inputs/activities, measurable performance indicators, risks and assumptions.</li> <li>Detailed description of goals, objectives, outputs, and related assumptions, risks and performance indicators.</li> <li>Brief description of proposed project activities, including an explanation how the activities would result in project outputs</li> </ul>	<ul style="list-style-type: none"> <li>Brief paragraphs 19, 20 and Annex G</li> <li>Annex B</li> <li>Brief paragraph 36; &amp; 39 to 49 (goals, objectives and outputs); paragraph 63 risks; Annex B (goals, outputs, assumptions and indicators)</li> <li>Cover page summary, and Annex B Paragraph 13</li> </ul> <p>As a result of discussions with the GEFSEC manager, a request was made to include a paragraph stating that the data management component of the project will be linked to the Clearing-House Mechanism CHM) that Cuba has agreed under the CBD. See paragraph 41 of Brief</p>

	Work Program Inclusion	Reference/Note
	<ul style="list-style-type: none"> <li>• Global environmental benefits of the project.</li> <li>• Incremental Cost Estimation based on the project logical framework.</li> <li>• Describe project outputs (and related activities and costs) that result in <i>global</i> environmental benefits</li> <li>• Describe project outputs (and related activities and costs) that result in joint <i>global and national</i> environmental benefits.</li> <li>• Describe project outputs (and related activities and costs) that result in <i>national</i> environmental benefits.</li> <li>• Describe the process used to jointly estimate incremental cost with in-country project partner.</li> <li>• Present the incremental cost estimate. If presented as a range, then a brief explanation of challenges and constraints and how these would be addressed by the time of CEO endorsement.</li> </ul>	<ul style="list-style-type: none"> <li>• Brief paragraph 50; Annex A paragraph 2% column 5 of IC table; Annex C item 2 &amp; 4</li> <li>• Annex A</li> <li>• Annex A paragraphs 14-21</li> <li>• Annex A paras 14-21</li> <li>• Annex A paras 14-21</li> <li>• Brief Paragraph 37 (i)</li> <li>• Brief paragraph 61 and Annex A paragraph 23</li> </ul>
<ul style="list-style-type: none"> <li>• Sustainability (including financial sustainability)</li> </ul>	<ul style="list-style-type: none"> <li>• Describe proposed approach to address factors influencing sustainability, within and/or outside the project to deal with these factors.</li> </ul>	<p>Brief paragraphs 37 and 63; Output 1 activities 1.4 and 1.11 will contribute to financial sustainability; Output 1 activities 1.2 and Output 4 will provide higher participation and sustainability And Output 5 will contribute because a visitation plan will promote increased income</p>
<ul style="list-style-type: none"> <li>• Replicability</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the proposed approach to replication (for e.g., dissemination of lessons, training workshops, information exchange, national and regional forum, etc) (could be within project description).</li> </ul>	<p>Brief Paragraph 37 (iii); Annex C item 5 and Annex M (in Spanish) is the SNAP Operational Plan and represents the framework within which replication will take place. <b>As a result of discussions with the GEFSEC manager concerning budgetary provisions for replication of good practices and lessons, such provisions were included in Output 4. However, to facilitate clarity, a specific activity has been disaggregated (Activity 4.7) that contains a set of task for</b></p>

	Work Program Inclusion	Reference/Note
		facilitating the replication of good practices including workshops, pamphlets and project website . See paragraph Brief 47 and Annex B activity 4.7 and Annex A paragraph 19
<ul style="list-style-type: none"> <li>Stakeholder Involvement</li> </ul>	<ul style="list-style-type: none"> <li>Describe how stakeholders have been involved in project development.</li> <li>Describe the approach for stakeholder involvement in further project development and implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Brief paragraph 37 (i); 52 and 53 and Annex I</li> <li>Brief paragraphs 52 and 53; I</li> </ul>
<ul style="list-style-type: none"> <li>Monitoring &amp; Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Describe how the project design has incorporated lessons from similar projects in the past.</li> <li>Describe approach for project M&amp;E system, based on the project logical framework, including the following elements: <ul style="list-style-type: none"> <li>Specification of indicators for objectives and outputs, including intermediate benchmarks, and means of measurement.</li> <li>Outline organizational arrangement for implementing M&amp;E.</li> <li>Indicative total cost of M&amp;E.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Brief paragraphs 65-67</li> <li>Brief paragraphs 58, 59, 60 and 64 and Annex B</li> <li>Annex B</li> <li>Included in overall budget, but will be separated during preparation of project document</li> </ul>
<b>3. Financing</b>		
<ul style="list-style-type: none"> <li>Financing Plan</li> </ul>	<ul style="list-style-type: none"> <li>Estimate total project cost.</li> <li>Estimate contribution by financing partners.</li> <li>Propose type of financing instrument.</li> </ul>	<ul style="list-style-type: none"> <li>Cover page and Budget Brief para 62</li> <li>Cover page and Budget Brief para 62</li> <li>Cover page and Budget Brief para 62</li> </ul> <p>As a result of discussion with the GEFSEC manager, a request was made to clarify the phasing. GEF support is for the first step of ten year national programme and UNDP has made assurances to Cuba to assist in seeking and obtaining additional financial resources to meet goals and objectives of the original project design agreed at the concept and PDF B stage (ie steps 2 and 3 of the SNAP programme). Brief paragraph 37 item ii and Response 6 in Annex C</p>
<ul style="list-style-type: none"> <li>Implementing Agency Fees</li> </ul>	<ul style="list-style-type: none"> <li>Propose IA fee.</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
<ul style="list-style-type: none"> <li>Cost-effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Estimate cost effectiveness, if feasible.</li> <li>Describe alternate project approaches considered and discarded.</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> <li>Brief Paragraph 37 strategic decisions</li> </ul>

	Work Program Inclusion	Reference/Note
<b>4. Institutional Coordination &amp; Support</b>		
IA Coordination and Support <ul style="list-style-type: none"> <li>Core commitments &amp; Linkages</li> </ul>	Describe how the proposed project is located within the IA's: <ul style="list-style-type: none"> <li>Country/regional/global/sector programs.</li> <li>GEF activities with potential influence on the proposed project (design and implementation).</li> </ul>	<ul style="list-style-type: none"> <li>Brief paragraph 57</li> <li>Brief paragraph 56</li> </ul> <p>Core funding from UNDP. US \$ 0.200m from UNDP core funds has been secured from its Programme of Human Development at the Local level to co-fund pilot projects in buffer zones of HB/PC (Output 3) and Awareness building actions in communities of this area (Output 4) . This is reflected in Brief Cover page and paragraphs 57, 61 and 62; the Annex A (Incremental Cost) paragraphs 17, 19, 23 and IC Matrix</p>
<ul style="list-style-type: none"> <li>Consultation, Coordination and Collaboration between IAs, and IAs and EAs, if appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Describe how the proposed project relates to activities of other IAs (and 4 RDBs) in the country/region.</li> <li>Describe planned/agreed coordination, collaboration between IAs in project implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Brief paragraph 56</li> <li>NA</li> </ul>
<b>5. Response to Reviews</b>		
Council	Respond to Council Comments at pipeline entry.	NA
Convention Secretariat	Respond to comments from Convention Secretariats.	NA
GEF Secretariat	Respond to comments from GEFSEC on draft project brief.	NA
Other IAs and 4 RDBs	Respond to comments from other IAs, 4RDBs on draft project brief.	NA
STAP	Respond to comments by STAP at work program inclusion	NA
Review by expert from STAP Roster	Respond to review by expert from STAP roster.	Annex C-1

## PROJECT BRIEF

### 1. IDENTIFIERS:

**PROJECT NUMBER:** CUB/01/G41 (PIMS 2186)  
**NAME OF PROJECT:** **Cuba: Strengthening the National System of Protected Areas**  
**DURATION:** Three years  
**IMPLEMENTING AGENCY:** UNDP  
**EXECUTING AGENCY:** Ministry of Science, Technology and Environment (CITMA) through the National Centre for Protected Areas (CNAP)  
**REQUESTING COUNTRY:** Republic of Cuba  
**ELIGIBILITY:** Cuba ratified the CDB on March 9<sup>th</sup>, 1993  
**GEF FOCAL AREA:** Biodiversity  
**GEF PROGRAMMES:** Multiple OP- Forest (#3) and Freshwater (#2)Ecosystems

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2. **SUMMARY:** The project would conserve highly representative assemblages of four globally significant ecoregions in Cuba (Dry Forest, Pine Forest, Moist Forest and Wetland), all classified as the highest priority for conservation. As the largest remnants of these ecoregions are found within protected areas that are still relatively free from anthropogenic pressures, the alternative course of action would seek to strengthen the National System of Protected Areas (SNAP) as the most cost-effective means of conserving these global values. The project would take action, at a demonstration level, to provide both immediate short-term benefits and lessons that could be replicated through the system. This would be achieved through a two pronged approach in which site-specific actions would be undertaken in one pilot protected area per ecoregion and complementary actions delivered system-wide to raise capacities for replication of lessons. Forming the first step of a national five-year operational plan for the SNAP, the project would have the following five Outputs: 1] Strengthened Protected Area Operations and Management; 2] Strengthened SNAP Co-ordination and Regulation; 3] Management Strategies for Controlling Proximate Threats in Protected Areas (including agriculture, forestry, and bioinvasion threats); 4] Education and Awareness Programmes; and v] Visitation Strategies Compatible with Protected Area Conservation Goals.

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### 3. **COSTS AND FINANCING (US\$ MILLION):**

<u>Preparation</u>	
PDF B GEF	0.148
GoC	0.273
<u>GEF contribution to Full Project</u>	1.997
<u>Total GEF</u>	2.145
<u>Co-funding for Full Project</u>	
FFEM	1.236
WWF	0.401
UNDP	0.200
GoC	9.181
<b>TOTAL PROJECT COST WITHOUT PREPARATION</b>	13.015
<b>TOTAL PROJECT COST WITH PREPARATION</b>	13.436

4. **ASSOCIATED FINANCING:** Baseline financing costed at US\$ 79.969 million

### 5. **OPERATIONAL FOCAL POINT ENDORSEMENT:**

*Name:* Jorge Luis Fernandez Chamero. *Title:* Director of International Collaboration Directorate  
*Organisation:* CITMA *Date:* 30 / 01 / 02

6. **IA CONTACT:** Lita Paparoni, Regional Co-ordinator, UNDP/ RBLAC GEF Unit,  
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## ACRONYMS

AMA	Environment Agency / CITMA
BIOECO	Eastern Biodiversity Research Centre / CITMA
CGB	Forest Guard / MININT
CECM	Executive Committee of the Council of Ministries
CHM	Clearing House Mechanism
CIEC	Coastal Ecosystem Research Centre/ CITMA
CICA	Environmental Control agency / CITMA
CIGEA	Environmental Education, Management and Information Centre / CITMA
CIMAC	Environmental Research Centre of Camaguey/ CITMA
CITMA	Ministry of Science, Technology and the Environment
CNAP	National Protected Areas Centre / CITMA
ENPFF	National Corporation for the Protection of Flora and Fauna / MINAGRI
ECOVIDA	Environmental Services and Research Group of Pinar del Rio/ CITMA
FFEM	French Global Environment Facility (Fonds Français pour l'Environnement Mondial)
IES	Institute of Ecology and Systematics
IGT	Tropical Geography Institute
IPF	Physical Planning Institute / CITMA
MINAGRI	Ministry of Agriculture
MINBAS	Ministry of Basic Industries
MININT	Ministry of the Interior
MINTUR	Ministry of Tourism
MIP	Ministry of Fisheries
PA	Protected area
SEF	State Forestry Service / MINAGRI
SIGAP	Protected Areas Geographic Information System
SNAP	National System of Protected Areas
SPAW	Specially Protected Areas and Wildlife in Wider Caribbean Region
UMA	Provincial Environment Units / CITMA
UNDP/CCF	United Nations Development Programme Country Co-operation Framework
UNF	United Nations Foundation
WWF	World Wildlife Fund
WCPA	World Commission on Protected Areas

### Protected Area Abbreviations

CZ	Ciénega de Zapata (Zapata swamp) National Park
GU	Guanahacabibes National Park
VI	Viñales National Park
HB/PC	Alexandra Von Humboldt and the Pico Cristal National Parks that form the two core areas of the Nipe-Sagua-Baracoa Multi-use Protected Area.

## PROJECT CONTEXT

7. Environmental Context: The Cuban archipelago, covering 110,921 km<sup>2</sup> and comprising 4,196 islands and keys, is located in the Greater Antilles region, ranked by WWF as one of 233 Priority Ecoregions globally (WWF, 1999), and listed as an Endemic Bird Area by Birdlife International (Stattersfield, 1998). The Caribbean islands, including the Cuban archipelago, are also listed as one of 27 Global Conservation Hotspots (Mittermeier, 1999). As the Cuban archipelago accounts for 89% of total surface area of the Greater Antilles, these rankings are one indication of Cuba's global conservation significance.

8. Within this archipelago, the main island, Cuba, stretches 1,250 km from East to West and is fringed by four island groups. Much of its land area consists of wide plains, which cover some 79 % of the total land surface. The remaining land area encompasses four mountain ranges: Cordillera de Guaniguanico, Sierra Maestra, Macizo de Guamuhaya, and the Nipe-Sagua-Baracoa Mountains. Pico Turquino, is the highest point at 1,974 meters above mean sea level. This wide range of geographic and topographic conditions supports five terrestrial ecoregions: Cuban Moist Forests, Cuban Dry Forests, Cuban Wetlands, Cuban Pine Forests and Cuban Xeric Shrub. All but the last ecoregion are ranked amongst the highest priorities for conservation at a regional scale due to their high species richness, endemism and vulnerability (Dinerstein et al, 1995). In a separate study, Cuba's freshwater marshes were ranked as regionally outstanding (Olson et al, 1998) and Cuba's Zapata wetland complex comprises one of the most bio-diverse marshes in the Caribbean. These ecoregions are divided further into 3 bio-geographic zones (East, Central & Western Cuba) and 39 floristic districts detailed in Annex F (Vales *et al* 1998).

9. Being a large tropical island with diverse ecosystems that is strategically located between larger landmasses and the trailing islands of the Caribbean to the East, and possibly having been isolated from continental land masses for millions of years (Pindell, 1994), Cuba is naturally pre-disposed to evolutionary processes that lead to high biodiversity and endemism. Indeed, it has the highest biodiversity in the West Indies, with over 6,500 species of higher plants recorded, possibly 2.2% of the world total, 350 species of birds, 147 species of reptiles and amphibians, 42 species of mammals and as many as 13,000 invertebrates species (Santana, 1991). Over 50% of the flora and 32% of the vertebrate fauna are endemic to Cuba with rates being specially high amongst the vascular plants (52%) and herpetofauna (80%) (Vales *et al*, 1998). Significant endemism also occurs amongst other taxonomic groups, for example, the spiders and mollusks, and outstanding unique species include the world's smallest bat (Butterfly Bat: *Natalus lepidus*), smallest frog (*Eleutherodactylus iberia*), smallest bird (Bee Hummingbird: *Mellisuga helenae*), smallest scorpion (*Microfityus fundorai*) and largest shrew (*Solenodon cubanus*)<sup>1</sup>. Indicative species for each ecoregion are proved in Annex F-Table 4. Cuba also harbours the largest populations of a number of extant, non-endemic endangered or vulnerable birds, including the Plain Pigeon (*Columba inornata*), which is endangered.

10. Over 75% of the endemic biota is now threatened, and 36% classified as globally endangered (WWF 1997). As in various small islands, many Cuban plants and animals have naturally localised distributions and small source populations, being restricted to small patches, such as a single mountain range. Widespread habitat loss within these rangelands threatens these species with global extinction. Other species, once widespread, have been extirpated from much of their former ranges. For instance, the Cuban Crocodile (*Crocodylus rhombifer*) is now found only in the Zapata swamps in southern Cuba, and the previously noted Cuban Giant Shrew, an endangered insectivore considered a 'living fossil', is found only in montane rain forests in the North Eastern wildlands. Cuba also provides an important refuge for migrating birds in the boreal winter, particularly passerines, raptors and waterfowl, harbouring the largest Caribbean populations of many species. Several of these species have restricted winter ranges, centred on Cuba. Loss or degradation of these areas could cause the extirpation and possible extinction of sub-species and races of these birds. The continued survival of a host of species, both endemic and non-endemic, hinges on the preservation of their habitat most of which remains intact only within Cuba's protected areas.

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<sup>1</sup> Such examples of dwarfism and gigantism are trademark characteristics of island biodiversity.

11. Socio-Economic Context: The disintegration of the USSR and the socialist countries, in the early 1990's had significant economic repercussions for Cuba with its GNP dropping 40% between 1990 and 1993, and plunging the country into what is called the *special period* (Cuban National Statistics Office 1998). In an effort to restructure its economy, Cuba relaxed foreign investment and currency laws, focusing on developing aspects of the economy which would least affect national social objectives. Under this successful strategy, sectors such as tourism and mining have been highly favoured. Mining and petroleum extraction has attracted significant foreign investment and, whilst still only representing 1.7% of the GNP, mining doubled its contribution to the national economy between 1990 and 1998. Tourism has registered still greater growth with 16% annual increases in international visits from 1997 to 1999 (among the highest in all of the Americas), resulting in 1.56 million visitors in 1999 (WTO, 2000) and currently representing 20.8% of the GNP<sup>2</sup>.

12. Though economic conditions have improved significantly since the early 1990's, economic growth remains a high priority for the nation and sectors such as tourism are likely to continue to be favoured in overall development policies. Tourism resort development, with both national and foreign capital, continues at a rapid pace and goals for the sector have been set at 2 million foreign visitors for the year 2002 and 5 million for 2005, requiring a 40% increase in current hotel infrastructure. However, despite the emphasis on sectors that attract foreign capital, development policies continue to place high importance on social development with communal social and personal services accounting for 17% of the GNP. A further 37% is accounted by the manufacturing sector and 6.6% from agriculture, hunting, silviculture and fisheries.

13. Only 27% of Cuba's 11.1 million inhabitants live in rural areas primarily in agricultural communities, where sugar cane, tobacco and coffee are common crops. Cuba's largest protected areas are generally located in the more inaccessible regions of the country (mountain ranges, wetlands). Here, population densities decline significantly (less than 5 people/ km<sup>2</sup> versus a national mean of 100) and economic activities are mostly limited to subsistence agriculture and employment with government agencies involved predominantly in forestry and conservation activities.

14. Policy and Regulatory Context: Article 27 of the Cuban Constitution of 1992 establishes that the State will protect the natural environment. It also acknowledges the relationship the environment has with sustainable economic and social development and the obligation of citizens to contribute to its protection. Since this more generic ruling, Cuba has adopted a progressive policy and legal framework for biodiversity conservation that reflects its commitment to the international treaties to which it is party, including the Convention on Biological Diversity, and the World Heritage, CITES and RAMSAR Conventions. In 1998, a Biodiversity Country Study was prepared which overviews the status of biodiversity across the country. The National Biodiversity Strategy and Action Plan (NBSAP), completed in 2000, defines the priorities for Cuba's conservation strategy, and establishes an agenda for action. Eleven major objectives are specified, six of which bear directly on the scope of this initiative<sup>3</sup>.

15. In parallel, the legal framework relating specifically to protected areas has also evolved. Although several protected areas had been set aside in Cuba in the first half of the 20<sup>th</sup> century, these had enjoyed little legal recognition nor were they conceived as part of a protected areas system. Starting in 1963, a more rigorous legal process was applied in the creation of an increasing number of protected areas. The National Environment Law (81), passed in 1997, established the formal framework within which the Cuban National

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<sup>2</sup> Annual Statistics 2001 contains figures from the year 2000 at current prices

<sup>3</sup> These are (i) Establish a representative network of protected areas to conserve natural habitats; (ii) Strengthen the legal framework for conservation by drafting specifications to Laws; (iii) Reinforce institutional capacities for conservation at all levels of administration; (iv) Enhance capacities to monitor and evaluate the status of biodiversity, including by strengthening scientific research capabilities, and data management systems; (v) Develop integrated policies, strategies and programmes for conservation and development; and (vi) Impart public awareness of ecological values and encourage citizen participation in conservation.



System of Protected Areas (SNAP) was to be inscribed. Through Article 90, this Law also defined the basic principles and objectives of the SNAP. Whilst all these objectives are pertinent to this proposal, five have direct relevance; (i) Conserve *in situ* flora and fauna and biodiversity in general ; (ii) Ensure that local production activities are undertaken rationally and sustainably with special attention to the conservation of fragile ecosystems; (iii) Conserve and restore soils against erosion and sedimentation; (iv) Manage and improve forest resources so that they fulfil their role of environmental regulators and provide silvicultural products; and (v) Provide environmental education, specifically to local populations. Finally, Decree Law 201, passed in 1999, gave legal recognition to the SNAP and defined its general dispositions including management categories, responsibilities, procedures and normative frameworks (CNAP 2000).

16. Institutional Context: The Ministry of Science, Technology and Environment (CITMA), established in 1994, is charged with regulating and co-ordinating environmental management in Cuba. In 1997, the Environmental Law 81 vested CITMA with specific responsibilities for directing and controlling protected areas in collaboration with other relevant institutions. Within CITMA, the National Centre for Protected Areas (CNAP), created in 1995, is responsible for the planing and integrated management of the SNAP and for guaranteeing its overall co-ordination, control and optimal functioning. At the administrative level, a range of other national and provincial institutions, agencies and centres are responsible for operations in different protected areas under the overall guidance of the CNAP and CITMA's Provincial Environment Units which co-ordinate environmental work in the provinces including protected areas management.

17. These agencies include the National Flora and Fauna Protection Corporation (ENPFF) under the Ministry of Agriculture (MINAG), created in 1985 prior to the creation of CITMA and the CNAP, when MINAG's was responsible for managing agricultural and forested lands throughout the country, including conservation lands. The ENPFF continues to manage fifty-three protected areas amongst which are the largest and most established national parks in Cuba. Administration of newly created protected areas has been granted to agencies under CITMA and marine protected areas are managed by agencies under the Ministry of Fisheries (MIP). A series of other agencies have responsibilities that support the overall functioning of the SNAP. These include the Forest Guard (CGB) under the Ministry of the Interior (MININT) that enforces protected area rules and regulations, and has the authority to impose fines and arrest infractors. A more detailed analysis of institutional and other stakeholders can be found in Annex I.

## **BASELINE COURSE OF ACTION**

### **Threats to Biodiversity in Protected Areas.**

18. Anthropogenic disturbances, particularly in the 19<sup>th</sup> and early 20<sup>th</sup> century have resulted in large-scale alteration of the natural landscape in Cuba, with a subsequent loss of habitat and of constituent biodiversity. Cuban biologists estimate that, since 1600, some 960 plant species and over 250 vertebrate species have either been lost, or rendered endangered, threatened or vulnerable, equating to 15% of the original flora and 41% of the vertebrate fauna (WWF 1997)<sup>4</sup>. In the face of these trends, the management of remaining natural habitats is essential if viable representations of Cuba's rich biological heritage are to be conserved. Recognising this, Cuba has made significant strides in protecting natural habitat areas that retain significant pre-colonial characteristics, placing the bulk of these into a national system of protected areas (SNAP), with eight management categories, closely following IUCN categories, that provide varying degrees of legally

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<sup>4</sup> Historically, the main causes of biodiversity loss at landscape levels have included:- (i) habitat loss, spurred by expansion of the agricultural frontier, both for the cultivation of sugar cane, tobacco and other cash crops, and for cattle ranching; (ii) over harvesting of some species including the harvest of fuel wood, timber, wood stems (primarily for the tobacco industry), certain non-timber forest products (iii) pollution of rivers and streams, mainly by the sugar industry.

enforceable protection and land-use restrictions<sup>5</sup>. This action has helped control threats to biodiversity in protected areas at least, and has reduced the high habitat loss rates described above.

19. Many of the larger protected areas are located in inaccessible mountainous areas or coastal lowlands, where the often poor soils, excessive rainfall or steep slopes are not conducive to human habitation thus keeping anthropogenic pressures low. Despite these natural barriers to settlement, some protected areas do have human populations within and surrounding their borders and these, plus a range of sectoral and commercial interests, are exerting increasing pressure on biodiversity through land-uses that are incompatible to the conservation goal of the management category under which the area was established. Where this does occur the impact of these threats is still very low, however, with the influx of national and foreign capital, particularly to the tourism and mining sectors, landscape barriers are being overcome. With this, access to protected areas is easier and concomitant increases in the magnitude and impact of existing threats could be experienced if action is not taken. The current magnitude and determinants of these threats vary greatly from area to area as do the risks of future increases. These are summarised in generic terms below and assessed in more detail in Annex G along with an evaluation of their root causes and possible solutions, and the current and projected magnitude for protected areas selected for project intervention.

➤ Visitation and Tourism Infrastructure: Resort developments are under construction and being planned throughout the country, some immediately adjacent to protected areas. In some cases, PA boundaries have been drawn around proposed resort development sites largely because tourism development in Cuba was actively promoted before the SNAP was established. When the official legal recognition is still pending, land-use restrictions related to the management categories, cannot be fully enforced, increasing the risk of expansion of tourism infrastructure within boundaries. Furthermore, poor consolidation of PAs leads to visitation rates and types that can conflict with conservation goals and increase pressures on biodiversity from a range of actions such as trampling and disruption of wildlife. Although carefully managed nature-based tourism has the potential to create alternative and conservation compatible sources of rural livelihoods, *ad hoc* developments and mass visitation will almost certainly cause habitat deterioration.

➤ Bio-invasion: Being an island with a high degree of endemism, Cuban biodiversity is predisposed to threats from alien species. Indeed, notorious invasive vertebrates such as pigs, black rats, cats, dogs and mongooses are increasingly common in and near some PAs and are known to prey on a variety of native animals. Invasive plants such as Australia's *Melaleuca leucadendra* and *Casuarina equisetifolia*, *Leuceana leucocephala* from Central America, and *Dichrostachys cinerea* from Africa and the Indian sub-continent (locally known as marabu), spread rapidly and out compete native vegetation, displacing it and creating large tracts of single species forests, of diminished ecological value to native wildlife.

➤ Small-scale agriculture, livestock activities, and poaching: The rate of expansion of large and medium-scale agriculture into wildlands has diminished in recent years, and the protected area estate is no longer threatened with permanent land conversion. However, when a protected area is established in all but Natural Reserves, existing inhabitants can remain although new settlers are prohibited. Subsistence use of wild resources by these inhabitants is permitted in PAs under IUCN Categories II-IV as long as these do not compromise the PA management objectives (Law decree 201, art. 13). In most areas the populations are

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<sup>5</sup> The number of existing PA per category and those proposed are indicated in Annex F Table 1 together with details on the types of land-use permitted and the restrictions as regards inhabitants. IUCN Category I equates to Natural Reserve Scientific permitting only research with public access restricted and no inhabitants; Category II equates to Cuban National Parks & Ecological Reserves that permit recreational uses and subsistence uses of wild resources as long as they are compatible with management objective have clearly defined core zones of limited access does not permit new inhabitants once legally established. IUCN Category III equates to Natural Outstanding Element and IV to Fauna Refuge & Flora Reserves in which only those activities that do not harm the attribute to be protected are allowed and once legally created no new settlements are permitted; Categories V and VI equate to Protected Natural Landscape & Managed Resource PA respectively that permit productive activities and traditional land uses that do not adversely affect aesthetic values or the flow of ecological goods and services as well as settlements outside core areas.

extremely low and activities do not effect overall viability of the PA role in conservation, however, in some areas shifting cultivation occurs, and slash and burn is leading to forest degradation and to the setting of accidental wildfires particularly in mountain areas, causing large-scale forest fires further effecting biodiversity (see next bullet). In others, livestock, predominantly pigs, are allowed to wander in a semi-wild state and prey on both plant and animal species. Some poaching of animals such as hutias -Cuban tree rats (*Capromys*), crocodiles (*Crocodylus*) and fresh water turtles (*Chrysemis*) for food also occurs and as well as the collection of some native plants for medicines. On the whole the level of this is insufficient to threaten the population viability of target species with the exception of a few PAs that have already low populations e.g. Viñales. Poaching fresh water of nestlings of the Cuban Amazon Parrot and Cuba conures grassquits (*Tyaris*) and bullfinches (*Melophyrra*) for the pet trade, poses a larger threat for these species that are common household pets throughout the county.

➤ Forest fires: Anthropogenic forest fires claim large areas of Cuban forest every year mostly caused by poorly controlled agricultural activities (slash and burn) or from other careless uses of fire<sup>6</sup>. The spread of wildfires is also facilitated by plantation forests. Cuban pine forests and Cuban dry forest ecoregions are particularly threatened by forest fires. Fire-fighting abilities are limited due to poor infrastructure, training and interagency co-ordination, further exacerbating the threat.

➤ Larger scale commercial and semi-commercial agro-silviculture: Citrus, coffee and cocoa plantations are maintained by government agencies in or near some of the larger protected areas, to meet the subsistence needs of personnel living and working in remote regions. This reflects a long standing social policy to provide employee subsistence, and as such fulfils an important function, but activities can modify natural habitat and wastes from processing facilities located in or near parks can pollute local waterways. Regional forestry enterprises undertake forestry work to restore degraded land within some PAs or for commercial purposes in buffer zones. Until recently they have used the invasive species (*Casuarina* sp.) for reforestation, exacerbating the bio-invasion threat. Forest plantations may be particularly prone to fire, helping spread these into PAs, and often consists of low quality habitat for native and endemic species.

➤ Mining: Chrome and nickel mining is an economically important activity in the protected areas in the east of the island, modifying natural habitat and causing pollution as extracted ore undergoes primary (non-chemical) processing on site. Mineral deposits have been discovered in some parks and pressure to expand mining activities into buffer zones and park lands is considerable.

➤ Water pollution: In some protected areas decomposing organic residues from the washing of coffee beans grown in the areas can cause reduced oxygen availability for freshwater animals in very localised sites, leading to possible eutrophication in slow moving waterways. Municipal/domestic waste waters have similar impacts and mineral extraction from mined ore uses large volumes of water that, when poorly treated, may contain toxic chemicals and heavy metals which can contaminate freshwater ecosystems. In the vast majority of areas, however, impacts are minimal as point source pollution has decreased in recent years, following investment by the Government in pollution abatement schemes.

20. The effect of these proximate threats on biodiversity is currently low, however, the control of their potential increase will be severely hindered by the sub-optimal operation of protected areas and the recently created SNAP. This sub-optimal level of operations is the result of functional, methodological and institutional deficiencies that include, amongst others, inconsistent approaches to PA management by the different institutions composing the SNAP; unclear guidelines and low capacities regarding management strategies and the norms and regulations of different management categories; perceived overlapping responsibilities and weak co-ordination in a complex institutional setting; sever equipment inventory deficiencies; low awareness at local and national levels of the SNAP and the values that this protects; and inadequate facilities to face the potential pressures from growing visitation or capture the benefits that this

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<sup>6</sup> 73,576 ha of forest and 23,317 ha of herbaceous vegetation were burnt between 1992-2001. 17,000 ha were in Cienaga Zapata

may provide. Until the CNAP and SNAP constituents overcome these significant barriers, the growth and maturity of an organisational and operational framework for the conservation of globally significant biodiversity in Cuba will be delayed and the proximate threats listed above will grow in scope and importance, placing habitats at greater risk and threatening the viability of global biodiversity. These critical deficiencies and barriers are described in more detail below together with information of the default scenario (baseline) for each of the groups of actions required to overcome them.

## **REALISTIC BASELINE**

21. Formally established in 1997. Cuba's SNAP presently comprises 80 sites of national importance, and 183 sites of local importance<sup>7</sup>. These were chosen from more than 400 applications for inclusion in the PA network, and placed within eight management categories, corresponding to the six categories in the IUCN classification system (see Annex F Table 1 and footnote 5). Of these areas, a total of 43 sites, including 10 national parks, have been under some form of legal recognition since the 60's. A further 32 were legalised in 2001<sup>8</sup> and work continues towards approval of the remaining sites. While Cuba's investment in the SNAP has been significant and will continue, the country lacks essential know-how and capacities to raise operational levels to those required to effectively contain the threats to protected areas. Financial support is urgently needed from the international community to pilot conservation methods that are appropriate to the local context and specific management dilemmas, sensitise staff to these new approaches, build their capacities to execute them, and strengthen the institutional framework for managing both individual PAs and the SNAP. Further on-site investment in targeted operational and management infrastructure is needed to assure the sustainability of conservation management. These needs mark out the entry point for a GEF intervention. The default scenario, in the absence of support from the GEF is described below.

22. Protected Areas Operations and Management: Operations are currently financed through different government agencies programmes that focus on the respective agency's interests. For example, resources from the State Forestry Service are commonly sought to cover wages and operational costs for plantation management, road maintenance, erosion control, fire protection and nursery work. Other funds are made available for ecological monitoring and research work through a national research council. Though this system allows governmental conservation objectives to be undertaken in the SNAP, the fragmentation of funding sources, and restrictions applied, requires complex financial and administration planning if timely and effective management responses to changing conservation challenges are to be achieved. It also requires clear management plans to provide a blueprint that prioritises actions and sites to ensure the optimal use of these fragmented resources. Of the 80 protected areas so far established, only ten have management plans and these have not been developed following a unified approach to planning nor count with the systematic participation of local stakeholders and sectors that have vested interest in the area. Furthermore, not all National Parks have clearly defined the areas for restricted access that would serve as core zones for strict conservation of biodiversity.

23. Implementation of management activities, whether within a defined management plan or not, face a series of barriers that hampers still further site management. CNAP, MINAG, and the MIP currently employ some 2000 staff dedicated to PA management, and MININT employs 1000 Forest Guards. However, these are not distributed evenly throughout the system and three PAs account for nearly 30% of the total staff complement whilst others are severely under-staffed. This scenario is exacerbated by infrastructure deficiencies and inadequate equipment inventories particularly in communications, visitor interpretation centres and management facilities. Monitoring and evaluation of ecological and management indicators at the site and national levels is still incipient, also impeding the effective channelling of limited

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<sup>7</sup> Many of sites are contiguous: e.g. in Biosphere Reserves, both the Reserve and other protected areas categories within it are gazetted individually. After correcting for such overlap, 15 'clusters' of protected areas of national importance may be identified.

<sup>8</sup> Through Agreement 4262 of the Executive Council of Ministers (CECM)

resources to priority actions and hindering decision-making. Furthermore, though scientific institutions undertake biological studies, this is not geared to site management and decisions are made on incomplete information bases. While GIS and similarly advanced information management tools have been recently adopted within the CNAP, these are generally not available to the majority of PA managers and the incipient SIGAP (Protected Areas Geographic Information System) is yet to be made fully operational and linked to existing site GIS to facilitate the exchange of and access to existing information.

24. Thus, *under the baseline scenario*, there will be an unmet need for site-focused planning and frameworks in which to define financial and administrative operational plans reducing the effective channelling of scarce resources to critical activities and impairing implementation of vital conservation actions. The range of institutions responsible for PA management would continue to adopt different approaches to management planning and conservation reducing efficiencies, and undermining a cohesive and comprehensive system wide approach to conservation. This, coupled with critical deficiencies in equipment inventories and poor co-ordination with productive sectors, would debilitate still further site-specific conservation measures and current threats would grow in magnitude with concomitant habitat destruction putting at risk the long-term survival of globally significant biodiversity.

25. SNAP Regulation and Co-ordination: While the CNAP is the lead agency for co-ordinating and regulating the SNAP, at the site level, operations are performed by a number of different agencies (see paragraph 16 and Annex I). In some PAs this results in management approaches not centred on biodiversity conservation but rather reflecting the mandate of the administering agencies parent Ministries<sup>9</sup>. Moreover, as the SNAP and its regulatory framework is so recent not all agencies, or PA staff, are familiar with existing legal and normative codes or with land-use restrictions for each management category. At present, CNAP has a staff of just 20, limiting its capacity to provide the needed guidance and capacity building to SNAP constituents, to audit the quality of management interventions of other agencies in PAs, to co-ordinate the efforts of different stakeholders at the system and site-levels and to represent government conservation priorities in overall national policy development processes. This weak staff complement is exacerbated by deficient equipment inventories, particularly for transport and communications. Equipment and staffing deficiencies in key administrative agencies further deteriorate co-ordination of management actions under a common framework.

26. The adoption of system-wide uniform approaches to management is also hindered when sectoral interests exert pressures on individual protected areas. For example, at the regional and local levels, forest management enterprises run by provincial or municipal agencies can have conflicting mandates to those of the PA and undertake activities that conflict with conservation. Similarly, mining interests, can compromise overall conservation efforts by seeking to expand concessions in or near PAs or by negative environmental impacts from current operations. The law 76 established that mining concessions are granted by the CECM only following consensus by all entities that have interest in the area, however, the weight that the PA and SNAP conservation goals have in building this consensus is not always clear or uniformly applied. Furthermore, although all mining activities are subject to environmental impact assessments overseen by CICA-CITMA, and CNAP recommendations and considerations are requested and incorporated into licensing procedures, these are not always fully implemented.

27. Until recently this complex institutional and sectoral scenario and its effect on co-ordination and regulation of SNAP, has been exacerbated by the absence of a clearly defined SNAP strategy and comprehensive plan for implementing priority actions throughout the system. However, with the support of

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<sup>9</sup> For example the Ministry of Agriculture MINAGRI mandate centres on a variety of resource based economic development activities including forestry and agriculture. Within this Ministry, the SEF is responsible for categorising forested areas for production and regulating forestry work. Another of its branches, ENPFF, is responsible for managing many of the largest PAs that have conservation of biodiversity as a goal and require the enforcement of land-use restrictions that may infringe on SEF and other MINAGRI activities in the vicinity. Annex I details stakeholders, their interests and potential conflicts & Annex J sectoral policies.

PDF B funds, the CNAP has recently concluded a national participatory planning process through which an overall SNAP 5-year operational plan has been developed. The plan prescribes investment in a series of programmes representing a much broader and co-ordinated approach to conservation than in the past. Whilst the participatory nature of this plan will undoubtedly facilitate overall co-ordination of SNAP, new institutional arrangements are needed to strengthen co-ordination at the policy defining level between sectors, at the operational level across all responsible agencies, and locally within individual PA's, to establish clear lines of communication with other resource dependent entities and define compatible objectives. In the absence of this, *the default scenario* will be characterised by sub-optimal co-ordination and regulation and the sparse resources available for PA management will be poorly applied causing duplications and gaps and the loss of opportunities to better capture global biodiversity benefits.

28. Controlling Proximate threats to Biodiversity in Protected Areas: As, communities in and around PAs under some management categories, are permitted to undertake certain productive activities<sup>10</sup>, it is critical that they apply practices that do not cause negative impacts on biodiversity. The GoC has established two incipient programmes that adopt an ecosystem approach to protecting sensitive mountain ecosystems and watersheds. In these areas ecologically sustainable development will be advance including assistance to upland communities to adapt their farming systems and environmental restoration through reforestation. While representing an important contribution to sustainable livelihoods, these programmes focus on areas outside core protected areas and their buffer zones, and are not specifically designed to meet biodiversity conservation objectives. The GoC also plans to increase forest cover 6% nation-wide to reach 27 % of the country' land surface, establishing multiple-use wood lots to supply rural communities with timber, building materials and other products, thus reducing the harvest of these resources from natural forest stands. However, experience of reforestation with heterogeneous native species is incipient and monocultures, with reduced habitat value for native species, is the norm. Lessons learned in other parts of the world, where joint objectives of forest management programmes integrate strict biodiversity conservation objectives need to be applied to Cuba's reforestation efforts particularly near core protected areas if their role in conservation is to be maintained.

29. Other efforts to abate the growth of threats to biodiversity in PAs include continued vigilance and protection to deter illegal hunting and plant collection, and the work of fire fighters to control fires spreading from forest plantations or caused by agricultural slash and burn practices. In both these cases however, the institutions responsible for these tasks are not normally the same as those administering the PA and this, together with limited amounts of resources, inadequate equipment inventories and the absence of co-ordinated and cost-effective control methods, hamper effective responses. In areas where mining activities constitute a potential threat, mitigation actions are undertaken but these are not always successful or adopt state of the art methods for restoration of damaged habitats. Finally, as several species of introduced plants and vertebrates are recognised as widespread nuisances in Cuba, some control of alien species is undertaken focusing principally on those impacting agricultural production. Some preliminary studies have been carried out on the effects of feral pigs and dogs in Turquino National Park but, in general, there is a lack of knowledge and ability to deal with alien species threats to biodiversity.

30. *Under the base line scenario*, individual PA managers will continue their efforts to control land-use practices of communities within their areas and will endeavour to plan and implement control and vigilance actions in conjunction with different agencies. However, hampered by the lack of cost-effective and state-of-the-art management strategies, and deficient training and equipment to implement these once defined, these efforts will be sub-optimal. In this default scenario Cuba would also witness greater reforestation rates, but without the introduction of conservation measures, an important and cost-effective opportunity to influence the structure of large areas of new forests to improve their habitat value for threatened species, would be foregone. Finally, although Cuban conservation authorities have become increasingly aware of the severity of the bioinvasion threat, and have identified a programme of action for the control of

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<sup>10</sup> See footnote 5 and Annex F Table 1.

introduced species in the 5 year SNAP plan, the baseline would be characterised by an insufficient level of bio-invasive control capacity in PAs. As access to protected areas increases, and in the absence of clear and cost effective management strategies to check these threats, pressure on PA would be augmented to levels that may affect the viability of the largest remaining habitat stands of four globally significant ecoregions.

31. Education and Awareness Building: It is critical that residents within PAs and their buffer zones, not only have access to biodiversity compatible practices, but also understand ecological processes, their components and how general ecosystem health is vital for the renewable resources and environmental services on which they depend. The Centre for Environmental Information, Management and Education (CIGEA), attached to CITMA, is responsible for guiding environmental education programmes countrywide. The Ministries of Education and Higher Education and citizens groups are responsible for implementing these programmes. Some of these are being carried out in the environs of 24 protected areas, mainly at the community level, however, the national education drive has tended to focus on 'brown' issues. A National Environmental Education Strategy has however, been developed, and establishes conservation education as a priority. There is a need to put the Strategy into action by expanding conservation awareness efforts, to improve understanding of the values of natural ecosystems, and the role played by PAs in protecting them.

32. Beyond the Strategy, there is an increasingly recognised obligation on behalf of SNAP constituents to involve local stakeholders in PA management activities. Although individual PA managers make efforts to involve local stakeholders there is little systematic approach to participation or clear mechanisms through which this can be achieved. Furthermore, while local stakeholders may be increasingly aware of the PA within their vicinity awareness that this forms part of a national wide system is rudimentary. Similarly at regional and national levels the awareness of the SNAP as a comprehensive system to protect national heritage is still incipient. *Under this baseline scenario*, though an increasing number of PA residents would be exposed to environmental education opportunities, the lack of specific mechanisms through which they could participate would continue to undermine PA conservation objectives. In addition, until the SNAP develops a nation-wide corporate image, of itself and of its network, vis-à-vis both Cubans in general and the powerful international tourism interests in particular, its principal proponents will continue to wield little power in the higher decision-making structures within the Cuban government.

33. Visitation to Terrestrial Protected Areas. While the country has hitherto focused on promoting mass tourism, there is recognition that the nature based tourism sector needs attention too. If developed carefully, this could provide conservation compatible livelihoods and contribute towards the sustainability of PA management. However, for this to occur, well-defined and biodiversity-compatible tourism products and services need to be developed and local communities trained to deliver them. Carrying-capacities and an evaluation of potential impact related to different visitation scenarios do not exist for PAs nor do these areas have the capacities to regulate these levels once established. Currently the principal activities related to visitation in terrestrial PAs are the maintenance of existing trails, support of a limited number of guides, in some cases the preparation by PA staff of isolate information on specific site characteristics and the preparation of excursions by travel agencies and tour operators.

34. At the institutional level, the SNAP is little known and understood among its government peers, so much so that the tourism industry has been giving its own names to otherwise unpublicised national parks (for example, the Zapata Swamp is referred to the "Parque Natural Montemar" by various Cuban tour operators). A survey of tourist guide books reveals frustration on the part of authors regarding the availability and reliability of tourist information regarding park visitation. This can be explained by the relative newness of the SNAP, but unless a product is adequately conveyed to Cubans in general, and to governmental agency peers in particular, the system will continue to suffer poor representation before critical decision-making bodies and will not optimise visitation rates and potential benefits. *Under this scenario*, mass tourism will continue to have the upper hand in tourism development plans near, and within

PAs. The tourism that is likely to occur will be intrusive and disruptive of natural processes, thus potentially increasing threats to biodiversity in a wide range of protected areas within the system. Already, the ecological integrity of some PAs has been negatively influenced by the tourism sector.

## **ALTERNATIVE COURSE OF ACTION**

35. Cuban biodiversity is recognised as having outstanding global significance with four terrestrial ecoregions classified as the highest regional priority for conservation. Although, extensive habitat loss in the past has seriously degraded these assets, the timely action of the GoC has placed the largest remaining areas under protection within a national system of protected areas (SNAP) which contains a well conserved, and highly representative, assemblage of these global values. The present threats to the global benefits captured within the SNAP are low, however, they are expected to increase as access to the PA augments, spurred by rapidly growing foreign investments. Without GEF intervention, the SNAP will continue functioning at present levels affording some protection to a number of protected areas, however, this will be insufficient to check growing threats. The consequence will be increased pressure on remaining natural habitats and gradual degradation of their integrity with the attendant losses to global biodiversity benefits.

36. The proposed alternative course of action is to develop Cuba's network of protected areas as the most effective way to conserve globally significant biodiversity and natural ecosystem functions. The choice is to take action, at a demonstration level, to provide lessons and capacities that can later be replicated throughout the system, but that ensure key pilot protected areas are functioning effectively, integrating conservation objectives into national and local development objectives, mitigating threats and ensuring broad public support and participation. This project proposal differs from the default scenario as it would expand existing capacity for protected area management in Cuba to new levels, broadening the view of problems and solutions from site, institution and sector-specific perspectives to one of a well co-ordinated and highly visible network, that is fully able to deliver cost-effective, strategic and state-of-the-art management strategies geared to arrest potential increases in threats to biodiversity and to deliver continued and long-term capture of the global values inherent in its natural endowment.

37. Strategic decisions and stakeholder participation in project design and formulation. The proposed alternative course of action would fully complement the baseline actions already programmed within the SNAP and has been designed to address the programmatic gaps within this default scenario. The following strategic decisions were made regarding project design and sequencing:-

i) *Project integrated with SNAP Planning to guarantee broad-based support and focused action.* The proposed project forms part of a GoC's ten year programme to strengthen the SNAP. The first five years of this programme have been detailed in a SNAP Operational Plan that was developed through a concerted participatory effort involving representatives from over 30 government agencies and protected area managers. This process included a week long planning workshop with 70 participants representing all SNAP constituent institutions and stakeholders, supported through GEF PDF B funds. The resultant Plan designs and indicates a schedule for making operational protected areas and for integrating best practices into management and financing, thus providing a framework for project design. Indeed, during the SNAP-Plan workshop, a project design sub-group was established and took part in two subsequent project-specific design workshops. (Annex I provides details on stakeholder participation during formulation and Annex M the SNAP 5year Operational Plan). During this process critical issues needed to capture global benefits rather than purely national ones were identified. As the resultant project was designed through this highly participatory approach, and closely reflects national planning priorities and processes, broad based and strong support can be expected for its implementation.

ii) *An adaptive management approach to the strengthening of the SNAP.* A sequenced intervention strategy has been outlined in the ten-year national programme to allow adjustments over time as lessons



are learnt and capacities raised. During the project preparation process it was determined that the currently proposed GEF intervention would take action at a demonstration level, to support the first three years of this programme, demonstrating an array of management methods within a representative sample of the country's ecosystems and socio-economic landscapes and providing key inputs to the overall SNAP structure and processes. This would develop vital capacities in key areas and themes, thus providing a strong basis on which to move forward in the ten-year national programme addressing progressively more complex issues and challenges and gradually consolidating the entire SNAP. Upon successful implementation of the GEF project, the remaining two years of the five-year SNAP operational plan would focus on expanding the newly acquired skills and abilities and extending new management approaches across the protected area system in similar management categories and settings. The third step of the 10-year programme would raise the system's cohesion and integrity to still higher levels, addressing a broader range of protected area management categories and challenges and adopting a bio-regional approach to conservation by creating biological corridors to ensure connectivity between clusters of protected areas in specific regions. While the currently proposed GEF project would capture significant global benefits, the second and third steps in the SNAP 10-year programme would clearly expand these benefits, as well as add new ones. The detailed planning for these future steps would be undertaken in parallel with, and learning from, the current GEF project, however, it is envisaged that international support would be needed, in addition to national efforts, to develop the increased capacities that the full implementation of all steps in the ten-year programme would require.

UNDP has shown clear support to the first step of this ten year programme by channelling US\$ 0.2 million from its core funds to the current GEF proposal and by catalysing and securing the participation of the FFEM and WWF Canada as substantial co-funders (US\$1.236m and 0.401m respectively). UNDP is also committed to assisting the GoC in mobilising and consolidating international support and resources for step two and three of the ten-year programme, thus ensuring continued assistance to build a SNAP that would protect and sustainable manage all Cuba's globally significant biodiversity. Indeed UNDP has made advances in identifying and securing resources for step two. These include the formulation and negotiation of a US\$ 2 million UNF proposal focusing on invasive species control in the SNAP, that has been approved and for which operational means of effecting its start up are currently under evaluation. UNDP is also planning a presentation of the full five year Operational Plan to a select group of donors at a meeting that may be held jointly with France in Paris in the near future. UNDP is also developing contacts with New Zealand's Foreign Ministry's Department of Co-operation as a strategic partner to support the SNAP Plan. Finally, in the medium-term, and following the evaluation of the current GEF project, UNDP will also provide support to the GoC for mobilizing resources for step three of the ten-year programme from a range of donors including Governments and international institutions. Funding sources for the steps two and three would also include amongst others, the new SNAP financing mechanisms to be defined through in Activity 1.11 of the current GEF proposal

*(iii) Focus on threats at selected-sites and raising system-wide capacities for replicating lessons learnt.* Site-specific action would be designed to deliver protection to endangered and highly significant biodiversity in the short term, however, this would be complemented with actions to raise capacities system-wide in key themes and processes, to facilitate the replication of site-specific lessons and ensure more structured co-ordination and operation of the system as a whole. Each Project Output would have site-specific and system-wide activities ensuring the complementarity of this two-pronged approach. Whilst the relative percentage of resources at each level would differ for each Output, the aggregate total of resource allocation would be in the order of 70% site-specific and 30% system level action. To further facilitate replication of lessons learnt, where possible, system-level capacity-building exercises would be held in pilot protected areas providing hands-on training and demonstration.

(iv) *Pilot protected areas that maximise benefits to globally significant biodiversity and address full complement of management issues.* Following an in-depth evaluation of threats to biodiversity in PAs and their root causes, and of species richness, endemism and vulnerability, four pilot sites, one for each ecoregion, were selected from ten candidate sites. Collectively these four areas represent the range of management challenges faced in the SNAP and as such, once solved through demonstration action, could provide lessons replicable throughout the system. They also represent the greatest alpha, beta and gamma biodiversity that can be collectively covered in four PAs in Cuba and include more than 50% of all of the country's plants and vertebrate species, in terms of absolute totals and of numbers of endemic and endangered species. Three of these pilot areas correspond to individual National Parks (NP) that permit access for recreation and educational purposes in part of their areas but also include cores zones with restricted access and land-use that are designated for strict conservation of areas that can support viable populations of endemic species<sup>11</sup>. By focusing on one management category, complexities would be reduced until capacities are raised in the SNAP. These National Parks (NP) are NP Guanahacabibes for Dry Forest; NP Viñales for Pine Forest and NP Cienaga de Zapata for wetland ecoregions.

In the case of Moist Forest a slightly more complex pilot area was selected. This is the mountain range Nipe-Sagua-Baracoa declared a Special Region for Sustainable Development, or multi-use protected area, in 1995. This category is different from the eight principal ones in the SNAP due to the extension of the region and the high level of human influence and economic potential it represents as well as its natural values and fragile ecosystems. Within these multi-use areas land-use zoning defines areas for more intensive use and others for different aspects of environmental conservation covered by areas under different management categories. In this case of Nipe-Sagua-Baracoa, the two NPs, Alejandro von Humboldt and Pico Cristal, have been designated as zones for biodiversity conservation and are termed core areas. Within these NPs, further zoning will occur to define areas in which land use and access is strictly controlled providing strict conservation zones. For the effect of the proposed project the pilot site will be the core areas of the multi-use PA corresponding to the two national parks. The former of these has recently been named a World Heritage Site as one of the most biodiverse localities in the eastern hemisphere. Together these two core areas house the richest biodiversity in Cuba and the most complete representation of the Moist forest ecoregions. Considering these as one intervention unit, due to the close territorial and biographical links, would provide the first move towards PA management from a bio-regional stand. Site-specific information on biodiversity and characteristics of these pilot areas<sup>12</sup> are provided in Annex F; assessments of proximate threats and the potential future impact ratings, and descriptions of stakeholders at each pilot site, are provided in Annex G and I-Table 2 respectively.

38. The proposed alternative line of action would deliver the five Outputs described below with their costs indicated in US\$ millions (m).

**Output 1: One pilot protected area is firmly established in each of four globally significant ecoregions, and has the capacity for effective administration, planning and management activities under the overall supervision of the CNAP.** [Total = 4.462 m; GEF= 1.071m; Others = 3.391m].

39. This output would consolidate the recent gains made in the establishment of new protected areas whilst delivering maximum benefits in the short term to all four globally important ecoregions. At the *site-level*, one pilot protected area per ecoregion would have its operations strengthened through the training of managers in planning procedures, financial management and reporting, thus maximising the use of

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<sup>11</sup> National Reserves corresponds to the strictest conservation category in Cuba (see Table 1 Annex F), however, none of the proposed sites have been officially legalised undermining sustainability of project impacts (see paragraph 63). On the other hand several National Parks are officially recognised and these are larger providing wider assemblages of the biodiversity of target ecoregions and should have clearly defined core areas of restricted access as to provide strict conservation.

<sup>12</sup> The pilot areas are referred hereafter as GU, VN, CZ, HB/PC respectively

available resources for operations. In the VN and GU parks a strategy for self-sustained funding of operations would be developed to complement a system level strategy to be developed in Output 1<sup>13</sup>. The increased administrative and financial reporting capacities would provide a demonstration for other protected areas and provide lessons on how to streamline operations within the SNAP. To further enhance efficiencies of conservation in these pilot areas, basic administration infrastructure would be provided allowing for a better overall work environment. A communication system would be established for more timely interaction between the individual PAs and the CNAP.

40. For all four pilot areas, comprehensive management plans would be developed using guidelines to be developed by CNAP at the system level (though this output) for the “across-the-board” systemisation of the management planning process. These guidelines would ensure that despite the pilot areas being under different administrative institutions, uniform approaches would be adopted and local and sectoral stakeholders would be involved in planning and implementing management actions. They would also provide conflict resolution mechanisms to help reach consensus between the different interest groups on the principal elements of the management plan and its conservation goals. The management plans would also include the definition of annual operational plans that define responsibilities for implementation and provide impact monitoring plans to measure the effectiveness of management actions in achieving biodiversity conservation. They would also include the definition and clear definition of restricted access areas that would act as core zones for strict conservation within the Park. Equipment inventories would be up-graded to provide the basic conditions for developing these management plans, particularly basic requirements for transport and for the definition and delimitation of boundaries<sup>14</sup>. Decision-making both for the defining of the plan and its future implementation, would be enhanced by organising information essential for effective biodiversity conservation and making it accessible in user-friendly information management systems, including GIS. Appropriate training of PA technicians in the use of these tools would be provided and the most critical of information gaps would be covered to ensure that essential environmental and socio-economic data is available in these information systems.

41. *System level* activities in this output would emphasise the development and application of national standards and guidelines for PA planning and management procedures as mentioned above, thus increasing the efficiencies of a growing network and facilitating its overall monitoring for CNAP. These guidelines would also clearly outline national policy regarding permitted land-use in different management categories<sup>15</sup>. In addition to this, the overall efficiency of the SNAP structure would be assessed to determine optimal distributions that ensure most effective use of available human resources, and to define new mechanisms for funding of recurrent costs of the system, including expected increases in these as the system grows. It would also include an analysis of possible regional level administrative structures and clustering strategies, such as biological corridors, for facilitating PA management from a bio-regional level perspective and for optimising available resources. The legal requirements for implementation of the selected alternative would be developed and consultations initiated for their adoption. Information management would also be reinforced at the system level by consolidating the incipient SIGAP through perfection of design elements and creating demonstration level networks and internet exchange mechanisms at the central level, one provincial level and the set of four demonstration PAs. This strengthened SIGAP, and the information management to be undertaken at the site level, would be linked to, and provide an input for the Clearing House Mechanism (CHM) that is in the initial stages of development in Cuba as agreed under the CBD. Finally, the Cuban national research priority system would be vested with a greater number

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<sup>13</sup> The site-specific and system-wide activities on self-funding mechanisms will consult the work of The Nature Conservancy, the Wildlife Conservation Society, and the World Commission on Protected Areas in this arena.

<sup>14</sup> Some of this equipment, and administrative infrastructure would also serve activities to be undertaken through output 3 to design and test management strategies at a demonstration level for controlling proximate threats to biodiversity in PAs

<sup>15</sup> During the development of these standards and guidelines particular attention would be given to the relevant work of the World Commission on Protected Areas and other international organisations in this arena

of research topics that directly address conservation management challenges, thus optimising the contribution of national research funds to PA management.

**Output 2: A strengthened SNAP legal framework is in place with specific mechanisms for co-ordination between its constituents and with capacities for making the full use of legal & regulatory tools.** [Total = 0.891m; GEF= 0.460 m; Others = 0.431m]

42. Recent legal and regulatory changes in Cuba provide additional tools for PA management at the site level and for promoting overall SNAP interests at the system level. However, there is a recognised need for training in the application of these and for the development of further legal, regulatory and co-ordination tools. At the *site level*, in each of the four pilot areas, agreements outlining respective responsibilities for stakeholder agencies participating in the management of a PA would be reached making full use of these regulations. These agreements would strive to ensure the most effective use of limited resources, reducing duplication and conflicting actions and enhancing co-ordinated action and shared responsibilities. Similarly, communications protocols would be developed between PAs and local development sectors such as tourism, mining and forestry to ensure that there is an active exchange of information between sectors with potentially conflicting interests. At the *system level* PA administrators, CNAP and other relevant agencies would receive training in these recent legal and regulatory changes and tools to ensure their effective application. Critical regulatory and instrumental gaps would be analysed and proposals developed for subsequent consideration by Cuban lawmakers.

43. As the CNAP and SNAP constituents mature, they seek to engage in useful dialogue with counterpart ministries and their agencies. This dialogue leads to the development of broad national and regional level policy. At the *system level* a formal national council through which such exchanges would take place, would be created and made operational, creating a positive environment for overall co-ordination. In addition, one pilot regional council would be created to further enhance co-ordination at provincial and local levels. The Province of Granma has been selected as the pilot for this regional council as it has the highest number of protected areas, thus requiring particular efforts for co-ordination, and also because none of these would be pilot PA in the proposed project despite the fact that many have outstanding global biodiversity. For example, NP Turquino in this province, has the highest peak of Cuba and houses not only a full assemblage moist forest ecoregion biodiversity but also species that are endemic to the park. By strengthening co-ordination of institutions related to PA management in this province, impacts would be achieved indirectly in these biodiversity rich areas. Finally, and also at the *system level*, this output would strengthen CNAP's ability to manage these councils, and its overall capacity for fulfilling its mandate, through the up-grading of staffing tables and basic infrastructure, developing a comprehensive supervision and monitoring system and providing essential transport and communication equipment for its implementation. In parallel, the managerial capacity of key SNAP institutions (CITMA and ENPFF) would be up-graded through infrastructure improvements and essential communication and office equipment.

**Output 3: Demonstration projects to define the most appropriate management strategies for controlling the principal potential proximate threats to biodiversity in PAs have been implemented and evaluated for future replication throughout the SNAP.**[Total=4.805m;GEF=0.232m;Others=4.573m]

44. Proximate threats to biodiversity in pilot areas are low, however, certain land-use practices and the presence of bio-invasive species are exerting pressure in some areas and could grow. Strengthening overall operations in these would contribute to constraining these pressures, however, in parallel, at the *site level*, a series of demonstration projects would be undertaken to define the most appropriate management strategies to further reduce threats in these areas and provide lessons to be replicated throughout the system. These include the following demonstrations:- (i) to control and mitigate agriculture and livestock activities by introducing intensive animal husbandry practices as an alternative to shifting agriculture in HB/PC; by

developing sustainable agroforestry practices in the buffer zone of HB/PC and by developing norms for controlling large scale cultivation in CZ; (ii) to control and mitigate the threat of forest fires through pilot projects in CZ and HB, strengthening capacities to detect and control fires, developing inter-agency contingency plans and brigades for optimising fire fighting resources, and introducing new forestry practices in plantations to reduce susceptibility to fire; (iii) to control and mitigate illegal hunting and plant collection and dealing in wildlife trade through strengthening surveillance capacities and knowledge and application of fines in all the selected PA; (iv) to control and mitigate biodiversity unfriendly forest plantations in near and within PAs by introducing forestry practices in GU, CZ, HB that take into consideration habitat structure requirements of threatened species, this will include buffer-zone community reforestation programmes in HB/PC supported through UNDP core funds; (v) to control and mitigate mining activities through pilot projects for restoration of habitats and management of organic soils in HB/PC; and (vi) to address the threat of bio-invasion by establishing methods of control eight invasive species in all four areas<sup>16</sup>; by developing awareness campaigns and education and control in GU, CZ and HB; and by reintroduction of species and restoration of habits in CZ and HB.

45. At the *system level*, existing national sustainable development programmes that consist mainly of broad-based initiatives supporting self-reliance for rural communities, would be adapted with the support of rural development and conservation specialists to the context of PA conservation objectives. Periodic multi-sectoral workshops would also be held to improve the participation of CNAP and SNAP institutional constituents in policy development for tourism, forestry and mining activities in and near PAs, creating specific mechanisms for co-ordinating activities. A biodiversity conservation overlay would be developed with the SEF and applied to forest management plans to optimise both production and conservation values. Such overlays would include forest structure analyses to conserve habitat biodiversity, extraction practices to minimise impacts on soil and fire prevention practices. Given the critical threat posed by alien species and the relatively little technical capability within Cuba to deal with it, *at the system level*, a focused information campaign would be carried out to ensure that policy and decision-makers, rural communities residents and Cubans in general are aware of the danger and are more willing to support control programs.

**Output 4: An outreach programme for Cubans and visitors implemented to heighten their awareness on the existence of the SNAP and on the ecological and biodiversity values it is trying to conserve, and to increase community participation in protected areas management and threat control.**

Total = 1.178m; GEF= 0.163m; Others =1.015m]

46. As part of the strategy to reduce incompatible land-use in and near PA's, an environmental education and ecological sensitisation programmes would be developed and implemented to emphasise the values derived from conservation and the threats that these practices represent to PAs. At the *site-level* the programmes would take into consideration existing local knowledge, and would be implemented in those communities located near the pilot areas. They would include the development of specific biodiversity components for school environmental education, the holding of guided tours of areas and the dissemination of information on biodiversity and the characteristics of each park through local media channels, and through the posters, postcards, CDs videos and educational games. In an effort to engage residents in overall PA management, thus enhancing their sense of responsibility, participatory planning, management and evaluation strategies would also be developed and implemented and residents would be trained to help with introduced species control and monitoring and would act as informal park wardens, helping watch out

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<sup>16</sup> These are the pig (*Sus scrofa*), preying on small ground dwelling vertebrates; the cat (*Felis catus*) preying on ground nesting animals; dog (*Canis familiaris*) preying on larger vertebrates; the Black rat (*Ratus* sp) preying on terrestrial invertebrates and Norway rat (*Ratus* spp), preying on nestlings and eggs; and the plants *Dichrostachis cinerea*, *Casuarina esquistifolia* and *Melaleuca* sp. that rapidly colonise land reducing habit quality for native species. While invasive species are to be targeted in various sites, each will represent a different scenario, adopt a distinct control methods and provide different sets of lessons learned. For example the control of feral and semi-feral pigs in Viñales, where human settlements abound near the park, managers would have to deal both with farmer perceptions of park lands as a common resource and the limitation of damage caused by pigs in park. In parts of Guanahacabibes, pigs could be controlled using poison bait due to the absence of human settlements in much of the park.

for activities such as poaching for the wildlife trade. Visitor interpretation facilities, to be established in pilot areas through Output 5, would be used to disseminate to a wider national and international audience, educational and awareness material, including messages on the impacts of the wildlife trade to discourage urban Cubans, the main market for such a trade, from participating in it. Messages would also focus on the SNAP itself, educating Cuban residents in particular on the national and global importance of conserving Cuban biodiversity. Lastly, interpretation would serve to highlight results of scientific research and how these are applied to conservation challenges in PAs.

47. At the *system level*, a corporate identity would be created for the SNAP, building a unified image before Cubans, instilling a greater sense of proprietorship vis-à-vis Cuban biodiversity. A strong corporate image would also help affirm the SNAP's identity and improve CNAP's overall standing among its agency peers. A national communication strategy would be carried out to reinforce the corporate identity. It would include components directed to decision-makers throughout the government, ensuring that they are exposed to the work of the CNAP and the SNAP. A specific set of actions would also be included to facilitate replication of lessons learnt from project activities and outputs throughout the SNAP as well as to other countries in the region as appropriate. These would include the publication of pamphlets and newsletters and a series of workshops of which at least one would be at the national level for up-dating and review of SNAP operational plans to facilitate replication of results throughout the system as they become available; and at least one other would be at the regional level to aid dissemination of experiences throughout the Caribbean building on Cuba's protagonist role in the Specially Protected Areas and Wildlife in Wider Caribbean Region (SPA) Protocol and in the World Commission of Protected Areas - WCPA (see paragraph 56). This set of actions would also include the design and maintenance of a project webpage to facilitate dissemination of lessons at the international level

**Output 5 Visitation strategies, infrastructure and visitor management capacity in pilot PAs are in place and help manage the flow of visitors in such a way as to maximise benefits to visitors while protecting biodiversity and ecological processes.** [Total = 1.774m; GEF= 0.071m; Others = 1.008m]

48. In a bid to reduce the potential threat that uncontrolled visitation could present to all PAs in the near future, a series of demonstration projects would be implemented at the *site level* to determine the strategies and facilities most appropriate for different types of visitation and habitats. These would be geared to prevent negative impacts on biodiversity and ecological processes, and to optimise its role as a conservation compatible livelihood and as a potential source for sustaining PA management. They would fall into two main groups:- those in PAs currently experiencing low-impact visitation from specialised international tourists and local visitations (HB/PC and CZ); and those with higher actual or potential visitation from foreign tourists (VN and GU). PAs in each category would have visitation carrying capacities determined and visitation planning, management and monitoring capacities strengthened accordingly. Visitor centres would be built to incorporate environmental education elements in the visitor experience, (see Output 4), and control posts booths would be built to monitor visitor levels, apply carrying capacity standards and to support overall vigilance in the PA. The French GEF would play a critical role in demonstrations in PAs Viñales and Guanahacabibes by supporting activities related to optimising visitation as a conservation compatible livelihood. These would include the design, promotion and delivery of tourism as a product, developing visitation goods and services such as tour packages, day trips, activities for target groups, holding training workshops for local stakeholders for production of goods to tourists and training guides to pass on the defined tourism product whilst ensuring that conservation goals are respected.

49. At the *system level* and in co-operation with the Ministry of Tourism, a system-wide strategy would be developed which examines how environmentally sensitive visitation, both local and international, can be promoted within PAs. As visitation could play a critical role in helping fund PA activities, evaluations of site specific demonstration projects that include this, would be undertaken and the results incorporated into the proposals for new funding mechanisms SNAP wide (activity 1.11). Periodic workshops would be held

nationally to improve the CNAP, and SNAP constituent institutions, participation in the development of national policies related to tourism, and locally to disseminate lessons learnt and experiences in tourism management to local stakeholders and PA administrators. SNAP environmental interpretation capacities system-wide would be strengthened through study tours and through the provision of international expertise. Again, the French GEF would be the primary external support for these activities.

50. End of Project Situation: At the *end of the project* the above described activities would have removed the main proximate threats to four Cuban Protected Areas at a time when these are too low to have inflicted irreparable damage to the biodiversity housed within their limits. The biodiversity in these areas is highly representative of four globally significant ecoregions classified as a priority for conservation. These pilot areas cover 896.8 km<sup>2</sup> of the Cuban Moist Forest Ecoregion (4.3% of original range); 238.8 km<sup>2</sup> of the Cuban Dry Forest Ecoregion (0.3% of original range); 111.2 km<sup>2</sup> of the Cuban Pine Ecoregion (1.9% of original range) and 1,082 km<sup>2</sup> of the Cuban Wetland Ecoregion (9.2 % of original range) and collectively house approximately 50% of Cuba's biodiversity, 60% of its endemic plants and vertebrates and 77 % of its threatened species. Removal of these threats clearly represents a major advance in the preservation of global biodiversity values in the short-term. In the long-term, the capture of these global benefits would increase as lessons learnt from the definition of management strategies to control these threats are available for replication to other PAs in Cuba that have similar natural characteristics and suffer similar pressures.

51. Visitation levels and models that do not negatively effect ecological processes would have been established for different categories of visitation and best practices established for their management. By optimising visitation and involving local inhabitants in this, an alternative source of supplementing low subsistence could be made available in turn reducing the need for poaching as a supplement, thus further enhancing biodiversity benefits. In addition, complementary project activities would have developed new capacities to facilitate this replication. These include amongst others.- (i) improved visitation management and mechanism that permit resources from this to be directed to PA up-keep would make new funding available for PA management; (ii) the SNAP would have a higher profile and be more respected national wide, its constituent institutions would be strengthened for management; and (iii) CNAP would be better placed to fulfil its role in co-ordinating and monitoring the system and guaranteeing cohesion as a network. Local and sector stakeholders would have heighten awareness of the role PAs have in conserving valuable assets and, as a result, would participate more in PA related activities for which clear mechanisms would have been established. With these raised capacity levels for PA management system wide, SNAP and its constituents would be ready to move to the second step of the SNAP five year plan, addressing challenges related to different PA management categories and extending actions more widely across the SNAP.

52. Stakeholder Participation in Project Implementation and its Goals: The complex relationship between agencies involved in PA management and between PAs and local interests, including residents, calls for wide participatory processes in several aspects of PA planning, management, evaluation and administration and at both the national and local levels. At the system level, the project would establish a national and one regional co-ordination council that would include the most critical SNAP stakeholders (Activity 2.5). The co-ordination councils would serve to present and evaluate SNAP projects, plans, policy and PA monitoring and to co-ordinate multi-agency policy development. They would also serve as conflict avoidance /management fora, where stakeholders would have the opportunity to discuss and resolve differences. These would be also be used to inform on, and monitor, project results and experiences.

53. At the site-level, early in the project, institutional stakeholders in each pilot PA would meet and together, with the support of experienced facilitators, formally identify their respective mandates and define their particular roles and responsibilities. This process would help minimise overlapping responsibilities. Lines of communication would be actively sought between PA administrations and local development sectors, specifically tourism, mining and forestry (Activity 2.2). Existing community participation structures would be used to ensure regular dissemination of project related information, particularly, the

existing system of municipal and provincial environmental commissions, comprised of locally elected municipal assembly delegates, advise municipal bodies on environmental matters. As the project is highly dependent on the active participation of residents in and near the PAs, the project would further ensure their involvement through a variety of planning, management and monitoring activities (See activities 2.3, 3.8, 3.10, 4.1, 4.6). The Public Participation Stakeholder Plan provided in Annex I, describes the various agencies and participatory bodies involved, along with the mechanism through which information would be disseminated and through which local stakeholders would be involved.

54. Eligibility under CBD and for Eligibility for GEF Financing:: The project is fully consistent with the objectives of the CBD and would contribute directly to Article 8 on *in situ* conservation. Within Article 8 it would make particular contributions to objectives of the following items:- to (a) and (b) respectively by making the SNAP fully operational and developing guidelines for strict conservation management categories; to items (c) and (i) respectively by regulating the uses of biological resources and providing conditions and strategies to make present uses compatible with the biodiversity conservation; to item (f) by restoring degraded ecosystems and promoting the recovery of degraded species ; and to (h) by preventing and controlling alien species that threaten ecosystems habitat and species. In regard to alien species work, the project follows the recommendations of Decision SBT/TA/4/L and CoP/CBD guidance decision IV/1c. Prior to inception, decisions arising from the COP VI in the Hague in 2002, on ways to combat this threat would be built into invasive species control actions. Finally, by including monitoring, research, public awareness and participation activities the project also complies with CDB articles 7(b),10 (d),13 (a),12(b).

55. The project is also fully eligible for GEF financing as it would conserve some of the largest and most pristine representations of four ecoregions, all acknowledged to have globally outstanding biodiversity. It would cover the incremental costs of measures required to secure global conservation benefits in these ecoregions and build on the baseline efforts of the GoC to develop its SNAP as the most effective way of achieving biodiversity conservation. To off-set any long-term, incidental domestic benefit that may be incurred from some components of this project, substantial co-funding has been levered in compliance with the incremental criteria of GEF (see Annex A). As the project would focus on biodiversity conservation of 3 forest ecoregions and one wetland, this is a OP# 2 and 3 (Freshwater and Forest Ecosystems) cross-cutting project. By strengthening conservation of large areas of forest it would also provide global benefits in terms of carbon storage, as potential forest conversion that may occur in the absence of the GEF alternative, would be avoided.

56. Linkages with GEF, IA and other Regional Initiatives : Cuba is currently implementing the second phase of a UNDP project supported by GEF and Capacity 21 to protect globally significant biodiversity in the Sabana-Camaguey ecosystem. Based on strengthened capacities for management of marine biodiversity successfully established in the first phase, this second phase will consolidate advances in conservation focusing on the integration of biodiversity concerns into coastal zone management and increasing marine monitoring systems. Institutional capacities for CZM will be developed as well as several marine protected areas. Whilst the management of marine parks required a very different range of skills and tools than terrestrial parks, these form part of the SNAP, and as such, there will be some links with the proposed project. National-level capacity building actions in the proposed project would also benefit certain elements of the Sabana-Camaguey project. Some reciprocal interchange can also be expected as successful lessons learnt in participation and consensus building inherent in CZM may be helpful in the resolution of sector and stakeholder differences throughout the SNAP. Care would be taken to ensure that these complementarities are synergetic and no duplication of efforts or expenditure would be incurred. Special attention would be given to lessons learnt in related and highly significant programmes such as the World Commission of Protected Areas, for which the head of CNAP is the vice-president for the Caribbean, and the SPAW Protocol for which the first CoP was recently held in Cuba. Finally, as noted above in Paragraph 14, the NBSAP, which was developed with GEF funds, establishes a series of



objectives that are relevant to the proposed project, particularly the objective related to establishing a representative network of protected areas to conserve natural habitat.

57. Links with UNDP/CCF. The 1997-2001 UNDP Country Co-operation Framework (CCF) in Cuba has been extended one year and contains several components and elements that focus on, and have links to, the objectives of the proposed project. One of the four basic pillars of the CCF is environmental preservation and the rational use of natural resources including the protection of biodiversity. Support to this protection is delivered through national capacity building, development of judicial bases, introduction of modern management systems, evaluation and control of environmental effects of productive activities, and creation of operational and technological instruments for environmental protection. Although the new CCF (2003-2007) is still under elaboration, preliminary negotiations with Governmental counterparts indicate that environment will continue as a main area and the protection of the biological diversity and the evaluation and control of environmental effects of productive activities on this, will maintain the importance assigned in the current CCF. In this context UNDP-Cuba has successfully negotiated with the GoC a contribution of US\$ 0.20 million core funds from its Programme for Human Development at the Local Level (PHDLL) to co-fund the GEF alternative in the buffer zones of the HB/PC site focusing on developing more sustainable activities and livelihoods that do not impact negatively on biodiversity, such as alternative organic agriculture and livestock practices, community reforestation programmes and, participation in park activities as guides and wardens. UNDP-PHDLL will also fund buffer zone community awareness building and information dissemination actions on benefits to be derived from biodiversity. Finally, at the corporate level, UNDP is developing learning portfolios of its projects in general and will ensure that relevant lessons will be channelled to the proposed project.

## **PROJECT IMPLEMENTATION**

58. Implementation and Execution Arrangements: Implementation and Execution Arrangements: The project would be executed under national execution modality following the guidelines established for this in Cuba (in line with UNDP standard corporate procedures). The Ministry for Foreign Investment and Economic Collaboration (MINVEC), UNDP's counterpart in Cuba, is the Public Authority in charge of co-ordination of international collaboration and its execution. The Ministry of Science, Technology and Environment, as GEF national focal point and public authority responsible for the environmental policy, would be the project's executing agency and technical co-ordinator. Implementation would receive overall guidance from a specially created *Project Steering Committee (PSC)* vested with the responsibility of approving the project's annual operational plans and reports. Co-chaired by a representative of the UNDP and of the CITMA, the PSC would meet at least twice a year and be comprised of MINVEC, MINAG, MININT and donor representatives. The PSC would also be charged with overseeing the project, providing strategic guidance for its implementation, ensuring that implementation progresses within a co-ordinated framework of government policies, and providing high level access to governmental decision makers. As the group would include major project co-financiers and the UNDP, it would provide an executive forum through which donors can participate in overall project guidance, ensuring that respective donor interests are taken into consideration during project implementation within an uniform and co-ordinated framework.

59. The Executive Secretariat (ES), in turn comprised of staff from the various agencies participating in the project implementation, would provide support to the PSC and would meet four times a year to supervise overall project progress and to review partial progress reports, monitoring results and plans received from the Project Management Unit and endorsing these for presentation to the PSC for approval. The ES would also be responsible for controlling and monitoring the financial and administrative execution of the project and ensuring that concerns and interests from the operational and field levels of action are taken into consideration in overall project implementation. The ES would have the prerogative of inviting temporary members from other agencies and NGOs in order to seek assistance in dealing with particular subject

matters as the need arises. Permanent members would be representatives from CNAP, SEF, CGB, ENPFF, MINTUR, IES, AMA, Direction of International Co-operation of CITMA. The CNAP director would act as chairperson to the Secretariat, reporting directly to the Project Steering Committee.

60. The role of Project Executive Director would also be filled by the director of CNAP. In addition to chairing the ES, this position would have the responsibilities of ensuring that project implementation falls within established approaches, schedules and priorities of the 5-year SNAP plan and that lessons learnt through the project are incorporated into annual reviews and plans of the SNAP. The ED would be delegated signing authority for requesting project disbursements with UNDP. A Project Management Unit would be created within the CNAP to undertake general project administrative and technical functions such as assembling annual work plans, producing technical and financial reports and monitoring project implementation at the operational level to ensure that progress towards goals and critical deadlines is on track. This Unit would report directly to the Project Executive Director and be composed of a technical co-ordinator, an administrative assistant, and one specialist each from the CNAP, the ENPFF, and the research institution. It would also include a project co-ordinator for each of the pilot PAs located in the PA's, and designated by and reporting its director. An ad-hoc Technical Advisory Committee would be created to support the work of the Executive Secretariat and of the PMU on an as needed basis.

## FINANCIAL ARRANGEMENTS

61. Incremental Costs: The GEF alternative<sup>17</sup>, excluding all preparation costs, has been costed at US\$ 92.984 million over 3 years with a baseline expenditure of US\$ 79.969 million. The incremental cost of this, detailed in Annex A, is US\$ 13.015 million. Of this amount, US\$ 11.018 million (84.65%) would be provided by non-GEF sources [FFEM US\$ 1.24 million; WWF US\$ 0.40m; UNDP 0.20m and the GoC US\$ 9.28m<sup>18</sup>]. GEF would provide 15.34% of the incremental cost (US\$ 1.997 million) and 2.15% of the total GEF Alternative. The budget is presented below by output and funding source:

### 62. Budget

Outputs	Total	GEF	Co-funding
Protected Area Operations and Management	4.362	1.071	3.291
			FFEM 0.329
			WWF 0.258
			GoC 2.704
SNAP Co-ordination and Regulation	0.891	0.460	0.431
			FFEM 0.006
			WWF 0.020
			GoC 0.405
Management Strategies for Threat Control	4.805	0.232	4.573
			FFEM 0.099
			WWF 0.057
			UNDP 0.140
			GoC 4.277

<sup>17</sup> As noted in para. 37 this project represents the first step of a broader ten-year programme for the SNAP. Subsequent steps of this programme are expected to expand the global benefits captured through this project. Funding for these will be consolidated as part of this project and will be sought from a variety of sources including new mechanisms to be developed in Activity 1.11.

<sup>18</sup> This is approximately 1% in cash for contribution to imported equipment; 7% for national equipment (horses, software, digital maps, aerial photos); 7% for national missions; 7% for services such as designs, publications, installation of equipment; 7% sub-contracts for specific workshop & events; 68% short-term national consultants & additional permanent staff (endorsement letter).

Outputs	Total	GEF	Co-funding	
Education & Awareness Outreach Programmes	1.178	0.163	1.095	
			FFEM	0.107
			WWF	0.061
			UNDP	0.060
		GoC	0.787	
Optimisation of Visitation within Established Carrying Capacities	1.779	0.071	1.708	
			FFEM	0.695
			WWF	0.005
			GoC	1.008
<b>Total Cost</b>	<b>13.015</b>	<b>1.997</b>	<b>11.018</b>	

## SUSTAINABILITY OF PROJECT RESULTS

63. Risk assessment formed an integral part of project design and as such strategic decisions were taken during preparation regarding different design elements and activities and their effect on sustainability of project results. These decisions were summarised in paragraph 37. Whilst the result of this is a design that maximise impacts and the sustainability of these, three critical issues may present a risk. These are discussed in more detailed below together with the measures incorporated to the project for risk-abatement.

- *Complex Institutional Set-up and Perceived Overlapping Mandates.* The institutional arrangements in the SNAP are complex and clear definition of mandates has only been made recently. Despite the fact that there are no overlapping mandates in the SNAP regulatory framework, the long history of different institutions roles in PA management, and the incomplete knowledge of this recent framework, mean that in many cases there is a perception of overlapping responsibilities and attributes amongst some staff.. Changing institutional cultures and practices requires time and can create duplicities of effort and tensions reducing the impact of scarce resources and overall impacts of project results. This risk was clearly identified early on in project preparation and has been crucial in its design. Specific components and activities have been included to abate this and include the preparation of standardised approaches to planning in the SNAP, the training of different agencies staff in legal and regulatory frameworks, the preparation of new regulations, and the establishment of a national co-ordination committee and one pilot regional one that will bring together SNAP stakeholders in regular meetings to review projects, plans, policy and provide a fora for discussing institutional differences. Care has also been taken to include activities that benefit the range constituent institutions and to shape project design around priorities defined jointly by representatives of the key institutions. A further tool in the process of building institutional culture and reforms will be the creation of a corporate SNAP image.

Finally action would be taken to provide financial incentives as well as the broader incentives mentioned above. A large part of PA operational resources comes from the Forest Fund (SEF) but these resources are not approved unless the PA's request has the endorsement of CNAP. Once the guidelines and standard methodologies have been defined and disseminated this approval process will take into consideration whether the PA applying for resources have followed the guidelines or not. Thus, by facilitating access to funds for those areas that fall within the overall frameworks established for PA operations and management, incentives will have been created for developing a more uniform approach PA management across the different institutions and facilitating a new institutional culture. Similarly, the Environment Fund that has been recently created by the GoC will require endorsement of CNAP for PA related actions. Mechanisms that could act as incentives for SNAP institutions to adopt uniform approaches, guidelines and policies will be sought as this fund becomes operational.

- *Potentially overlapping sectoral policies* could result in land-uses within protected areas that are incompatible with their conservation goals. If this were to occur in the pilot sites where investments are to be made for threat mitigation, the projects positive impact on biodiversity may not be sustainable. This probability of this occurring is, however, very low. The highest risk of incompatible land-uses occurs in PAs that have not been legally recognised, or that are still in the process. In these cases sectoral interests can interfere with the formal recognition, however, once the area is formally recognised the legal framework governing sectoral activities in PA is very clear. In view of this, the project's site-level activities would be restricted to legally recognition PA, thus reducing this risk of increasing to a minimum and increasing the sustainability of project results. In addition, project activities will involve sectoral stakeholders in the definition and implementation of management plans in the pilot and in building consensus over restrictions within the PA definition of responsibilities. Outreach programmes would incorporate elements to increase the tourism and mining sectors awareness of the SNAP. (Annex J provides a more detailed assessment of potential sectoral overlaps).
- *Equipment inventories.* Incomplete equipment and infrastructure inventories in many Cuban PAs severely hamper effective biodiversity conservation. These are the result of long-standing restrictions on such commodities. Whilst relatively high levels of equipment acquisition will be required, and are justified, to achieve significant global benefits through this project's results, potential difficulties over maintenance, represents a risk to the sustainability of these impacts. As a result, only those equipment and infrastructure essential to achieve results would be provided and the GoC has committed to cover the increased recurrent costs that this project would imply (see Annex D- Focal Point Endorsement Letter). Additionally, an evaluation of new mechanisms for funding the SNAP and for ensuring, at minimum, adequate maintenance of acquired equipment will be undertaken through the project (1.11).

## **MONITORING, EVALUATION, AND LESSONS LEARNED**

64. Monitoring and evaluation procedures to be undertaken as part of project implementation arrangements are described in paragraphs 58 to 60. In addition to these, standard UNDP monitoring and evaluation procedures would applied throughout project execution as well as those required for GEF norms. These include an annual Project Implementation Review (PIR) exercise and an independent evaluation to be held at project end. In addition to measuring advances in project implementation, the PIR would serve as an opportunity to provide input and guidance from lessons learnt throughout the GEF portfolio to the project, and conversely to draw lessons from this project to others of similar characteristics throughout the world.

65. Indeed during project preparation a series of lessons learnt from other GEF proejcts were applied to the design. The main ones are related to the design of participatory measures at different levels allowing for a learning-through-doing approach that has proved successful in other projects. For example, the project has a short duration so that this external support would provide input for the first step of the national five year SNAP plan, thus allowing this to be shaped through experience gained from the project. The design also addresses the participation of local stakeholders as an essential action if behaviours are to be changed and consensus reached. This is illustrated through the strong emphasis that would be placed on local participation during the development of management plans and for the fine definition and demarcation of pilot PA limits. Similarly, this is illustrated through the recognition of culturally and economically accepted practices and livelihood compliments that are common in Cuba, such as allowing land-use in PAs and providing PA and other agencies staff with subsistence crops. Though these cultural practices have been respected, specific elements were included to ensure that any potential negative impact of these to global biodiversity values would be minimised by establishing new practices with these stakeholders.

66. While the large majority of resources would be directed to site-specific actions in which local stakeholders would be involved, the design also recognises the importance of strengthening political will at

the national level for furthering biodiversity conservation. For example, activities are included to increase the awareness of national and local stakeholders on benefits and costs of biodiversity conservation and to build pride in the national heritage - essential elements if support to conservation actions is to be mobilised. Similarly, by increasing the SNAP profile through defining a corporate image and developing awareness building campaigns, their role this system plays in defining critical national development policies will increase providing a more positive framework for pursuing biodiversity conservation in Cuba.

67. Finally, a further design element that incorporates lessons learnt on participation relates to the need to increase in-country scientist participation in GEF projects as well as international experts. This is particularly relevant in Cuba where the high level of national scientists is well recognised but where research funding programmes do not specifically include issues related to protected area management, thus reducing the input of high level human resources to biodiversity conservation. By including a specific activity to provide the Cuban national research priority system with a greater number of research topics that directly address conservation management challenges, the project would optimise contribution of in-country scientists to the capture of global biodiversity benefits.



## **LIST OF ANNEXES**

**ANNEX A-** Incremental Cost Assessment

**ANNEX B-** Logical Framework- Project Planning Matrix

**ANNEX C-** STAP Roster Technical Review

**ANNEX C-1** - Response to STAP Comments

**ANNEX D-** Government of Cuba Operational Focal Point Endorsement

### **OPTIONAL ANNEXES**

**ANNEX E-** Map of Cuba with globally outstanding biodiversity ecoregions and pilot areas (included in separate file)

**ANNEX F-** Characteristics of Biodiversity in Project Area and its Global Significance

Table 1: Protected Area Categories in National Protected Area System

Table 2: Ecoregions, Floristic Districts and Protected Area Representation

Table 3: Protected Areas Selected as Pilot Areas and Representative & Indicator Species

Table 4: Overall species diversity, endemism, conservation of selected Protected Areas

Table 5: Main characteristics of Selected Protected Areas

**ANNEX G** -Threats Assessment. Description of Generic Proximate Threats to Biodiversity in Protected Areas and Description and Actual and Potential Impact Rankings of Threats in selected sites

**ANNEX H:** Project Work Plan

**ANNEX I:** Public Participation Plan (including stakeholders analysis)

**ANNEX J:** Evaluation of Sectoral Policies

**ANNEX K:** Bibliographic References

**ANNEX L:** Project Categorisation Sheet

**ANNEX M:** SNAP System Plan (included in separate document because of file size)

**ANNEX N:** Co-financing Commitment Letters





## ANNEX A INCREMENTAL COST ANALYSIS

### Broad Development Goals

1. The Cuba Constitution of 1992 acknowledges the relationship between environmental protection and the sustainable economic and social development. Legal and regulatory frameworks of productive sectors also reflect the concern Cuba has with ensuring that economic growth is accompanied with measures to safeguard environmental integrity. For example, the laws governing the mining sector enforce mandatory environmental impact assessments and mitigation plans for its activities. The country also has a comprehensive set of procedures for environmental licensing of activities that may cause negative environmental impacts. In parallel, the Government of Cuba (GoC) has ratified the CBD on March 9<sup>th</sup>, 1993 and has fulfilled its national communications obligations under the convention by preparing a National Biodiversity Strategy and Action Plan (NBSAP), completed in 2000. This defines the priorities for Cuba's conservation strategy, and establishes eleven major objectives and an action plan for their implementation. Several of these objectives underline the country's commitment to ensuring that broad development is compatible with conservation of natural attributes. Amongst these are the objectives to establish a representative network of protected areas to conserve natural habitats; to strengthen the legal framework for conservation by drafting specifications to Laws; and to develop integrated policies, strategies and programmes for conservation and development.

### Global Environmental Objective

2. The global environmental objective of the project is to conserve highly representative assemblages of four of Cuba's terrestrial ecoregions, all classified as globally significant in terms of biological distinctiveness and placed as highest priorities for conservation at the regional level<sup>19</sup>. These are Cuban Moist Forests, Cuban Dry Forests, Cuban Wetlands and Cuban Pine Forests. These ecoregions are divided further into 3 bio-geographic zones (East, Central & Western Cuba) and 37 floristic districts detailed in Annex F (Vales *et al* 1998). The wide range of topographic variety found in the large mountainous island (1,250 km East to West) and its strategic location between larger landmasses and the trailing islands of the Caribbean to the East, account for its high biodiversity and endemism with over 6,500 species of higher plants recorded, possibly 2.2% of the world total. Three hundred and fifty species of birds, 147 species of reptiles and amphibians, 42 species of mammals and as many as 13,000 invertebrates species have been recorded (Santana, 1991). Over 50% of the flora and 32% of the vertebrate fauna are endemic to Cuba with rates being specially high amongst the vascular plants (52%) and herpetofauna (80%) (Vales *et al*, 1998).

### Baseline

3. Expansion of the agricultural frontier, principally for the cultivation of sugar cane, tobacco and other cash crops in the nineteenth and early twentieth century, caused severe habitat loss in Cuba with concomitant loss to species. Over 75% of the endemic biota is now threatened, and 36% classified as globally endangered equating to 15% of the original flora and 41% of the vertebrate fauna (WWF 1997). If Cuba's biodiversity is to be saved, protection of remaining viable populations is vital and requires urgent action to conserve habitat remnants. This is of particular importance as many Cuban plants and animals have naturally localised distributions and small populations, and are restricted to small patches, such as a single mountain range, magnifying the effect of habitat loss on the species survival. In recognition of this urgent need, the Government of Cuba has created a National System of Protected Areas –SNAP- and has

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<sup>19</sup> See Dinnerstein 1995. Cuba also forms part of the Greater Antilles WWF Priority Ecoregion (WWF, 1999), the Caribbean islands Global Conservation Hotspot (Mittermeier, 1999) and is an Endemic Bird Area by Birdlife International (Stattersfield, 1998).

brought the largest of natural habitat blocks under some form of protection within this network (see Annex F for information on ecoregions, protected areas and management categories).

4. Although still in the early stages of formation, the SNAP has succeeded in halting the rates of habitat destruction previously registered. This protection has been aided by the fact that many of these protected areas (PA) are in remote areas with difficult access and low populations. However, with increasing influxes of national and foreign capital, particularly to the tourism and mining sectors, landscape barriers are being overcome and with this, access to PA is increasing with the risk of intensified pressures. These come from a range of sources the principal of which are:- (i) Growing visitation and tourism infrastructure near PAs and increasing visitation rates despite minimal facilities, procedures and guidance to ensure that these levels do not effect biodiversity negatively; (ii) An increasing number of invasive species in and near PA and the effect this has on the highly endemic Cuban biodiversity; (iii) Small-scale agriculture, livestock activities, and poaching by settlers that are allowed by law to remain in PAs; (iv) Large-scale commercial and semi-commercial agro-silviculture activities, such as citrus, coffee and cocoa plantations, undertaken in or near some PA, to meet the subsistence needs of personnel living and working in remote regions; (v) Mining for chrome and nickel in PA in the east of the island; (v) Water pollution from decomposing organic residues from cleaning coffee beans or in a few cases from nearby domestic waste waters and mineral extraction; and (vi) Forest fires mostly caused by poorly controlled agricultural practices or wildfires that get out of control more quickly where large plantation forests occur near PA. (Paragraph 19 of the Brief and Annex G provide a more detailed discussion these proximate threats).

5. In the face of increased pressure, and due to a range organisational and operational site-level and system-wide deficiencies, the SNAP and its constituent areas and organisations, will not be able to provide the level of protection required to fully conserve habitat blocks guaranteeing the integrity of its attendant global biodiversity values. These deficiencies include, amongst others: complex institutional arrangements and often conflicting mandates arising from institutional set-ups that preceded the SNAP and cause different approaches to the administration of individual protected areas, exacerbated by a lack of clear guidelines and standards across the system; management plans developed with incomplete biodiversity data and without the systematic participation of local stakeholders and sector representatives; staff and equipment shortages hampering implementation of these plans and debilitating operational capacities; a lack of clear, cost-effective and state-of the art management strategies to address specific management challenges arising from the threats described in the preceding paragraph; and a general low awareness and commitment of a range of stakeholders and sectors on SNAP functions and conservation values of PAs.

6. The government's response has been to further regulate the SNAP creating better defined legal frameworks, and continue making operational its National Centre for Protected Areas (CNAP) to enable more effective co-ordination of the wide range of system's constituent institutions<sup>20</sup> within the constraints of continued economic difficulty. The programmatic baseline over the next three years to strengthen the SNAP and face the challenges of growing pressures to biodiversity conservation is described below with **estimated costs in US\$ millions (m)**.

7. Protected Areas Operations and Management. The SNAP presently comprises 80 sites of national importance, and 183 sites of local importance. Of these, 43 sites have been under some form of legal recognition since the 60's, a further 32 were legalised in 2001, and work continues towards approval of the remaining. Established PAs will continue to operate at different levels of efficiencies. PA managers will develop financial plans requesting resources from a range of institutions and some advance towards management plans will be made with each institutions adopting their own approach to management and co-ordination. An estimated 6.006 m will be channelled to this set of actions of which 5.995m will come from governmental entities such as the MINAGRI through its agencies ENPFF SEF, EMA Zapata, and from the CITMA through its agencies CNAP and provincial UMAs; 0.020m will come from WWF for planning in

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<sup>20</sup> Project Brief paragraphs 16-17 and Annex I for details on SNAP institutional arrangements and stakeholders)

specific PAs particularly in Zapata and Isla de Juventud. CNAP will provide some guidance on planning methods and evaluation of management plans costed at 0.162 m. A further 1.99 m channelled from public entities such as CNAP, National Auditing, CICA, MINTER (CGB), MINAGRI, will be directed to general control of PA administration; PA management and operations activities system-wide are costed at 27.888m from CITMA and MINAGRI agencies (including staff salaries, gasoline, tools, etc) and FAO will contribute 0.02m to Cienaga de Zapata. Some advance on the recompilation of data from research centres will be made but with no centralised information management or digitised formats will impede accessibility and use in planning and management activities. This is costed at 2.76 m of which 2.61m will come from GoC (CNAP, IES, ECOVIDA; MINTER etc) and 0.015m from WWF in Cienaga de Zapata. Small investments in GIS will be made, costed at 0.21m from GoC sources and 0.015 from WWF in Cienaga de Zapata. Biological research and taxonomy providing general baseline information will continue through a range of institutions such as IES and universities with an estimated expenditure of 1.93 m of which the GoC will provide 0.99 m and 0.93m will come from external funders including UNESCO, and HIVOS. Total baseline expenditure for PA operations and management will be 40.845m of which the GoC will contribute 39.845m; WWF 0.05m; FAO 0.02m; UNESCO and HIVOS collectively 0.93m. Despite this investment, site planning and operational frameworks will be sub-optimal impairing vital conservation actions, reducing efficiencies, and undermining a cohesive and comprehensive system wide approach to conservation.

8. SNAP Regulation and Co-ordination. Activities related to co-ordination and to the development of legal and regulatory issues amongst SNAP constituents will continue at current levels with SNAP constituent institutions meeting sporadically and co-ordinating with sectors independently. Baseline investment for this will be 0.926m from governmental authorities including CITMA's CICA, UMA and PAs, MINAGRI (ENPFF, SEF), MININT (CGB) and 0.413m from CNAP. At site-levels individual PA managers will make varied efforts related to co-ordination, conciliation and communication with local development sectors, local businesses and governmental authorities and commissions including the River Basin Commissions; Mountain Authorities; MINAGRI, National Turquino Plan and Veterinary Services. No specific funds would be available for this but the estimated cost of PA staff participation in sporadic meetings is estimated at 0.288m. Total baseline expenditure in this component is 1.747m of which GoC contributes 1.627m and 0.12m from NGOs such as FUNDESCAN in Pinar del Rio, BIOECOS (funded by HIVOS) in the east of the country, SIBARIMAR in the East of Havana and small Italian NGOs that have small-scale projects administered through ENPFF focusing on communication and co-ordination with local development sectors and governmental agencies and communities. In this scenario co-ordination and regulation will be sub-optimal and the sparse resources available for PA management will be poorly resulting in duplications, gaps and the loss of opportunities to better capture global biodiversity benefits.

9. Controlling Proximate threats to Biodiversity in Protected Areas: Cuba's four mountain ranges and the Zapata swamp have been designated multiple-use protected areas, within which National Parks and other PA management categories have been established for strict protection. A range of programmes will establish more ecologically benign agricultural and livestock practices in these areas, costed at 2.5 m from the GoC mainly through MINAGRI (ENPFF, National Turquino Plan, agricultural and livestock firms, SEF) and through CITMA, however, these will work principally in buffer-zones rather than core conservation areas. A further 0.9 m will be channelled to variety of locations near PAs. from different NGOs such as FUNDESCAN, BIOECO, SIBARIMAR and others, to develop alternative and sustainable production approaches such as the creation of market gardens, bio-digesters, alternative cultivation practices and livestock rearing in captivity. WWF will provide a further 0.250m for similar work in areas in the Isla de Juventud. Efforts to control fires in and around PAs are costed at 1.076m with 0.726m from GoC; 0.05m from WWF and 0.30m from FAO. Vigilance and control actions throughout the systems and relevant agencies including the Forest Guard, and is estimated 18.927m largely from the GoC but with 0.09m from WWF; Silviculture activities would count with an investment of 0.92m with 0.650m from GoC and 0.19m FAO in Cienaga de Zapata. Rehabilitation of habitats following mining activity in PAs would count with 0.491m from the GoC mainly directed to reforestation.

10. Some work to evaluate the effects of invasive species will provide a patchy baseline for the planning control methods particularly in lands of agricultural value, costed at 0.915m mainly from MINAGRI and MININT (including the National Customs Authority) and through universities. Control of aggressive invasive species such as marabu, will continue through manual extractions in agricultural areas and mitigation through restoration work, costed at 2.786m, again mainly from MINAGRI and state agricultural entities but with small amounts from CITMA for some minimal control in PAs. Finally small sums (costed at 0.11m) would be channelled by GoC to facilitate the exchange of experiences between PAs and to co-ordinate with sectoral policies to ensure land-use practices are more conservation compatible in sensitive areas. Total baseline expenditure for this for Output sums 28.96 m of which 27.105m is from GoC; 0.39 WWF; 0.49 FAO and 0.98m others.

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11. Education and Awareness Building: The Centre for Environmental Information, Management and Education (CIGEA), will continue guiding environmental education programmes countrywide. These will be implemented near 24 protected areas, mainly at the community level and focusing on brown issues. The estimated baseline expenditure is 2.133m from GoC through CITMA agencies and MINAGRI and MINED; publication of research findings is costed at 0.170m and expenditure on general information dissemination and awareness activities (TV spots, newspaper articles, pamphlets etc) is estimated at 0.447m system-wide from a range of governmental agencies and NGOs. Total baseline expenditure for this Output will be 2.750m of which GoC will provide 2.53m; WWF 0.006m and 0.17m small NGOs. This will not be sufficient to raise the awareness of local communities on the values preserved in protected areas nor of the benefits that can be derived in the long-term. It will also be insufficient to raise the profile of the SNAP in Cuba main development sectors and as such PA management and biodiversity conservation issues will continue to play a reduced role in the definition of sectoral policies.

12. Visitation Strategies. Baseline activity related to visitation in PAs will focus on the maintenance of the few trails that exist in certain sites, the provision of a minimal number of guides for these trails and some incipient recording of visitation levels. This will all be funded by governmental agencies responsible for PA administration. In addition, some rudimentary information on PA attractions will be prepared by tourism agencies such as Cubanco SA as part of their preparation of excursion and tourism packages to a few sites. The total expenditure for these actions is costed at 5.574m. Some participation of SNAP institutions in tourism planning and policy making will also occur, costed at 0.093m. Total baseline expenditure for this for Output is estimated at 5.667m of which the GoC would contribute 4.45m; WWF 0.15m and others (mainly tourism agencies) 1.10m. Under this scenario, visitation levels will continue to increase without guidance on carrying capacities or trails and reception facilities that ensure visitor impacts, such as trampling, do not effect biodiversity – particularly important given the very restricted and small population of some endemic species in Cuba. While relatively few PA currently have high visitation rates, the absence of clear visitation strategies and control will mean that an important opportunity has been lost to optimise visitation input to biodiversity conservation strategy before levels of visitation increase dramatically with potentially high impact on natural processes in a wide number of sites within the system.

### **GEF Alternative**

13. The Alternative strategy is to provide targeted and site-specific action to strengthen the operations and management of four pilot protected areas, define cost-effective management strategies to remove proximate threats to biodiversity in these sites, design appropriate visitation strategies for the expected levels of visitation to them, and support co-ordination between institutions and sectors with interests in the areas, raising their awareness on conservation values and hence increasing their participation in management and support to PA goals. These pilot areas were selected to represent the assemblage of biodiversity housed in Cuba's four globally significant ecoregions and are the National Parks (NP) of Guanahacabibes for Dry Forest; NP Viñales for Pine Forest, NP Ciénaga de Zapata for Wetlands and the two core areas of the Nipe-

Sagua-Baracoa multi-use PA for the Moist Forest (these correspond to NP Alejandro de Humboldt and NP Pico Cristal)<sup>21</sup>. The pilot areas were also selected to cover the range of management challenges found throughout the SNAP. As such, in addition to significant benefits to biodiversity in the short-term, lessons learned could be replicated throughout the system providing increasing benefits over the long-term. In order to optimise this replication, and to ensure sustainability of impacts at site-levels, the alternative course of action would include complementary system-wide activities under each Output to raise overall operational levels and capacities. The Project Outputs, described in detail in the Brief and in Annex B-Logical Matrix Framework, are summarised below with costs in US\$ million (m).

14. Strengthening Protected Area Operations and Management. [Total = US\$ 4.362 m; GEF= US\$1.071m; Others =US\$ 3.291m constituted by FFEM 0.329m, WWF 0.258m; and GoC 2.704m]. Management plans would be formulated for each pilot area with broad stakeholder participation, following standardised methods and ensuring clear information dissemination and sharing mechanisms. PA staff would be trained in financial and administration procedures and planning techniques to aid in this and to optimise scarce and fragmented resources for operations. In VN and GU self-sustained operations funding strategies would be designed. This conjunction of activities is costed at 1.021m of which GEF would contribute 0.209m, FFEM 0.071m (in VN and GU), WWF 0.089m (in HB) and the GoC 0.651m. To facilitate these actions and to finalise PA delimitations, basic control, administration and research infrastructure and equipment needed to carry out priority park operations, would be acquired, totalling 1.164 m with GEF contributing 0.405m, FFEM 0.231m; WWF 0.156m and the GoC 0.373m. Similarly to enhance planning and operations biodiversity information management would be strengthened by providing tools such as GIS to pilot areas, training staff for their use and providing essential data for planning and monitoring in these areas.

15. At the system level information management would also be strengthened by optimising the design of the incipient SIGAP and providing interconnection between one central node, a pilot regional node and the four pilot PAs. Collectively this information management action would cost 1.988m of which GEF would contribute 0.321m and the GoC 1.626m. Finally, at the system level, increased uniformity and efficiencies in operation and management would be sought by developing system wide management and operational guidelines and standards, by designing clustering strategies for facilitating management from a bio-regional level perspective, by rationalise staffing across the SNAP to ensure most effective use of available human resources and by identifying potential mechanisms and sources for self-sustained funding of the SNAP, jointly costed at 0.195m of which GEF would contribute 0.141m and the GoC 0.053m.

16. Strengthened SNAP Co-ordination and Regulation [Total=US\$ 0.891m; GEF=US\$ 0.460 m; Others= US\$ 0.431m, composed of FFEM 0.006m, WWF 0.02m and GoC 0.405m]. Support would be provided to consolidate legal and regulatory instruments to ensure that the legal framework surrounding SNAP progresses, and for all four pilot areas PA staff's capacity for the interpretation and application of legal and regulatory tools would be strengthened, jointly costing 0.047m of which GEF would contribute 0.010m, FFEM 0.005m, WWF 0.005m and the GoC 0.027m. Co-ordination between the different SNAP constituents active in each pilot PA would be facilitated by negotiating and developing work agreements, holding workshops and meetings with local authorities to develop regulations and norms for each pilot PA, and addressing conflict resolutions. Similarly SNAP co-ordination would be enhanced by creating and making operational, one national and one pilot regional council in which constituents would regularly meet and define common work programmes, policies and approaches. SNAP's co-ordinating role in these committees and, of the SNAP in general, would be reinforced by up-grading staffing tables and basic infrastructure and inventories. The role of key SNAP institutions in co-ordination would also be enhanced by up-grading the basic operational capacity of key institutions. This conjunction of activities would total 0.828m of which GEF would provide 0.364m, FFEM and WWF collectively 0.002m and the GoC 0.018m.

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<sup>21</sup> The pilot areas are referred hereafter as GU, VN, CZ, HB/PC respectively

17. Management Strategies to Control Proximate Threats to Biodiversity in Protected Areas. [Total = US\$ 4.805 million; GEF= US\$ 0.232m; Others = US\$ 4.573m composed of FFEM = US\$ 0.099, WWF= US 0.057, UNDP = 0.140 and GoC= US\$ 4.277]. A series of demonstration projects would be undertaken in the pilot areas to define cost-effective strategies for management challenges related to threat control. Each pilot area would address different challenges thus collectively providing a broad set of lessons whilst addressing the most dominant threats of that area. These would include demonstrations: (i) to control and mitigate *agriculture and livestock* activities by introducing intensive animal husbandry practices as an alternative to shifting agriculture in HB/PC; by developing sustainable agroforestry practices as alternative livelihoods in buffer zones of HB/PC; by developing norms for controlling large scale cultivation in CZ; totalling 0.170m with GEF 0.027m, FFEM and WWF 0.002m, UNDP 0.070 and GoC 0.071m; (ii) to control and mitigate the threat of *forest fires* through pilot projects in CZ and HB; totalling 0.088m with GEF 0.050m, WWF 0.031 in HB and GoC 0.006m; (iii) to control and mitigate *illegal hunting and plant collection and dealing in wildlife trade* through strengthening surveillance and enforcement capacities in all the selected PA, totalling 2.165m with GEF 0.062m, FFEM 0.050m (in VN and GU) WWF 0.016m in HB and GoC 2.037m; (iv) to control and mitigate biodiversity unfriendly *forest plantations* near and within PAs by introducing forestry practices in GU, CZ, HB, and by developing community reforestation programmes in buffer zones of HB/PC totalling 0.479m with GEF contributing 0.020m, FFEM and WWF collectively 0.007m, UNDP 0.070 and GoC 0.382m; (v) to control and mitigate *mining* activities through pilot projects for restoration of habitats and management of organic soils in HB/PC, totalling 0.331m with GEF 0.013m and GoC 0.317m; and (vi) to address the threat of *bioinvasion* by establishing methods of control eight invasive species in all four areas; by developing awareness campaigns and education and control in GU, CZ and HB; and by reintroduction of species and restoration of habitats in CZ and HB; totalling 1.557m with GEF 0.047m, FFEM 0.047m, WWF 0.004m and GoC 1.460m.

18. At the system level, to facilitate replication of lessons, training development decision-makers would be provided on biodiversity conservation goals of PAs, and CNAP's participation in policy development for tourism, forestry and mining would be supported to facilitate the definition of common strategies. Similarly, an exchange programme between residents and managers of different PAs would be developed and national expertise on alien species control increased through a campaign to raise awareness of institutional decision makers. System wide actions would cost 0.013m with GEF 0.001m and GoC 0.012m.

19. Education and Awareness Outreach Programmes. Total = US\$ 1.178 million; GEF= US\$ 0.163m; Others = US\$ 1.055m composed of 0.107 from FFEM, 0.061m from WWF, 0.060m from UNDP and 0.787m from the GoC]. Communities in and near PA's would be sensitised on the values derived from conservation and negative impact land use practices and alien species to these through outreach campaigns and information dissemination costing 0.469m of which GEF would contribute 0.043m; FFEM 0.048m, WWF 0.030m, UNDP 0.060m and GoC 0.348m. In addition specific educational and public relations campaigns would be designed for each pilot site to illustrating the characteristics of individual parks, costed at 0.554m of which GEF would contribute 0.053m, FFEM 0.033m, WWF 0.030m and GoB 0.438m. At the system level a national corporate identity would be designed and applied for the SNAP to raise awareness and heighten its profile amongst a range of local, regional, national stakeholders from governmental and non-governmental sectors. A national level national biodiversity communications strategy would complement this heightened awareness and this together with workshops and news pamphlets would facilitate replication of lessons learnt. These system-wide activities would sum 0.095m with GEF 0.067m, FFEM 0.026m and GoB 0.002 m.

20. Visitation strategies compatible with PA carrying capacities [Total=US\$ 1.779m, GEF=0.071m; Others = 1.708m, constituted by FFEM 0.695m, WWF= US\$ 0.005 and GoC 1.008m]. A series of activities would be undertaken to ensure that visitation to PAs is compatible with conservation goals. These would include strengthening the planning, management and monitoring of visitation in pilot PAs and providing basic reception facilities appropriate for the level of visitors determined in carrying capacities studies (e.g. appropriately designed trails with well trained guides, provision of bird watching posts and visitors centres

with information that serves for education programmes of Output 4 and improves service to tourists). This would total 1.527 m of which GEF would provide 0.054m; FFEM 0.568m, WWF 0.004m and the GoC 0.900m.

21. To adopt a more proactive approach to controlling visitation levels and profiles a specific tourism “product” would be determined for each pilot area and goods and services developed to promote this product thus gradually changing visitor profiles. In VN and GU, the FFEM would play a critical role in this arena optimising the potential contribution of tourism as a conservation compatible livelihood by designing, tour packages, day trips, activities for target groups, holding training workshops for local stakeholders for production of goods to tourists and training guides to pass on the defined tourism product. This set of activities would cost 0.167m of which GEF would provide 0.004m, FFEM 0.060m and GoC 0.103m. At the system level these site-specific actions would be complemented by interchange workshops between local stakeholders & PAs administrators to discuss lessons learnt and experiences in tourism management. CNAP and SNAP constituents environmental interpretation capacities would also be strengthened through study tours and by provision of international expertise. These activities total 0.084m of which GEF would provide 0.013m; FFEM 0.066m and the GoC 0.005m

### **Scope of Analysis**

22. The scope of the incremental cost analysis covers the entire SNAP and its constituent protected areas. The analysis covers the three-year period of the proposed project and considers actions necessary to strengthen operations and management in four pilot protected area and raise capacities in SNAP to a level that will favour the replication of lessons learnt from these pilot areas. There are likely to be some incidental domestic benefits from the intervention in terms of enhanced ecological services derived from better conserved habitat blocks in the pilot protected areas, for example, increased protection of watersheds and reduced soil erosion. However, these benefits are likely to accrue only in the long-term, are uncertain in magnitude, and would occur in remote areas with low populations. Domestic benefits of a somewhat clearer nature may be incurred in the long-term from the strategies to optimise visitation in those pilot protected areas with currently high visitation rates or potentially high ones. These pilot areas are Viñales and Guanahacabibes. Resources from the French GEF would be used for optimisation of tourism related activities in these areas. Moreover any incidental domestic benefit derived from such activities would be oriented towards the capture of global benefits as strategies for channeling resources from visitation to funding PA operations, would also be developed through the project for these areas. As potential domestic benefits are long-term and incidental, GEF resources are needed to demonstrate the viability of new approaches to PA operations and management and to raise the level of SNAP operations to one that would not only replicate lessons learnt but also continue to capture a series of other global biodiversity values housed in other established sites in the system.

### **Costs and Incremental Cost Matrix**

23. The baseline expenditures to strengthen the Cuban Protected Areas System and address threats to biodiversity is calculated at US\$ 79.969 million. The alternative strategy that includes activities designed to deliver effective management to four protected areas in four ecoregions and to raise SNAP capacities is costed at US\$ 92.984 million. The incremental costs of this capacity building is US\$ 13.015 million. Of this amount, US\$ 11.018 million (84.65%) would be provided by non-GEF sources [FFEM US\$ 1.236 million; WWF US\$ 0.401m; UNDP 0.200m and GoC US\$ 9.181m<sup>22</sup>]. GEF would provide only 15.34% of the incremental cost (US\$ 1.997 million) and 2.15% of the total GEF Alternative. See matrix below:

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<sup>22</sup> This is approximately 1% in cash for contribution to imported equipment; 7% for national equipment (horses, software, digital maps, aerial photos); 7% for national missions; 7% for services such as designs, publications, installation of equipment; 7% sub-contracts for specific workshop & events; 68% short-term national consultants & additional permanent staff (endorsement letter).

Output	Cost category	Cost (US\$ Millions)	Domestic Benefit	Global Benefit
Protected Area Operations & Management	Baseline	Total = 40.845	Some protection is afforded to 81 established protected areas (PAs) but complex funding procedures, undermines the contribution of these sites to the conservation of national biological endowment and natural landscapes values.	Sixty-one PAs in four globally outstanding ecoregions afford some protection to endemic & restricted distribution species but levels of operations remain below the level needed to prevent gradual genetic erosion undermining the viability of survival for a range of globally significant species. Low community participation and hence low commitment to PA goals together with growing pressure from sectoral interests will increase current magnitudes of threats in pilot areas
	GEF Alternative	TOTAL = 45.207		
	Increment	<i>Co-funding:</i> FFEM= 0.329 WWF = 0.258 GoC = 2.704  GEF = 1.071 TOTAL= 4.362	Improved operations in four pilot PA increases the conservation of the nation's biological endowment. Greater co-ordination with sectoral interests reduces levels of conflicts at these sites and provides an input to broader collaboration system-wide. PAs throughout the SNAP benefit from standardised guidance for PA management and can learn from approaches adopted to improve efficiencies in pilot PAs.	Greatly strengthened operations in 4 PAs that house the most extensive and complete assemblages of biodiversity representative of four ecoregions, provides improved protection to their attendant global values. Improved financial and administrative planning and reporting optimises the channelling, and impact, of limited resources to high priority conservation activities; strengthened biodiversity information management helps target endemic and endangered species, increasing protection to these globally significant species. Increased community and sector participation at sites improves long-term sustainability of these results. Improved operational capacities system-wide delivers increased protection to other global significant biodiversity in 61 sites.
SNAP Co-ordination and Regulation	Baseline	TOTAL= 1.747	CNAP will provide direction and overall guidance to the SNAP constituents (site & institutions) but resource limitations will make this intermittent and insufficient to provide the solid framework needed to ensure comprehensive biodiversity conservation through a PA network.	Sub-optimal levels of staffing, equipment and methodological instruments and procedures will undermine CNAPs ability to fulfil its mandate as co-ordinator of the SNAP resulting in continued divergences in approaches to management – approaches that in some PAs reflect the interest of the administering agencies which may conflict with conservation goals. Over-stretched capacities of CNAP reduces participation in conciliation procedures, delaying approval of new PA and reducing effectiveness of existing SNAP regulations; participation in sectoral policy decisions is sporadic and conflicts of interests continue with increasing pressures to PA, augmenting threats to biodiversity.
	GEF Alternative	TOTAL = 2.638		
	Increment	<i>Co-funding:</i> FFEM= 0.006 WWF = 0.020 GoC=0.405  GEF = 0.460 TOTAL= 0.891	More wide spread application of existing legal and regulatory frameworks improves SNAP advances towards conserving national heritage and fulfilling national biodiversity strategy objectives. Increased conciliation and compatibles with sectoral policies increases progress towards more sustainable development in the long term.	Increased understanding of regulatory & legal tools by pilot PA staff, and the clear definition of responsibilities amongst local governmental and non-governmental stakeholders at these sites will improve operations with concomitant effects on protection to biodiversity in these areas. Up-graded capacities of CNAP and key SNAP institutions will increase systematic delivery and effectiveness of guidance and co-ordination thus increasing effectiveness of SNAP in conservation and increasing global benefits derived from interventions throughout the system



Management Strategies for Control of Threats to PA	Baseline	Total =28.960	Levels of proximate threats to BD in PAs will continue to be low over the life of the project but with insufficient staff & inventories in many PAs these will increase in the near future, undermining present levels of habitat integrity. In areas designated for multi-use, agricultural practices will be more environmentally benign but those communities in & near core PAs will continue current subsistence practices that are often incompatible with site conservation goals. Some mountain regions will be re-forested but this will not provide ideal habitats for threatened species and under some circumstances could aggravate threats to biodiversity.	The continued use of certain agricultural and livestock practice by settlers in pilot PA will exert some pressure on habitats which under some circumstances (for instance out of control fires from slash and burning) increase pressures on small and localised populations of endemic specie to a point that long-term survival may be put at risk. Key invasive species will remain unchecked and their impact grow in area and magnitude. Efforts to define cost-effective approaches to control of some threats such as poaching and fires will be centred on trial and error with many mistakes being repeated in different PAs reducing overall levels of protection to global biodiversity throughout the system. The opportunity to improve the conservation of considerable global values, at a time when costs are low, will be lost.
	GEF Alternative	TOTAL = 33.765		
	Increment	<i>Co-funding</i> FFEM= 0.099 WWF= 0.057 UNDP=0.140 GoC= 4.277  GEF = 0.232 TOTAL= 4.805	Communities in & near pilot PAs will continue to reap benefits from PA resources but these will be derived from more conservation-compatible practices. Re-forestation will deliver the same benefits to environmental services but its impact on biodiversity will be more favourable as improved methods are employed. Increased control of invasive species could provide incidental benefits to agricultural practices of settlers in pilot PAs in the long-term.	The principal proximate threats to biodiversity in pilot areas will be controlled through the definition of state of the art and cost effective approaches to overcoming the management challenges these present. The risk of these threats increasing to levels that undermine the long-term survival of biodiversity in these PA will have been reduced considerably. As many of these strategies will involve closer co-ordination between agencies working in the pilot sites, and also involve community participation, support to the conservation goals of the PA is likely to increase rising long-term sustainability of project results. These pilot approaches will also serve as demonstrations that can be replicated to other PAs with similar pressures and as such the effect to greater extensions of globally significant biodiversity will increase.
Education and Awareness Outreach	Baseline	Total = 2.750	Communities close to 24 PAs will have increased awareness of environmental issues particularly those relating to brown issues such as basic sanitation and water pollution risks. However, awareness benefits that could be derived from biodiversity and the role that PA play in its conservation, would remain low. Knowledge of SNAP and its goals would remain rudimentary and with this the level of pride of natural endowments and the participation in, and support to, its conservation would remain be low.	Increased awareness on environmental issues will not necessarily translate into benefits to biodiversity especially when this is characterised by small and inconspicuous species in remote and inaccessible areas that hold low charismatic value for many residents. Unless specific outreach campaigns are developed to illustrate the link maintaining ecosystem structure (species compositions) to its functions and processes, and hence the production of ecological services, the communities will be unaware of potential benefits and will be less likely to become actively involved in conservation efforts and more likely to continue activities, such as illegal harvesting and poaching, that threatened wild populations. At the systems level, low awareness of SNAP will continue to undermine CNAP efforts to take part in sector policy decision making and efforts to conciliate sector interests with conservation in PA and threats from developments near PA will continue with the increased pressure on biodiversity.
	GEF Alternative	Total = 3.928		
	Increment	<i>Co-funding:</i> FFEM=0.107 WWF =0.061 UNDP=0.060 GoC =0.787  GEF =0.163 TOTAL = 1.178	Levels of awareness on the role of PA and the environmental services will increase providing more motivation to participate in PA activities and an increased sense of commitment to conservation, indirectly increasing overall effectiveness of the SNAP and the sustainability of project results.	The increased awareness of benefits that PAs provide to community will provide an incentive for increased participation in PA management and greater respect for regulations, in the long term reducing pressures from poaching and improving conservation. Similarly, increased awareness of SNAP at sectoral levels will facilitate CNAP participation in policy and plan definition, enhancing compatibility with PA goals.

Visitation Strategies	Baseline	Total = 5.667	Visitation rates at the majority of PA will remain relatively low, however, in a few cases the already high levels will increase still further. While this may provide some benefits to tour operators little benefit will be incurred in the PAs and, to the contrary, if levels exceed carrying capacities negative impacts on biodiversity will increase.	In those areas where visitation is already high, for example Viñales, the lack of effective strategies to ensure that level and type of visitation is compatible with conservation will continue causing adverse effects on biodiversity of global significance in these PA. The dominate force of sun, sea and sand tourism, and the high profile this sector has been assigned for Cuba's economic recovery, will mean that interests in this sector may prevail in the approval of new PA near sites attractive for tourism, effecting management categories and even the legal recognition of these as part of the SNAP. Similarly prevailing interests will mean tourism infrastructure increases near and even in PA increasing visitation & potential pressure on global biodiversity values.
	GEF Alternative	Total =7.446		
	Increment	Co-funding FFEM= 0.695 GoC=1.008 WWF=0.005  GEF = 0.071  TOTAL= 1.779	Increased facilities for visitor reception and control of levels will increase the attraction of pilot PAs to tourists, however, as carrying levels will have been established and careful strategies designed to ensure the tourism product is compatible with conservation goals of these areas, negative effects of visitation should be more effectively controlled. Pilot demonstrations of how to optimise visitation benefits for PA operations and to local stakeholders will improve the management of visitation in other sites in the SNAP with the potential of increasing incidental benefits over the long-term to nearby communities.	The establishment of visitation carrying capacities in 4 pilot areas, and the provision of appropriate types of facilities for these levels, will ensure that negative impacts to biodiversity of global significance is avoided. By designing strategies that link the return of benefits derived from visitation to PA management, overall protection at these pilot sits will increase. The increased participation of local residents in nature tourism will address other root causes of biodiversity loss in these sites, such as illegal plant collection and poaching. Better-defined tourism products that promote nature tourism for more remote and pristine areas will ensure that as access increases the potential negative impact of increased visitation to PA will be controlled, contributing to the long-term protection of global biodiversity values.
TOTAL	Baseline	79.969		
	GEF Alternative	92.984		
	Increment	13.015 of which GEF will contribute 1.997 and others 11.018		

**ANNEX B: LOGICAL FRAMEWORK PROJECT PLANNING MATRIX**

<b>Objectives</b>	<b>Indicators</b>	<b>Means of Verification</b>	<b>Assumptions</b>
<p><b>Goal:</b></p> <p>Globally significant terrestrial biodiversity and ecosystem functions in Cuba are conserved through a national network of protected areas.</p>	<p><i>By end of project:</i></p> <ol style="list-style-type: none"> <li>1. Populations of ecoregion indicator species in each of the pilot protected areas remain the same as at project inception or increase (see end of matrix for species per PA)</li> <li>2. No additional areas within pilot PAs have been brought under land-uses incompatible with conservation goals .</li> </ol>	<ol style="list-style-type: none"> <li>1. Annual biological monitoring of 9 indicator species in pilot PAs (establishing baseline where not already available)</li> <li>2. Field evaluations and photo imagery</li> </ol>	<ul style="list-style-type: none"> <li>▪ National socio-economic conditions remain stable or improve.</li> <li>▪ Current state of biodiversity in selected pilot PAs is highly viable &amp; characteristic of the ecoregions it was selected to represent</li> </ul>
<p><b>Project Purpose</b></p> <p>Cuba's National Protected Areas System is operational and four pilot protected areas are functioning effectively, integrating conservation objectives into national and local development objectives, mitigating threats and ensuring broad public support and participation.</p>	<p><i>By end of the project:</i></p> <ol style="list-style-type: none"> <li>1. At least 50 % of all SNAP's protected areas are legally recognised with clearly defined boundaries, effective administrations established and management plans formally adopted.</li> <li>2. One national and one regional co-ordination council functioning with strategies defined.</li> <li>3. National and regional stakeholders and decisions makers are increasingly aware of biodiversity conservation</li> </ol>	<ol style="list-style-type: none"> <li>1. Minutes of Commission of Ministers; CNAP annual evaluations and management plan documents.</li> <li>2. Strategy documents and minutes of meetings of national and regional council and decisions adopted</li> <li>3. Survey at project end and policy documents</li> </ol>	<ul style="list-style-type: none"> <li>▪ Economic stability at the national level is maintained or improves.</li> <li>▪ Available national financing increases with the growth of SNAP activities.</li> </ul>
<p><b>Output 1: Protected Areas Operations and Management</b></p> <p>One pilot protected area is firmly established in each of four globally significant ecoregions, and has the capacity for effective administration, planning and management activities under the overall supervision of the CNAP</p>	<p><i>By end of year 2:</i></p> <ol style="list-style-type: none"> <li>1. National guidelines for developing participatory management plans for PA's are published and being applied by park staff</li> <li>2. All pilot parks have clearly demarcated boundaries recognised by local stakeholders</li> </ol> <p><i>By year end of the project:</i></p> <ol style="list-style-type: none"> <li>3. PA's financial management &amp; income capture on a per visitor basis improves and increases progressively</li> <li>4. Real-time voice communications &amp; same day electronic communication between CNAP and PA's is established</li> <li>5. Participatory Management Plans that incorporate biological research results are complete and under implementation in 4 pilot PA's;</li> <li>6. Strategy for creating, administrating and funding clusters of PAs is elaborated and formally adopted by CNAP; PA specific funding strategies designed and adopted in VN and GU.</li> <li>7. SNAP constituent PA's are able to apply GIS technology in planning and management functions</li> <li>8. Management planning is based on best available</li> </ol>	<ol style="list-style-type: none"> <li>1. Published guidelines and CNAP evaluations of management plans;</li> <li>2. Field visits to PAs and stakeholder questionnaires</li> <li>3. CNAP yearly audit reports and PA financial reports.</li> <li>4. System in place and testing of communication efficiency;</li> <li>5. Published management plans and CNAP evaluations and minutes of participatory workshops;</li> <li>6. Strategy document, CNAP minutes and revised System Plan; VN and GU funding strategy documents and cash flow evaluations</li> <li>7. Existence of GIS services in PAs and survey of PAs staff;</li> <li>8. Ecosystem maps for four PAs</li> </ol>	<ul style="list-style-type: none"> <li>▪ The institutional structures of SNAP constituents are maintained and develop stronger commitments to the SNAP.</li> <li>▪ Pilot project areas maintain their biological and physical integrity (no major catastrophes or policy changes).</li> <li>▪ International tourism to Cuba remains at current levels or increases in the course of the project.</li> </ul>

	ecological information.	and management plans based on these maps	
<p><b>OUTPUT 2: SNAP Regulation and Co-ordination.</b></p> <p>A strengthened SNAP legal and institutional framework is in place with specific mechanisms for co-ordination between its constituents and capacities for making the full use of legal and regulatory tools</p>	<p><i>By end of year 2:</i></p> <ol style="list-style-type: none"> <li>1. PA regulations developed with local authority participation.</li> <li>2. SNAP components are aware of each other's respective responsibilities in PA management and respect them.</li> <li>3. National and one regional co-ordination councils created and operating, <i>and by year 3</i> count with the participation of the development sector</li> </ol> <p><i>By end of project</i></p> <ol style="list-style-type: none"> <li>4. Development sectors at the regional level incorporate PA concerns into planning processes.</li> <li>5. SNAP strategy on restructuring and coordination complete by end of the project.</li> <li>6. A National Protected Area Research Programme is established and the % of research projects in PAs directed to resolve management challenges and to cover critical information gaps has increased.</li> </ol>	<ol style="list-style-type: none"> <li>1. Minutes of meetings.</li> <li>2. Existence of signed division of responsibility agreements, CNAP evaluation reports.</li> <li>3. Signed agreements, minutes.</li> <li>4. Development sector plans, CNAP evaluation reports.</li> <li>5. Published strategy.</li> <li>6. National Programme published and survey of research project in PAs</li> </ol>	<ul style="list-style-type: none"> <li>▪ The favourable political will to improve the implementation and application of laws and regulations dealing with PA's continues.</li> <li>▪ Sector policies favour coordination between SNAP constituents.</li> <li>▪ There is a willingness among SNAP constituents to participate effectively in coordination mechanisms.</li> <li>▪ Respective mandates of SNAP constituents are maintained or improved</li> </ul>
<p><b>OUTPUT 3. Management Strategies for Threat Control in Protected Areas</b></p> <p>Demonstration projects to define the most appropriate management strategies to control principal potential threats to biodiversity in PAs have been implemented and evaluated for future replication throughout the SNAP</p>	<p><i>By end of Project</i></p> <ol style="list-style-type: none"> <li>1. Number of forest guard or park warden field days within parks and buffer zones increases progressively throughout the project. (all 4 PAs)</li> <li>2. Reduction of 25% land area incompatibly used in target areas by end of the project. (CZ and HB/PC)</li> <li>3. Number of agencies and number of trained and equipped fire-fighters involved in forest fire control increases steadily during the project. (GU, CZ, HB/PC)</li> <li>4. Forest management plans are drawn up in accordance to biodiversity conservation criteria (GU, CZ, HB/PC)</li> <li>5. There is a regular increase in sustainable development project activities undertaken through national SD programs in the buffer areas of VN and HB/PC.</li> <li>6. National policy development fora include a greater CNAP and SNAP representation.</li> <li>7. By the end of the project feasible methods for controlling three species of alien plant and two alien mammals will have been established (GU, CZ and HB/PC)</li> </ol>	<ol style="list-style-type: none"> <li>1. Park vigilance records.</li> <li>2. Park monitoring records.</li> <li>3. Forest fire control readiness evaluation reports.</li> <li>4. Forest management plans.</li> <li>5. Annual reports of national SD programs.</li> <li>6. Minutes, national policy development fora.</li> <li>7. Report on alien species control programs</li> </ol>	<ul style="list-style-type: none"> <li>▪ Local communities are willing to participate in changing production and subsistence activities.</li> <li>▪ National tourism development policies become increasingly receptive to environmental planning considerations, and limit themselves to sustainable tourism programs in and near PA areas.</li> <li>▪ Production &amp; development sectors are receptive to incorporating environmental concerns into their policies.</li> </ul>
<p><b>OUTPUT 4. Education and Awareness Outreach Programmes</b></p>	<ol style="list-style-type: none"> <li>1. Number of infractions reported per park warden or forest guard field day decreases steadily during the project. (GU, CZ and HB/PC).</li> </ol>	<ol style="list-style-type: none"> <li>1. Park vigilance records.</li> <li>2. Attitudinal surveys (baseline and project end).</li> </ol>	<ul style="list-style-type: none"> <li>▪ Cubans are receptive to biodiversity conservation messages.</li> </ul>

<p>An outreach programme for Cubans and visitors implemented to heighten their awareness on the existence of the SNAP and on the ecological and biodiversity values it is trying to conserve and to increase community participation in protected areas management and threat control.</p>	<ol style="list-style-type: none"> <li>2. SNAP existence and biodiversity conservation message is being acknowledged by Cubans (GU, VN, CZ, Havana)</li> <li>3. Visitors and local stakeholders have increasing opportunities to become aware of biodiversity conservation issues during a visit to PAs (GU, VN, CZ)</li> <li>4. National level decision makers are increasingly aware of biodiversity issues during the course of the project.</li> <li>5. At least a 25% multi-sector stakeholders interviewed recognise the new SNAP co-corporate image</li> </ol>	<ol style="list-style-type: none"> <li>3. Visitor and resident surveys (baseline and project end).</li> <li>4. National level decision-maker surveys (baseline and project end).</li> <li>5. Corporate image products (log, uniform etc) and multi-sector stakeholder questionnaire</li> </ol>	
<p><b>OUTPUT 5. Visitation Strategies for Protected Areas</b></p> <p>Visitation strategies, infrastructure and visitor management capacity in pilot PAs are in place and help manage the flow of visitors in such as way as to maximise benefits to visitors while protecting biodiversity and ecological processes.</p>	<p><i>By end of the project</i></p> <ol style="list-style-type: none"> <li>1. The number of visitors in pilot PAs is increasing progressively within the established carrying capacity; the number of trials has increased according to visitation plans and each has at least 2 trained guides available per trial</li> <li>2. Visitor centres are built and operational in GU and VN</li> <li>3. Four SNAP visitation staff have received environmental interpretation training in France and 2 in Guadalupe and have transmitted this to at least 30 other SNAP staff</li> <li>4. National and regional tourism strategies and policies incorporate specific approaches and guidelines that indicate respect to biodiversity conservation in PAs</li> <li>5. CNAP participation in tourism sector policy definition and meetings has increased</li> <li>6. The number of local stakeholders participating in and benefiting from visitation activities has increased by at least 45% compared to project start (guide and other services and production)</li> <li>7. The proportion of specialised (nature) tourism agencies to mass (sun, sea and sand) tourism agencies that bring visitors to pilot PAs has changed from 95:5 at project start to 70:30 at project end</li> </ol>	<ol style="list-style-type: none"> <li>1. PA visitor registration records; visitation plan for each PA; document defining carrying capacity; PA registrations of guides; and CNAP annual evaluations</li> <li>2. Project monitoring documents</li> <li>3. Project monitoring and minutes of capacity building workshops</li> <li>4. Tourism plans and strategies</li> <li>5. Minutes of tourism commission &amp; council meetings</li> <li>6. Surveys and project monitoring documents</li> <li>7. PA visitation records and documents outlining tourism product design and strategy for each PA</li> </ol>	

**ACTIVITIES FOR OUTPUT 1: Protected Area Operations and Management**

**Park Level<sup>23</sup>**

1.1. Formulate management plans for selected PAs of different eco-regions (GU for dry forest, VN for pine forest, CZ for wetlands and HB/PC for moist forest), using the guidelines for developing management plans (see activity 1.8) ensuring stakeholder participation and conflict resolution mechanisms to provide across the board

<sup>23</sup> *Park level* refers to those activities that will be undertaken in the four selected pilot protected areas, the acronyms of which are as follows: GU Guanahacabibes; VN Viñales; CZ Cienega de Zapata; PC Pico Cristal / HB Alexandro Von Humboldt.

- input, and including the specific annual operational and impact monitoring plans to measure the effectiveness of management in achieving biodiversity conservation.
- 1.2. Clearly define and formalise the limits for each of the pilot PA zones within these four core areas through field expeditions, through meetings with local and national stakeholders, mapping exercises (1:25,000) and delimitation of borders.
  - 1.3. Design and provide basic control, administration and research infrastructure as well as equipment needed to carry out priority park operations
  - 1.4. Improve financial management and reporting procedures through in situ, hands-on training, evaluations and information exchange lesson sharing activities, and in parks VN and GU develop a strategy for self sustained funding of operations
  - 1.5. Establish and implement information dissemination and sharing mechanisms for increasing local government and community participation in park planning, management and evaluation activities.
  - 1.6. Collect and organise, in user-friendly systems including GIS, the environmental and socio-economic information essential for effective protected area management and planning and monitoring of biodiversity conservation. Strengthen PA staff ability to use scientific information in the design and implementation of management and monitoring activities.

#### **System Level**<sup>24</sup>

- 1.7. Improve the scientific and technical basis for park management and planning by synthesizing available relevant biological information and making it accessible to SNAP constituents in user-friendly formats, including the strengthening of the incipient SIGAP with perfection of design element, the creation of networks and Internet exchange mechanisms with specific central, provincial and PA nodes and the training of staff for its use. Optimise and co-ordinate research proposals and allocation of funds to cover critical information gaps for improving PA and SNAP management.
- 1.8. Develop and publish system-wide design and evaluation guidelines for management and operational plans that include mechanisms for assuring stakeholder participation and for the resolution of conflicts and clear guidance on permitted land-use per management category; train park staff in their application and link the endorsement of PA funding requests to the use of these guidelines.
- 1.9. With the assistance of national and international protected area system planning experts, evaluate the design of SNAP and propose clustering strategies, including biological corridors, for facilitating PA' management from a bio-regional level perspective.
- 1.10. Rationalise overall staffing across the SNAP to ensure most effective use of available human resources.
- 1.11. Undertake an evaluation of potential mechanisms and sources for self-sustained funding of SNAP using the work of international organizations and define the legal requirements for implementation of the selected alternative and initiate consultations for their adoption.

#### **ACTIVITIES FOR OUTPUT 2: SNAP Co-ordination and Regulation**

##### **Park level**

- 2.1. Strengthen PA staff's capacity for the interpretation and application of legal and regulatory tools by developing user-friendly compendiums of these instruments and holding training courses for PA administrators of pilot areas
- 2.2. Facilitate the co-ordination between the different SNAP constituents active in each pilot PA by negotiating and developing work agreements between these entities that clearly define divisions of responsibility. Establish communications protocols with local development sectors to ensure an effective flow of information between PA's and development sector
- 2.3. Hold workshops and meetings with local authorities to develop regulations and norms for each pilot PA required to address conflict resolutions or specific issues arising from their management plans and disseminate these amongst local stakeholders

##### **System Level**

- 2.4. Consolidate and promulgate new legal and regulatory instruments to ensure that the legal framework surrounding SNAP progresses in a timely manner.
- 2.5. Create and make operational, national and pilot regional councils for facilitating the co-ordination of SNAP activities, including appropriate mechanisms to include development sectors.

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<sup>24</sup> National Level refers to those activities that are not specifically focused on the pilot protected areas but are designed to increase overall capacity within SNAP

2.6. Strengthen the co-ordination of SNAP by up-grading CNAP staffing tables and basic infrastructure, developing a comprehensive supervision and monitoring system and providing essential transport and communication equipment for its implementation, and by improving localities of national, provincial and local co-ordination councils.

2.7. Optimise structures for the SNAP by using international expertise and study tours to evaluate the effectiveness of current structures and procedures and propose and adopt alternate structures that provide more effective system-wide management and co-ordination.

2.8. Strengthen overall PA management capacity in SNAP by up-grading basic operational capacity of key institutions (CITMA and ENPFF) through infrastructure improvements and essential communication and office equipment.

### **ACTIVITIES FOR OUTPUT 3: Management Strategies for Threat Control**

#### **Park level**

3.1. Test and evaluate management strategies to control and mitigate the threat to biodiversity caused by agriculture and livestock activities in protected areas in pilot demonstration projects including the introduction of intensive animal husbandry practices (GU, VN, and HB/PC); developing norms for controlling large scale cultivation in CZ and HB/PC; and developing agricultural practices appropriate for different ecosystems (HB/PC).

3.2. Test and evaluate management strategies to control and mitigate the threat to biodiversity caused by forest fires in protected areas through pilot projects in CZ and HB/PC that include strengthening capacities to detect and control fires and developing inter-agency contingency plans and brigades for optimising fire fighting resources, and introducing new forestry practices in plantations to reduce susceptibility to fire.

3.3. Test and evaluate management strategies to control and mitigate the threat to biodiversity caused by illegal hunting and plant collection and dealing in wildlife trade through strengthening pilot PAs surveillance capacities and knowledge and application of fines.

3.4. Test and evaluate management strategies to control and mitigate the threat to biodiversity caused by biodiversity unfriendly forest plantations near and within PAs through pilot projects in GU, CZ, HB/PC which will introduce forestry practices that take into consideration forest structure requirements of threatened species

3.5. Test and evaluate management strategies to control and mitigate the threat to biodiversity caused by mining activities within HB/PC through pilot projects for restoration of habitats and management of organic soils.

3.6. Test and evaluate management strategies to control and mitigate the threats to biodiversity caused by eight invasive species within PAs HB/PC, VN, GU and CZ.

#### **System level**

3.7. Hold training for decision makers in development on biodiversity conservation goals of PAs and jointly define common strategies for revising existing national programmes for sustainable development to ensure they incorporate measures for biodiversity conservation and are adapted to PA contexts.

3.8. Establish an exchange programme between residents and managers of different PAs to help consolidate and spread lessons learned.

3.9. Improve the participation of CNAP and SNAP institutional constituents in policy development for tourism, forestry and mining activities in and near PA's by holding periodic exchange workshops at the systemlevel, creating specific mechanisms for co-ordinating activities and incorporating biodiversity conservation management principles into the national forestry plan and its execution

3.10. Strengthen national expertise on alien species control and design and implement a campaign to raise awareness of institutional decision makers on threats posed by bio-invasion, including information dissemination to different media, development material for educational centres and an international workshop for information exchange and lesson sharing with Caribbean countries and other island nations.

### **ACTIVITIES FOR OUTPUT 4: Education and Awareness Outreach Programmes**

#### **Park Level**

4.1. Sensitise communities in and near PA's on the values derived from conservation and the threats from incompatible activities and alien species by holding outreach workshops, developing specific biodiversity components for school environmental education, holding guided tours of areas and disseminating information on biodiversity through local media channels.

4.2. Design and carry out pilot park specific educational and public relations campaigns illustrating the characteristics of individual parks through the development of

posters, postcards, CDs videos, educational games that illustrate characteristics of PAs, through user friendly information centres, mobile libraries, competitions and events.

4.3. Transmit in appropriate formats, the results of scientific research to local stakeholders and visitors

#### **System Level**

4.4. Design and create a national corporate identity for the SNAP including logos, uniforms, souvenirs etc and implement a related communication strategy to instil a sense of national pride in Cuba's natural heritage.

4.5. Design and implement a national communications strategy to highlight threats to Cuban biodiversity and illustrating how individuals can participate in their removal.

4.6. Design and implement a broad based communications strategy directed specifically to national level decision-makers ensuring that these are fully informed on the SNAP and its objectives.

4.7. Facilitate replication of lessons learnt in the project throughout the SNAP and the region through workshops, publication of pamphlets and the establishment and maintenance of a project website.

#### **ACTIVITIES FOR OUTPUT 5: Visitation Strategies for Protected Areas**

##### **Park level**

5.1. Ensure that visitation to PAs is compatible with their conservation goals through strengthening the planning, management and monitoring of visitation in pilot PAs by determine carrying capacities, improving visitor surveillance by strengthening guides and parks wardens capacities in visitation management, upgrade visitation infrastructure (visitor centres, trails, huts, bird observation towers)

5.2. Develop visitation strategies and tourism programs that ensure the optimal use of tourism attributes in PAs, in cooperation with the tourism sector.

5.3. Design, promote and guide the tourism product by developing visitation goods and services (tour packages, day trips, activities for target groups), hold training workshops for local stakeholders for production of products for sale to tourism and training guides to pass on the defined tourism product whilst ensuring that conservation goals of the PAs are respected.

5.4. Hold interchange workshops between local stakeholders and PAs administrators to discuss lessons learnt and experiences in tourism management

##### **System level**

5.5. Improve the CNAP and SNAP constituents institutions participation in the development of national policies related to tourism through periodic interchange workshops, information dissemination, developing a marketing strategy of PA as tourism product.

5.6. Strengthen SNAP environmental interpretation capacities system wide through study tours and through the provision of international expertise.

#### **Indicator Endemic Species for Project Goal:**

<b>DRY FOREST ECOREGION -</b>	Guanahacabibes NP: <b>Flora</b> <i>Hibiscus grandiflorus</i> <b>Fauna</b> <i>Cyclura nubila</i> (Cuban iguana)
<b>PINE FOREST ECOREGION -</b>	Viñales NP: <b>Flora</b> <i>Microcycas caclocoma</i> <b>Fauna</b> Snails genus <i>Viana</i>
<b>WETLAND ECOREGION -</b>	Cienaga de Zapata NP: <b>Flora</b> <i>Acacia zapatensis</i> <b>Fauna</b> <i>Crocodylus rhombifer</i> (Cuban Crocodile)
<b>MOIST FOREST ECOREGION -</b>	Alexander von Humboldt/Pico Cristal complex: <b>Flora</b> <i>Dracaena cubensis</i> (HB) and <i>Coccothrinax rigida</i> ; (PC) <b>Fauna</b> <i>Solenodon cubanus</i> (Cuban Solenodon)





**ANNEX C: TECHNICAL REVIEW**  
**CUBA**  
**STRENGTHENING THE NATIONAL SYSTEM OF PROTECTED AREAS**

MEMORANDUM

March 4, 2002

To: Allyson Tinney Rivera, Program Assistant, UNDP, MX  
From: Kenton Miller, Route 1, Box 131, Mathias, West Virginia 26812<sup>25</sup>

Subject: STAP Review of Cuba: Strengthening the National System of Protected Areas, (CUB/01/G41)

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I am pleased to submit my assessment of the above-cited Project Brief:

**Key Issues:**

Scientific and Technical Soundness of the Project. The design of the project is scientifically and technically sound. It follows the growing body of Conservation Biology literature, participatory management, and reports on practice (viz., IUCN and WCPA guidelines), and GEF lessons learned.

Identification of the Global Environment Benefits. The global benefits of the project are the conservation of representative assemblages of four significant Ecoregions. This selection is supported by the analysis of recognized conservation and scientific organizations and their methodologies.

Fit of the Project within GEF Goals. The project is designed to conserve biodiversity, sequester carbon, and protect mountain watersheds within biomes of importance to GEF program criteria

Regional Context: Cuba offers unique opportunities to conserve samples of these biomes because it still features relatively large tracks of undisturbed wildlands. There are no other options to maintain these globally important biomes.

Replicability: A basic design feature of the project is one of replicating from selected development and testing sites to the whole System of PAs in due course. Thus, for example, the lessons learned at the Cienaga de Zapata National Park will be of interest to other wetland and coastal PAs, etc. Furthermore, this same model could apply to the sharing of lessons with other wetland and coastal sites in the Antilles. This aspect of the project appears to be well planned.

Sustainability of the Project. The main challenge to sustainability, and even the success of the project is described in paragraph 63 as elements of risk to the project. These include changing institutional culture and sorting out overlapping sectoral policies and institutional mandates. Even though "the Government of Cuba has committed to cover the increased recurrent costs that this project would imply," the potential sustainability lies in the sorting out of institutional arrangements for PAs and related sectors. To what extent the project can be held accountable

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1. <sup>25</sup> Chair, IUCN World Commission on Protected Areas, and Vice President, International Conservation and Development of the World Resources Institute.

for this transformation is an important question to be asked. It cannot be mandated. Rather incentives are needed to promote the necessary changes. The proposal would be greatly strengthened by adding a discussion, perhaps in para 63 on incentives for fostering institutional reform.

Indicate the Extent to which this Project will contribute to improved definition of GEF Strategies and Policies. GEF would do well to capture lessons learned from the institutional transformation process, assuming that it takes place during the life of the project. This is an issue of relevance to many other countries and situations around the developing world. A second area of potential value will be the learning as a result of the replicability model. Is it realistic to expect to develop options and guidelines at one site of relevance to other sites within the same biome? It is an assumption, but is it practical?

### **Secondary Issues:**

1. Linkages to other Focal Areas. The Project Brief refers to carbon sequestration as a result of maintaining forest cover and wildland sites. It also includes watershed protection activities.
2. Linkages to Other Programs and Action Plans at Regional and Sub-regional Levels. The project is consistent with regional and global programs to establish and maintain protected areas for insitu biodiversity conservation. This includes the work of the World Commission on Protected Areas, the UNEP Caribbean Regional Sea activities, and the SPAW Protocol (although these are not mentioned in the Brief?). Also note the references made in Para 56 and 57.
3. Other Beneficial Environmental Effects. A strengthened and fully operational PA system in Cuba would inevitably provide the full range of ecosystem services to local communities and the nation as a whole. This project can also have positive impacts upon the sub-regional marine environment in terms of water quality.
4. Degree of Involvement of Stakeholders in the Project. Annex I lays out the plans for stakeholder participation.
5. Innovativeness of the Project. The basic model of the project – to develop and test strategies and tools at four selected sites followed by replicability to other sites in the same four biomes -- is innovative. Significant is the project's plan to focus on the test sites, and only later move outward to a larger set of sites.

### **Specific Notes:**

Para 19: The reference here and elsewhere on poaching is vague. What species, for meat or pet trade, etc.?

Para 19, bullet 5: Little is said in the Brief about how this conflict with mining and mineral development is to be sorted out. Is exploration to be allowed in PAs? In all Categories? Reference could be made to the WCPA Guidelines, and the IUCN Resolution (WCC, Amman, Jordan) on Mining in PAs.

Para 28. The Brief is not clear on the relationship between land use and human settlement, and PAs. Will PAs contain residents? No matter what the Category? Is this discussion about people living in PAs, or in surrounding lands? There is no mention of "ecosystem management" as adopted by the CBD/COP. Bioregional management is mentioned once. Should these methods and approaches not be given a significant place in the methods of the project? The Annexes, including Table II , and the Annex on the Category system as employed in Cuba, are however, clear. Reference could be made in the text to these attachments, both here and elsewhere as noted below.\*

Para 28, last two lines top of page B-8. This is very confusing. If an area is to function as a "core area", should there be tree plantations within? Presumably a core area is to be kept as wild as possible, with extensive human activities located in surrounding zones. If otherwise, then this point needs some clarification.

Para 29. Again the question of illegal hunting. What Species, for what purpose?

Para 31. Again some clarification is needed \*somewhere regarding residents in PAs. Normally, this is treated within the policy associated with Category of PAs. Thus, for example, Categories 1 – 4 might be free of direct residence and use, while Categories 5 – 6 would provide for residence and multiple use of biological resources. The thrust of the para is clear and critical, however. People must have the opportunity to appreciate the relationship of PA management to the ecosystem services that sustain their livelihoods.

Para 33. There is little mention of the impact of mass tourism such as that being developed in among the cays on the North coast upon seawater quality. By mobilizing visitation of mass tourism to the Parks, as noted in Para 34, one would expect a need for major access, sanitation, and other facilities. One would expect some concern about the capacity to protect the resource base with this kind to impact.

Para 37 ii): The sequenced intervention strategy makes sense. But, will options for expanding the system and application of lessons learned still be open in the future? This is a trade off, a judgment that has been made in the project design. Does evidence support the conclusion?

Para 37 iv) Again, reference is made to "strict conservation," implying that these core areas will remain (are) free of human habitation and direct use. Is this the case? Later in the para reference is made to a multi-use PA within which there are two core areas (National Parks). So, there are two national park core areas within a larger mountain national park? The intent is clear as a process moving towards a bioregional approach to planning and management. The nomenclature is not so clear.\*

Para 39: Reference is made to self-sustained funding. This is a critical and relatively new and innovative area of work. Perhaps a footnote could be added to mention the work of The Nature Conservancy, the Wildlife Conservation Society, and the World Commission on Protected Areas, all of which have advanced work in "sustainable finance and funding mechanisms."

Para 41. Development of national standards and guidelines is very important. Again, reference could be made to the availability of guidance from WCPA and other organizations that have developed significant work in these areas.

Para 51. Second sentence is not clear. For example, what is a "conservation compatible livelihood?" How does this relate to Poaching? How will "new funding mechanisms for PA management" become available?

Para 65. Again, the question of land use in PAs, including provision of food crops to support site personnel. Perhaps the point here is to include in the work of the project the drafting of a national policy on categories, activities, and land use. Cuba can choose to follow international guidelines, or establish their own in function of local conditions and perspectives. What counts is consistency in policy and its application.\*

Annex B, the Logical Framework Project Planning Matrix, is well done. So are the annexes.

This is a project deserving of GEF support as requested.

Respectfully submitted,

## ANNEX C-1: RESPONSE TO STAP REVIEW COMMENTS

Where appropriate, similar issues that occur in different places of the STAP review have been grouped together to facilitate the clarity of the responses to the STAP review comments.

### 1. Land-use and settlers in protected areas.

**Review Comments:** In several instances questions were raised over permitted land use and settlers in different protected area management categories. Although the reviewer noted that this was clear in Annex F, at several points in the Brief clarification was requested. These include: in Para 28- Will PAs contain residents no matter what the Category? Would tree plantations be allowed within an area designated as function as a "core area"; in Para 31 - Is this discussion about people living in PAs, or in surrounding lands? and residents "strict conservation,"; in Para 37 iv) implications are that core areas will remain (are) free of human habitation and direct use; in Para 65: a concern on whether all categories will allow provision of food crops to support site personnel. The reviewer outlines that under international standards Categories 1 – 4 might be free of direct residence and use, while Categories 5-6 would provide for residence and multiple use of biological resources, and asks whether Cuba would follow these or establish there own in function of local conditions and perspectives.

**Response:** When the Cuban SNAP was established eight main management categories were defined closely following those of IUCN. The number of existing PA per category and those proposed are indicated in Annex F Table 1 together with details on the types of land-use permitted and the restrictions as regards inhabitants. Additional information has been included in this table and it has been referenced at various stages throughout the Brief (e.g. paragraphs, 18,21,28,37(iv)and 65) and particularly through new footnotes 5 and 11. In general IUCN Category I equates to Natural Reserve Scientific permitting only research with public access restricted and no inhabitants; Category II equates to Cuban National Parks and Ecological Reserve that permit recreational uses and subsistence uses of wild resources as long as they are compatible with management objective. In this category core zones of limited access need to be defined, and once legally established no new inhabitants are allowed within park boundaries. IUCN Category III equates to Natural Outstanding Element and IV to Fauna Refuge and Flora Reserves in which only those activities that do not harm the attribute to be protected are allowed and no new settlements are permitted once legally created; Categories V and VI equate to Protected Natural Landscape and Managed Resource PA respectively in which productive activities and traditional land uses that do not adversely affect aesthetic values and flow of ecological goods and services are allowed as well as settlements outside core areas.

Activity 1.8 has been strengthened to include the drafting of clearer national policy on categories, activities, and land use in different management categories referencing international work in this issues. In general however, given the size of the pilot areas the number of inhabitants is very low (the number of habitants in each of the Pilot areas and their buffer zones is given in Table 4 of Annex F). Furthermore as all the Parks have all been legally recognised this will not increase. To ensure that the Parks provide the role of conservation normally associated with this management category, through activities 1.1. 1.2 all pilot areas will have management plans defined and these will complete the zoning of the PA, identifying areas of restricted access and land-use that will form a “core” within the “core” thus providing strict conservation. Corrections to the text of this activity have been made to clarify this issue.

Additionally in the above mentioned paragraphs of the Brief, the text has been revised to clarify the specific doubts: Para 28 the issue of reforestation refers to the fact that normally reforestation in Cuba has been through mono-specific plantations with reduced habitat value for native species. Some experience in reforestation with heterogeneous native species does exist but this is incipient and lessons learned in other parts of the world, where joint objectives of forest management programmes integrate strict biodiversity

conservation objectives need to be applied to reforestation efforts near core protected areas if their role in conservation is to be maintained. This will be achieved by the biodiversity overlay to the national forestry programmes through Activity 3.9. In the cases of forest plantations that have been established in parks for restoration purposes, effects of these on biodiversity will be further contained through the demonstration projects of Output 3 in Cienaga de Zapata (CZ), Guanahacabibes (GU) and Alejandro von Humboldt (HB) to incorporate these new lessons to forestry. Para 31 the discussion mainly focuses on inhabitants in and around buffer zones with the exception of some of the larger parks such as HB that has more substantial number of inhabitants that would also be the focus of awareness building programmes. Para 37 iv): A footnote has been added explaining the rationale behind selecting national parks as pilot areas rather than national reserves that have more stringent land-use norms, reference is made to Table 1 Annex F; Para 65: again reference has been made to Annex F.

## 2. Standards and approaches to PA management including bio-regional and ecosystem management.

**Review Comments** The review stresses the importance of the development of national standards and guidelines for management cited in Para 41 and requests reference be made to the availability of guidance from WCPA and other organisations that have developed work in these areas. It also indicates concerns that bio-regional management is mentioned only once and there is no mention of "ecosystem management" – both deserving a significant place in the methods of the project. Similarly it requests that nomenclature in para 37 regarding multi-use PA and the 2 National Parks be clarified to underline the process of moving towards a bio-regional approach to planning and management.

**Response.** Issues related to the development of national standards have been discussed above. Specific reference to the WCPA guidelines has been added in para.41 and footnote 15. In terms of bio-regional management this was mentioned several times throughout the text and, this together with ecosystem management forms a central part of the SNAP ten year programme. The eventual goal of the SNAP is to administer its PA through clusters that allow for a bio-regional approach to biodiversity conservation based on effective ecosystem management. Activity 1.9 specifically addresses this issue and by project end a series of clusters for applying this approach will have been defined. Similarly one of the pilot areas was selected as a multi-use area that already represents a first step in the move to bio-regional management. This region (Nipe-Sagua-Baracoa) was created as a Special Region for Sustainable Development –or multi-use area. This category is different from the eight principal ones in the SNAP which follow more closely international guidelines. It is applied to regions that due to their extension are characterised by a high level of human influence, economic potential as well as natural values and fragile ecosystems and thus require different approaches to conservation of environment values. Within these large extensions several PAs under different management categories are established to address the different aspects of environmental conservation. In this case Nipe-Sagua-Baracoa, the two NP of Alejandro von Humboldt and Pico Cristal have been designated as zones for biodiversity conservation and as such were termed core zones. Paragraph 37 (v) has been revised to explain this.

## 3. Institutional arrangements for protected areas.

**Review Comments:** Concerns are raised on the effect this has on project sustainability and how incentives for fostering institutional reform can be provided

**Response:** The complex institutional set-up within the SNAP was recognised early in project design and activities to address this form a central part of the project. The entire Output 2 but focuses on providing strengthened capacities to key constituents of SNAP providing them will guidance and training on existing legislation and norms thus facilitating co-ordination and enhancing the process of institutional reform that

has already started. Specific guidance and methods for PA operations and management and different restrictions for each category will be defined in Activity 1.8. One particularly important mechanism to enhance the building of a SNAP institutional culture will be the establishment of a National Co-ordination Council and a pilot regional one. As described in paragraph 52 these will bring together the most critical SNAP stakeholders in regular meetings to review and evaluate SNAP projects, plans, policy and PA monitoring both at the level of the SNAP plan and for the project. These not only provide a fora for discussing institutional differences and gradually creating consensus and common approaches, but will also be used to ensure that once guidelines are fully established these will be used to evaluate, projects and interagency programmes and policies. A further tool in the process of building institutional culture and reforms will be the creating of a corporate SNAP image and the dissemination of this through awareness building campaigns.

Finally action will be taken to provide financial incentives as well as the broader incentives mentioned above. A large part of PA operational resources comes from the Forest Fund (SEF) covering a range of activities such as staff wages and operational costs for plantation management, road maintenance, erosion control, fire protection and nursery work. Resources are not approved for soliciting PAs unless the request has the endorsement of CNAP. Once the guidelines and standard methodologies have been defined and disseminated this approval process will take into consideration whether the PA applying for resources have followed the guidelines or not. Thus, by facilitating access to funds for those areas that fall within the overall frameworks established for PA operations and management, incentives will have been created for developing a more uniform approach PA management across the different institutions and thus facilitating a new institutional culture. Similarly, the Environment Fund that has been recently created by the GoC will require endorsement of CNAP for PA related actions. Mechanisms that could act as incentives for institutions composing the SNAP to adopt uniform approaches and follow SNAP guidelines and policies will be sought as this fund becomes operational. Paragraph 63 has been expanded to include these points as well as the description of Activity 1.8. in the relevant sections of the Brief and annexes.

#### 4. Mining and mineral development

**Review Comment:** Concerns on how the conflict this has with PAs would be approached in the SNAP. Is exploration to be allowed in PAs? In all Categories? Reference could be made to the WCPA Guidelines, and the IUCN Resolution (WCC, Amman, Jordan) on Mining in PAs. Para 19, bullet 5:

**Response:** Decree Law 201 of Protected Areas determines that ecosystems in national parks cannot be altered by exploitation of resources or human occupation (Article 16b). Article 53 further defines that sectoral activities to be undertaken in protected areas or in the buffer zones require environmental licensing and permit procedures. As such once a park is officially recognised, or even proposed, new mining concessions could not be granted without an environmental permit and as the law prohibits such activities within a park no permit would be emitted. The project will work to ensure these existing regulations are fully applied through several activities:- strengthening CNAP capacities, awareness outreach programmes targeting productive sectors, and by developing a SNAP corporate image, will increase the CNAP's participation in all environmental licensing procedures and in the development of productive sector policies; the participation of the mining sector in the definition of management plans of PAs in mineral rich areas and the clear definition of responsibilities will help reduce conflicts and ensure existing regulations are enforced; specific demonstration projects for restoration of habitats effected by mining in HB prior to its declaration as a NP will provide lessons that can be incorporated into the mitigation plans of mining near PAs or areas that have recently been declared PAs.

## 5. Impact of mass tourism

**Review Comments:** Questions how mass tourism that is being developed in among the cays on the North coast effects seawater quality and expresses concern over mobilising visitation of mass tourism to the Parks, would increase a need for major access, sanitation, and other facilities.

**Response:** The present project targets the conservation of terrestrial biodiversity and as such will not directly address the issue of mass tourism among the cays of the Northern Coast. However, this issue has been addressed to some extent through the first phase of an existing GEF UNDP project Sabana-Camagüey (SC). The first phase undertook studies to contribute to making tourism development compatible with conservation of marine biodiversity in the SC. The second phase of that project is currently defining and setting up protected areas within the SC to further ensure protection of marine biodiversity. It is also providing environmental education and, through Capacity 21, is developing an sustainable development plan through community participation for the region and Coastal Zone Management. The links between that project and the current one are described in para. 56 of the Brief.

As regards the concern of increasing mass tourism to terrestrial PAs and the effect that this may have on biodiversity, the project has included specific activities to develop visitation strategies that ensure both rates and types of visitation fall within carrying capacities of areas. The four pilot areas fall into two groups, those in PAs currently experiencing low-impact visitation from international tourists interested in nature tourism and local visitations (HB/PC and CZ); and those with higher actual or potential visitation from foreign tourists (VN and GU) and high percentages of sun, sand and sea visitors. This will enable strategies for high visitation and low visitations to be developed and to be replicated to other PAs with similar characteristics and potential. It should be noted however, that the main goal of these activities (all Output 5) is to avoid potential impacts of visitation to biodiversity.

## 6. Sequenced intervention strategy

**Review Comments:** While the sequenced approach referred to in Para 37 ii). this makes sense will options for expanding the system and application of lessons learned still be open in the future?

**Response:** While this project would capture significant global benefits, the second and third steps of the SNAP 10-year plan would clearly increase these benefits and Cuba is likely to need international support for their full implementation. UNDP is, and will continue to be, committed to supporting the GoC in mobilising funding for these future steps. A range of funding sources are already identified for step two and these will be consolidated during the present project along with the identification of those for step three, and include, amongst others, the new SNAP financing mechanisms defined in Activity 1.11. This has been clarified in paragraph 37 (ii).

## 7. Poaching.

**Review Comment:** Para 19: The reference here and elsewhere on poaching is vague. What species, for meat or pet trade, etc.? Para 29. Again the question of illegal hunting. What Species, for what purpose? Para 51 what is a "conservation compatible livelihood?" How does this relate to Poaching?

**Response:** A description of poaching was provided in Annex G together with the main target species. Poaching occurs for both meat (e.g. hutias and crocodiles) and for the pet trade (e.g. bullfinches). Details from Annex G have been included in para. 19 bullet 3. As poaching supplements diets or incomes, by optimising visitation and involving local inhabitants in this, an alternative source of supplementing these



could be made available thus reducing poaching in the long term and enhancing biodiversity benefits. In addition to developing these potential alternatives, poaching would be further controlled by improving vigilance in pilot parks (Output 3) and also through awareness building activities (Output 4).

## 8. Funding

**Review Comments** Para 39 The critical and relatively new and innovative area of self sustained funding could mention the work of The Nature Conservancy, the Wildlife Conservation Society, and the World Commission on Protected Areas work in "sustainable finance and funding mechanisms. How will "new funding mechanisms for PA management" become available? Para 51

**Response:** A new footnote (#13) has been added referring to the international work on sustainable funding mechanism. As regards new funding to PA this will occur in part by channeling visitation income to PA management once such mechanisms have been demonstrated in Vn and GU.



ANNEX D: GOVERNMENT OF CUBA OPERATIONAL FOCAL POINT LETTER OF ENDORSEMENT  
MINISTERIO DE CIENCIA, TECNOLOGÍA Y MEDIO AMBIENTE  
Dirección de Colaboración Internacional



CITMA

DCI-312

La Habana, 07 de marzo de 2002

Sr. Luis Gómez-Echeverri  
Representante Permanente  
PNUD Habana  
Fax: 204 15 16

Asunto: Proyecto GEF/PNUD "Fortalecimiento del Sistema Nacional de Áreas Protegidas"

Estimado Sr. Gómez-Echeverri:

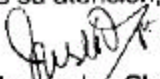
Es un placer enviarle adjunto el Brief del proyecto de referencia, el cual ha sido elaborado como resultado de la ejecución satisfactoria del correspondiente PDF B.

Como Ud. conoce este proyecto constituye una prioridad para nuestro país ya que sus objetivos se insertan en las políticas y programas ambientales establecidas por el gobierno de Cuba, por lo cual nos resulta de mucha utilidad poder contar con el apoyo del GEF y el PNUD para el logro de sus objetivos.

Como se puede observar en el texto del proyecto, se ha elaborado con apoyo del PDF B, un Plan Estratégico del Sistema Nacional de Áreas Protegidas de Cuba con objetivos a largo plazo, representando esta propuesta de proyecto GEF/PNUD la ejecución de una primera acción en el logro de los propósitos de este Plan. En ese sentido le reitero el compromiso de mi país con las actividades previstas en el proyecto y las acciones futuras que haya que emprender en función del Sistema Nacional de Áreas Protegidas.

Atendiendo a lo anterior, le solicito su presentación oficial al GEF según los procedimientos establecidos.

Al tanto de su atención, le saluda atentamente,

  
Jorge L. Fernández Chamero  
Director  
Punto Focal Operacional GEF

cc. Pedro Morales, Director DOEI, MINVEC  
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