GUINEAN FORESTS OF WEST AFRICA BIODIVERSITY HOTSPOT: UPPER GUINEAN FOREST ECOSYSTEM BRIEFING BOOK

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Upper Guinean Forest
Guinean Forests of West Africa Biodiversity Hotspot

The Guinean Forests of West Africa biodiversity hotspot is home to the rare pygmy hippopotamus and many other striking species, including the forest elephant, Diana monkey and several forest antelopes. It is one of the 25 richest and most threatened reservoirs of plant and animal life on Earth.

The forests have the highest mammal diversity of any hotspot and are among the highest priorities for primate conservation. Critically endangered primates in this hotspot include the white-collared mangabey, Roloway monkey, Stampfl’s purty-nosed guenon, Miss Waldron’s red colobus and the Cross River gorilla.

THREATS
Originally extending an estimated 1.2 million square kilometers, the forests have been dramatically reduced to a series of fragments separated by agricultural communities and degraded lands. Direct threats to biodiversity include ecosystem degradation caused by extractive practices, such as mining and bushmeat hunting; limited capacity for conservation; and institutional policies, regulations and practices that undermine biodiversity conservation.

CEPF STRATEGY
Within the hotspot, the Critical Ecosystem Partnership Fund (CEPF) focuses on the Upper Guinean Forest Ecosystem, which extends from Guinea into eastern Sierra Leone and eastward through Liberia, Côte d’Ivoire and Ghana into western Togo. A primary focus for CEPF is to support connectivity among forest fragments as well as among agencies, groups and policies to harmonize approaches to biodiversity conservation.

CEPF INVESTMENT PLANNED IN REGION
$6.2 million

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$6.2 million

QUICK FACTS
Only 15 percent of the hotspot’s original 1.2 million square miles of canopy forest cover remains.

Approximately 9,000 species of vascular plants occur in the Guinean Forest hotspot. Twenty-five percent of these species are believed to occur nowhere else.

Almost half of continental Africa’s mammals are represented here.

The hotspot harbors a significant level of bird diversity, with 514 species. Of these, 90 are unique to this hotspot.

West Africa’s Guinean forests contain 1,320 species of non-fish vertebrate, with 270 species endemic to the region.

CEPF focuses on the Upper Guinean Forest within the Guinean Forests of West Africa hotspot.
The CEPF strategy for the Upper Guinean Forest Ecosystem is the result of an intensive workshop, which brought together experts, government officials, planners and social scientists from nearly 30 countries to determine conservation priorities.

The CEPF investment strategy, called an ecosystem profile, will be funded over five years, beginning in 2001.

**STRATEGIC FUNDING DIRECTIONS**
The CEPF strategy for the Upper Guinean Forest ensures funding is directed where it is needed most and where it can do the most good.

CEPF investments in the region are guided by five strategic directions. Each project must be linked to one of these to be approved for funding:

1. strengthening institutional capacity of local civil society groups for conservation
2. hotspot biodiversity information system
3. promotion of the concept of biodiversity conservation corridors
4. collaborative public awareness, education and community outreach programs
5. small grants (Biodiversity Action Fund)

**ABOUT US**
CEPF is a joint initiative of Conservation International, the Global Environment Facility, the Government of Japan, the John D. and Catherine T. MacArthur Foundation and the World Bank.

The partnership aims to dramatically advance conservation of Earth’s biodiversity hotspots—the biologically richest and most threatened areas. A fundamental goal is to ensure that civil society, such as community groups, nongovernmental organizations and private sector partners, is engaged in biodiversity conservation.

CEPF acts as a catalyst to create strategic working alliances among diverse groups, combining unique capacities and eliminating duplication of efforts for a coordinated, comprehensive approach to conservation challenges.

**HOW TO LEARN MORE**
For more information about CEPF and how to apply for grants, visit www.cepf.net.
Ecosystem Profile

UPPER GUINEAN FOREST ECOSYSTEM
OF THE
GUINEAN FORESTS OF WEST AFRICA
Biodiversity Hotspot

Final version
December 14, 2000
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INTRODUCTION
The Critical Ecosystem Partnership Fund (CEPF) is designed to better safeguard the world's threatened biological hotspots in developing countries. It is a joint initiative of Conservation International (CI), the Global Environment Facility (GEF), the Government of Japan, the MacArthur Foundation and the World Bank. CEPF provides financing to projects located in biodiversity hotspots — highly threatened regions representing only 1.4 percent of the planet's land surface, where some 60 percent of all terrestrial species diversity is found.

CEPF has been designed to build on the World Bank's commitment to biodiversity conservation and sustainable management, primarily implemented through the GEF and channeled to governments. CEPF will complement the efforts of the World Bank and the GEF to conserve biodiversity conservation by providing a streamlined funding mechanism to a broad range of civil society partners, including NGOs, community groups and private sector partners.

CEPF will further the overall goals of the Bank at the country level by offering an opportunity to engage local communities and other stakeholders in biodiversity conservation and ecosystem management. CEPF will also provide an important learning experience through an innovative online grant system at www.cepf.net and by focusing on on-the-ground results and experience. The site is designed to serve as a central node, disseminating lessons learned and facilitating cross-regional information exchange on conservation successes. It will also promote replication of successful projects by providing access to a wide range of resources designed to aid project implementers in the biodiversity hotspots.

CEPF will strive to use lessons from other programs, particularly the GEF's medium grants procedure, to ensure that funds are provided expeditiously and with appropriate, cost-effective levels of accountability. CEPF will also use the GEF national focal points to ensure client country endorsement of the strategic direction of CEPF. CEPF is intended to complement, rather than duplicate or overlap with, regular GEF activities.

CEPF will support strategic working alliances among community groups, NGOs, government, academia and the private sector, combining unique capacities and eliminating duplication of efforts for a more comprehensive approach to conservation challenges. CEPF is unique among other funding mechanisms in that it focuses specifically on biological areas rather than political boundaries and will look at conservation threats on a corridor-wide basis for maximum return on investment. In the case of West Africa, the majority of previous funding has been country-specific, making CEPF one of the early transboundary mechanisms used in the region. The strategic directions of the CEPF program are based on a priority-setting process that has taken place in the region, and target funding gaps in the larger regional strategy. Building on the collaborative processes already underway in the region will allow cooperation in an area rich in biological value yet straddling several national borders. Clearly, a regional approach will be more effective than a national one. In addition, CEPF has taken steps to assess current levels of funding in the region and aims to disburse funds to civil society in a more agile manner, complementing current funding available to government agencies.

Funds will be used to provide small grants to conservation projects managed by private, NGO, and civil society groups working in the critical ecosystems. Funding from CEPF at the project level will leverage additional financial and in-kind contributions. By funding
conservation efforts in production landscapes, such as agricultural areas, CEPF has the potential to build broader-than-usual support for conservation measures, thereby increasing the chances for sustainability.

In summary, CEPF offers an opportunity to promote the conservation of some of the most important ecosystems in the world — places of high biodiversity and great beauty. In addition, the importance of meeting conservation goals is enhanced by the growing recognition of the values provided by healthy, diverse ecosystems in areas such as agriculture, forestry, water supply and fisheries. These issues are critical to the Bank's efforts to alleviate poverty. CEPF will deliver assistance in an agile manner and it will allow the engagement of a wide range of local community groups, civil society organizations, NGOs and private companies in addressing conservation needs.

BACKGROUND: THE GUINEAN FOREST HOTSPOT
The most up-to-date assessment of conservation needs in the Upper Guinea region -- including recommendations for priority areas, research opportunities, policy issues, and threats reduction -- emerged from a Conservation Priority-Setting Workshop (CPW) held in Elmina, Ghana, in December 1999. The CPW, entitled "From the Forest to the Sea: Biodiversity Connections from Guinea to Togo," convened more than 140 expert conservationists, biologists, government officials, planners, and social scientists from nearly 30 countries. In a five-day consensus-building exercise, the participants combined their knowledge of biological distributions, habitat status, institutional capacities, and socioeconomic trends and opportunities to create a comprehensive picture of conservation in the six-country region comprised by the Upper Guinean Forest Ecosystem.

The resulting CPW outputs, including map, report, and CD-ROM with databases (the latter two to be released by early 2001), offer an investment guide to biodiversity conservation in the region, and suggest paths to conservation success in forest and coastal zones of the Upper Guinea region. The CPW was organized and coordinated by Conservation International, with support from the GEF. The results, however, are based on contributions from participants, and will be distributed to, and used by, multiple parties. The outputs have great potential to enrich ongoing national processes, such as National Biodiversity Conservation Strategies and National Environmental Action Plans, as well as evaluations of conservation effectiveness throughout the region. The CEPF ecosystem profile is largely based on recommendations from the CPW.¹

With the backdrop of a consensus-driven baseline of priorities, the Ecosystem Profile for the Upper Guinean Forest Ecosystem focuses on a review of known threats to biodiversity conservation and the current level of "investment" that has been mobilized by donors, government agencies and NGOs to combat such threats. The results of this analysis highlight the complementary niche that CEPF seeks to fill in the Upper Guinean Forest Ecosystem. This niche is supported by an investment strategy that seeks to achieve five main funding outputs:
1. strengthened local institutional capacity for conservation;
2. effective processes for coordination and ecosystem monitoring;
3. mechanisms for promotion and implementation of biodiversity corridors;
4. effective collaboration in community outreach, awareness building and education; and

¹ A matrix summarizing the priority areas identified during the CPW is presented in Appendix 1. A list of institutional affiliations of participants appears in Appendix 2.
5. a fast response mechanism to address immediate and unpredicted conservation needs. The purpose of the investment strategy is to facilitate the effective participation by nongovernmental and other private-sector organizations in the conservation of biodiversity in the Upper Guinean Forest Ecosystem.

To be eligible for funding under this ecosystem profile, a project must not only contribute to one or more of the strategic funding outputs, but must also meet the following general criteria:

1. Project execution must be within World Bank client countries that have ratified or otherwise acceded to the Convention on Biological Diversity. (In the Upper Guinean Forest Ecosystem, projects executed within five countries -Ghana, Côte d'Ivoire, Guinea, Togo and Sierra Leone- would meet these criteria. Liberia's CBD ratification instrument is currently pending with the Secretariat of the Convention on Biological Diversity. Any project directly involving organizations based in Liberia must await the formal acceptance of the country as a Party to the CBD.)

2. Project funding may by no means result in the physical relocation of people, be used for the purchase of land, be directed toward a government entity, or be used for the capitalization of trust funds or similar financial instruments.

BIOLOGICAL IMPORTANCE OF THE GUINEAN FOREST HOTSPOT

The Guinean Forest Hotspot represents the Guinean portion of the Guinea-Congolian forests and contains two main blocks that incorporate several major Pleistocene refugia. The Upper Guinea Forest Ecosystem extends from Guinea into eastern Sierra Leone, and eastward through Liberia, Côte d'Ivoire and Ghana into western Togo. The Lower Guinea Forest Ecosystem extends from western Nigeria to the Sanaga River in southwestern Cameroon and also includes the islands of Bioko and Pagalu, both part of Equatorial Guinea, and São Tomé and Príncipe, which together are an independent nation. The two major ecosystems are separated by the Dahomey Gap, a mixture of savanna and dry forest, in Togo and Benin. (Fig. 1).

The Guinean Forest Hotspot was originally covered in large part by tropical rainforest formations and extended an estimated 1,265,000 square kilometers. However, it has been dramatically reduced to a series of forest fragments separated by agricultural communities and degraded lands. Overall, the region retains approximately 141,000 square kilometers of closed canopy forest cover, or roughly 15% of its original vegetation, and only a little more than 20,000 square kilometers of the land area is found in national parks, nature reserves and wildlife sanctuaries that meet international standards for protection. It is important to note that, compared to the rest of this ecoregion, the Gulf of Guinea islands have higher percentages of their original forest cover intact, due largely to the inaccessibility of steep volcanic slopes that dominate these islands.

In terms of original extent, the Guinean Forest Hotspot ranks fifth among the 25 hotspots identified by Conservation International (the top four are the Mediterranean Basin, Indo-Burma, the Brazilian Cerrado and Sundaland). Its ranking rises to fourth on the world list when only the area still intact is measured. In that category, it trails the Brazilian Cerrado, the Tropical Andes, and Mesoamerica. When one considers the land area currently under official protection, however, the Guinean Forests fall to 12th among the hotspots, suggesting that a great deal of work lies ahead to safeguard this region's biodiversity.
The Coastal Connection
Aquatic systems, freshwater as well as coastal wetlands and near-shore marine communities, are clearly affected by upstream changes in terrestrial -and especially forested- environments. The north-south river systems that flow through the region show the impact of growing human populations, deforestation, expansion of commercial agriculture, and mining. Freshwater aquatic communities are not only heavily harvested -they are also degraded due to poor sanitation, siltation, and pollution. Furthermore, the capacity of rivers to support fisheries and coastal wetland and mangrove habitats is progressively weakened as they flow along their inland courses. Consequently, coastal habitats that are sustained by the ocean-bound freshwater flow are important not only for near-shore artisanal fishing but also for commercial marine fisheries, which are degraded. Marine turtles and manatees, as well as mangroves, wetland communities, and important sites for migratory shorebirds and waterfowl, are still found along the coasts, but receive limited protection. In addition to the challenges created by prevailing land use along watercourses, the conservation of aquatic systems and watersheds is often complicated by their transnational character, reflecting the impact of political fragmentation on the West African landscape.

![Image of map showing Guinean Forest Hotspot](image)

*Fig. 1. "Upper Guinea Forest Ecosystem" within Guinean Forest Biodiversity Hotspot*

Levels of Species Diversity, Endemism and Flagship Species for Conservation
Approximately 9,000 species of vascular plants are estimated to occur in the Guinean Forest Hotspot, which ranks it eighth among the hotspots along with the Chocó-Darién/Western Ecuador. Of the plants, 2,250 (25%) are believed to be endemic, suggesting a global ranking of 15th in the number of endemic species (again along with the Chocó-Darién/Western Ecuador), and a ranking below median among hotspots with respect to the percentage of endemics.
Wallacea Hotspot has a 15% rate of plant endemism; the Madagascar and Indian Ocean Islands Hotspot and New Zealand Hotspot have rates of 81%). On average, there are 71 species of vascular plants for every square kilometer of intact natural vegetation in the Guinean Forest Hotspot. This falls in the bottom fifth of the hotspots, the low being 28 species per square kilometer for the Brazilian Cerrado and the high being a remarkable 2,000 species per square kilometer in the Eastern Arc Mountains and Coastal Forests of Kenya and Tanzania. The number of endemic plants per square kilometer, approximately 18, is also on the lower end of the scale with the least being 12 for the Brazilian Cerrado and the greatest being approximately 700, for the Eastern Arc Mountains and Coastal Forests.

Hotspot rankings aside, another global analysis conducted on centers of plant diversity and endemism has identified 14 centers of plant endemism within the Guinean Forest Hotspot: Taï National Park in Côte d'Ivoire, Southeast Forest Remnants in Côte d'Ivoire, Southeast Ghana, Mount Nimba on the Liberia-Guinea-Côte d'Ivoire border, the Cestos-Senkwen River Area in Liberia, Lofa-Mano in Liberia, Sapo National Park in Liberia, the Gola Forests in Sierra Leone, Loma in Sierra Leone, the Cross River National Park in Nigeria, Korup National Park in Cameroon, Mount Cameroon, Principe, and São Tomé. These should be considered in the assessment of focal areas for biodiversity conservation within the hotspot.

Levels of faunal diversity and endemism in the Guinean Forests are also impressive. Mammalian diversity, with 551 species, ranks first among the world's 25 hotspots and represents almost half of the 1,150 mammals that are native to continental Africa. Of the Guinean Forests' 551 mammals, 45 (8%) are endemic, a global ranking of 13th in terms of number and a relatively low percentage. At 4.3 mammal species per square kilometer of intact natural vegetation, the Guinean Forest Hotspot ranks an impressive seventh on the world list. However, as suggested by the figures for endemism, the ratio of endemic mammals to remaining intact natural vegetation is also on the lower end of the global scale at 0.3 per square kilometer.

Based on the Guinean Forest's rank as the world's foremost hotspot for mammalian diversity, combined with the relatively high number of species per unit area of intact natural vegetation and the large area of such vegetation that remains unprotected, it is clear that the single highest global priority for mammal conservation must be an increase in the size and number of protected areas within this region. The forest elephant (Loxodonta africana cyclotis) and bongo (Boocerus euryceros) have emerged as important flagship species for conservation in the Guinean region and beyond, as have Guinean endemics such as the pygmy hippopotamus (Hexaprotodon liberiensis), several species of forest duikers (Cephalophus jentinki, C. maxwelli, C. niger, C. zebra), and a host of highly endangered primate species and subspecies.

The status of the Guinean Forest primates, in fact, ranks it with the Indo-Burma Hotspot among the two highest-priority regions for primate conservation. According to the 2000 IUCN Red List of Threatened Species, five primates are critically endangered: the white-collared mangabey (Cercocebus atys lunulatus), Roloway monkey (Cercopithecus diana roloway), Stampflí’s putty-nosed guenon (Cercopithecus nictitans stampflii), Miss Waldron’s red colobus (Procolobus badius waldroni), and the Cross River gorilla (Gorilla gorilla diehli). Another 21 primates are considered endangered. All but the last two of these threatened primates, or 92%, are endemic to the Guinean Forests Hotspot, and at least one, Miss Waldron's red colobus, has not been sighted in over a quarter of a century and is suspected to be extinct. By far the most
important centers for primate diversity, endemism and threat are the island of Bioko, the Nigeria-
Cameroon border, and the forests of southwestern Ghana-southeastern Côte d'Ivoire.

Birds also exhibit significant levels of diversity and endemism in the Guinean Forest Hotspot, with 514 species (14th among the hotspots) and 90 (18%) endemics (10th among the hotspots in number and a significant percentage). The figures for bird diversity (4.1 species per square kilometer) and endemism (0.7 endemic species per square kilometer) per unit area of intact vegetation, while not singularly impressive, still help to establish this region among the global priorities for avian conservation. BirdLife International recognizes six Endemic Bird Areas partly or entirely within the Guinean Forest Hotspot: the Upper Guinean Forests, with 15 restricted-range and 11 threatened species; the Cameroon Mountains (which extend into Nigeria and also include the island of Bioko) with 29 restricted-range and 12 threatened species; the Cameroon and Gabon Lowlands with six restricted-range and two threatened species; the island of São Tomé with 21 restricted-range and eight threatened species; the island of Príncipe with 11 restricted-range and two threatened species; and the island Annobón (also Pagalu) with three restricted-range and two threatened species. Clearly, the Upper Guinean Forests, Cameroon Mountains, and Gulf of Guinea islands emerge as high global priorities for avian priorities within this region.

Among the birds, important flagship species for tropical forest conservation in the Upper Guinean Forests include the white-breasted guinea fowl (*Agelastes meleagrides*), white-necked rockfowl (*Picathartes gymnocephalus*), rufous fishing owl (*Scotopelia ussheri*), Liberian greenbul (*Phyllastrephus leucolepis*), Nimba flycatcher (*Malaenornis annamarulæ*), and the Gola malimbe (*Malimbus ballmanni*). On the island of São Tomé, three endemic and critically endangered species can be added to the list of conservation flagships: the dwarf olive ibis (*Bostrychia bocagei*), the São Tomé fiscal (*Lanius newtonii*), and São Tomé grosbeak (*Neospiza concolor*).

Of the region's terrestrial vertebrates, we know least about reptile and amphibian diversity. Minimum species estimates for each class are 139 and 116, respectively, but these should be regarded as preliminary. Levels of endemism within the known herpetological faunas are relatively high, however, with 46 species of reptile (33%) and 89 species of amphibian (77%) found only with the Guinean Forest Hotspot. While none of these figures place the Guinean Forests among the highest priority hotspots for reptile and amphibian conservation, the fact that we know relatively little about the levels of diversity and endemism for these vertebrate classes in this region establishes more extensive zoological research as a clear priority.

In terms of non-fish vertebrate diversity, West Africa's Guinean forests rank an impressive eighth among the world’s hotspots, with 1,320 species, very similar to the level observed in Brazil's Atlantic Forest region. In terms of non-fish vertebrate endemism, the Guinean Forests rank 12th among the hotspots, with 270 endemic species or about 20% endemism. Given the relatively large area of intact natural vegetation, ratios of vertebrate diversity and endemism to area are relatively low compared to other hotspots, but this again points to the need to expand the total area of natural habitat under formal protection in order to safeguard this regions biodiversity.
Levels of Protection for Biodiversity

The consensus recommendations of the Conservation Priority-setting Workshop underscore the need to strengthen and expand national protected areas and the systems that support them across the region. While some ambitious plans are being developed and pursued in several countries for reform of the protected area systems, protection in existing areas is not viable at current funding and capacity levels. Existing protected areas within the Guinean Forest Hotspot are listed in the table below. The degree to which they include natural intact vegetation is not known at present, nor is the degree to which levels of biodiversity and endemism are represented within these collective national parks, nature reserves and wildlife sanctuaries. However, responding to the extinction crisis resulting from the bushmeat trade, a recent analysis of primate conservation efforts within the hotspots has identified a number of these protected areas as especially high priorities for the Guinean Forest region. (In the table, these are indicated by an asterisk.)

<table>
<thead>
<tr>
<th>Country</th>
<th>Protected Area</th>
<th>Area (km²)</th>
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<tr>
<td>Guinea</td>
<td>Massif du Ziama Strict Nature Reserve</td>
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<td></td>
<td>Mount Nimba Strict Nature Reserve</td>
<td>130</td>
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<tr>
<td>Sierra Leone</td>
<td>Tiwai Island Game Reserve *</td>
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<tr>
<td></td>
<td>Outamba-Kilimi National Park</td>
<td>808</td>
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<tr>
<td></td>
<td>Gola Forest Nature Reserves *</td>
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<tr>
<td>Liberia</td>
<td>Sapo National Park *</td>
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<td>Côte d'Ivoire</td>
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<td></td>
<td>Banco National Park</td>
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<td>Iles Ehotile National Park</td>
<td>105</td>
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<tr>
<td></td>
<td>Marahoue National Park *</td>
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<td></td>
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<td>Mount Sangbe National Park</td>
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<td>Tai National Park *</td>
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<td>Nigeria</td>
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<td>Cameroon</td>
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<td>Southern Highlands National Park *</td>
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<td>TOTAL</td>
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Many of the 41 consensus priority areas identified by the experts fall outside of strict protected areas, some within a variety of classifications of management including faunal and forest reserves (or proposed protected areas). Still others fall entirely outside any protection or management regime. According to Conservation International's hotspot analysis, approximately 141,000 square kilometers (roughly 15%) of the Guinean Forest Hotspot retains its natural vegetation intact (Fig.2). It is also important to note that only about 20,000 square kilometers of the hotspot can be found in Strict Nature Reserves and other protected areas, which represents
less than 2% of the hotspot's original extent. This is well below the level of habitat protection recorded for the hotspots, which averages 40% of the natural vegetation intact.

Recommendations from the CPW include a priority emphasis on implementing the plans to establish the protected area system in Liberia, particularly in the northwest and southeast. Furthermore, experts encouraged initiatives such as those underway by Ghana to establish Globally Significant Biodiversity Areas. In many cases, recommendations include upgrading managed areas to national parks, nature reserves or wildlife sanctuaries, increasing levels of protection of resident biodiversity.

**THREAT ASSESSMENT**

The first decade of the 21st century could determine the future of biodiversity in West Africa. Principal threats to biodiversity and their root causes present a formidable challenge in a region that has lagged behind other parts of the world in terms of conservation investment and opportunity. CEPF’s funding strategy includes support for initiatives that address threats to conservation progress in the region. Alliances of conservationists with other resource sectors, and partnerships among complementary organizations, will be needed in order to resolve threats, eliminate barriers to conservation, and halt or reverse the processes that have created the region's biodiversity crisis.

**The Effects of Poverty**

The vision statement of the African Development Bank (2000) declares, “poverty alleviation is not just a noble goal and a worthy cause, but it is central to the achievement of long term sustainable development of the continent.” Indeed, all of the region’s threats to conservation are inextricably linked to poverty, which drives urgent short-term needs
that eliminate long-term opportunities. Much of the livelihood of the region’s population is closely dependent on, or not far removed from, the natural resource base and the variety of goods and services that healthy, productive ecosystems can provide. Unemployment and weak development of human capital stimulates social unrest, human migration, ethnic tension, and land tenure conflicts, frequently near forested lands. Timber and mineral resources become currency for the purchase of arms, which are then used to foment civil conflict, eroding the rule of law, sound governance, and social capital. Lack of access to health care reduces work force productivity and promotes the spread of HIV and AIDS. Infrastructure for education, communication, and commerce is limited and inadequately maintained. This lack of public investment and personal opportunity, reflected in a widespread lack of institutional capacity in government agencies, NGOs, and communities, all combine with a low level of environmental awareness to create a challenging landscape for conservation success.

**Tropical Rainforest Loss and Fragmentation: The Effects of Agriculture, Logging and Population Growth**

The "plight of Guinea" began before the colonial period with widespread cultivation by the indigenous human population, which was then exacerbated during colonial times when the region was opened up to commercial plantations and large-scale logging. The effects of these policies were felt most severely in the British colonies of Sierra Leone, Ghana and Nigeria. In Sierra Leone, for example, forest exploitation began in the 1840s and reduced the overall forest cover from 70% to 6% in less than a century. The history of deforestation in Ghana and Nigeria has not been much better. Even in Liberia, which contains the largest remaining forest blocks in the Upper Guinea region, applications for concessions and the recent arrival of foreign logging companies constitute a clear and present threat to biodiversity conservation efforts in one of this hotspot's highest-priority areas.

Commercial logging in West Africa has historically been followed by slash-and-burn agriculture, which has exacted the greatest toll on the region's forests. The widespread practice of clearing, cultivating and then letting land lay fallow provides the major source of livelihood for the largely rural poor population of the forest region. Under low population pressures, slash-and-burn agriculture can be sustainable because fallow periods are often long enough to allow adequate reconstitution of soil fertility and restoration of the land's productivity. However, with populations now swelling throughout West Africa, fallow periods are becoming shorter and the demand for more "pristine" forested land, including that in parks and reserves, is increasing. The situation is aggravated by an influx of farmers from arid northern Africa. If the reliance on agricultural production remains prominent in this region, as is likely, this threat must be countered by measures that lessen the negative impact on biodiversity caused by traditional land management and growing methods.

Today, rapidly increasing population pressure is the most crucial factor in deforestation and land degradation in this region. For example, Nigeria is already the continent's most populous nation with more than 110 million people. With some of the world's highest annual growth rates, the populations of other West African countries are likely to double in size in the next two decades. Although this increase will not necessarily be concentrated in the remaining tropical forest ecosystems, the resulting demand for forested land will increase dramatically, and the pressure on existing protected areas will be even more severe than it already is. This will, no
doubt, lead to over-exploitation of forest resources and the potential extinction of threatened species, especially some of the larger mammals. The threat, therefore, is twofold: (1) critical tropical rainforest land not yet included in the national systems of protected areas of the Guinean Forest region are likely to be irreparably altered before appropriate levels of protection can be established and (2) lands that are currently under official protection will continue to be depleted of forest cover and their overall biodiversity because current levels of protection and enforcement may not be sufficient to mitigate growing population pressure. Efforts to counter this pervasive threat to biodiversity are probably best focused at the community level in the areas surrounding existing and proposed protected areas, where it is important that people understand and appreciate the contribution that these areas can make to environmental stability, human health and local economies.

**Ecosystem Degradation: The Effects of Mineral Extraction, Hunting and Overharvesting**

Both small-scale and industrial mining pose serious threats to the remaining tropical rainforests of the Guinean Hotspots, most of which are located on substrates rich in iron ore, diamonds, gold and bauxite. Large-scale mining is a particular concern in mountainous areas, such as Mount Nimba, where deposits of iron ore and bauxite are common and can severely affect freshwater systems and regional watersheds. Small-scale extraction of diamonds and gold poses threats to biodiversity through forest clearance and associated bushmeat hunting.

The hunting tradition is very strong in the Guinean forest countries, and bushmeat consumption has historically represented a significant source of protein for the rural population. The most commonly hunted game species are the larger birds and medium-sized mammals such as forest antelopes (duikers) and diurnal monkeys. Bushmeat hunting, like slash-and-burn agriculture, will not necessarily cause significant negative ecological impacts when practiced at subsistence levels in areas of low human population density. However, levels of bushmeat hunting in Central and West Africa have soared in recent years, especially as a function of logging. New logging roads provide easier access to formerly remote areas and allow hunters to move deeper into the forests. In addition to animals killed to meet subsistence needs, hunters are now being paid to shoot significantly more game to feed the growing number of logging crews, and they are not discouraged from shooting even more animals for sale in city markets. In fact, the logging companies that subsidize hunting to provide meat for logging crews also transport large quantities of bushmeat to major population centers. As a result, bushmeat hunting has now reached epidemic levels in the Guinean Forest region and is rightly blamed for the "empty forest syndrome" (the absence of wild animals in otherwise intact forest). It is also largely responsible for driving several of West Africa's primate species to the brink of extinction - or maybe even beyond, as suggested by reports that no evidence of Miss Waldron's red colobus can be found in its former range in Ghana and Côte d'Ivoire despite several intensive surveys over the last few years. This threat will be difficult to combat without the cooperation of foreign logging companies that now subsidize the over-exploitation of native wildlife. It will also need to be attacked at the market level due to consumers' willingness to pay much higher prices for bushmeat. Bushmeat hunting is a large-scale problem that will require a comprehensive strategy to address. CEPF resources will help mitigate bushmeat trade, but CI's Center for Applied Biodiversity Sciences will take a more active leadership role in addressing this issue.
Coastal zones are also under intense pressures, including pollution, habitat degradation, erosion, overexploitation, and degradation of marine resources. Urbanization along coasts is high, and human population growth rates range from 3-5%. Fish, mollusks, and crayfish serve as principal protein sources for coastal populations, and they are increasingly transported upcountry to interior markets. Sea turtles and their eggs are over harvested. Mangrove forests are intensively used by communities and are under threat of clearing for aquaculture. Local interests in coastal resources face competition from multinational companies for fisheries as well as mining of oil and minerals—which creates additional ecosystem pressures.

**Limited Local Capacity for Conservation: The Effects of Insufficient Professional Resources and Minimal Biodiversity Information**

Local capacity to carry out conservation work in this region appears to be lower than in any other top-priority hotspot, except perhaps Indo-Burma. Recent survey data do not exist for many key species or for the most important protected areas, and many of the region's national parks, nature reserves and wildlife sanctuaries are inadequately funded and staffed. There are very few trained specialists in environmental conservation, wildlife management or restoration ecology, and overall there is a low level of international involvement in conservation. NGOs are few and have yet to play a significant role in conservation. Similarly, the links between conservation and the West African academic community, in the form of research assistance and as repositories of information, are limited. When the low capacities in these areas are combined with the historic lack of regional planning and integration needed in order to foster international dialogue, it is easy to understand the lack of an effective conservation plan for the ecoregion as a whole. Clearly, a great investment must be made in the training of biologists and resource managers, in combination with basic surveys of biodiversity in the existing protected area networks and beyond. Conservationists need to know, more accurately and in greater detail, to what extent biodiversity is distributed throughout this hotspot, to what degree it is presently protected, and where the broadest gaps in protection are.

**Governance: The Effects of Political and Cultural Fragmentation and Civil Conflict**

The cultural diversity of the Guinean Forest Hotspot is reflected in the vast number of languages spoken by different ethnic groups in each of the countries. Many of these are split across national borders, so that their political reality is shaped by the drastically different legacies of the Dutch, German, French, British, Spanish, Portuguese and freed slaves in Liberia and Sierra Leone. In the period since independence, nation-building has been prioritized over regional cooperation. As a result, the hotspot is fragmented not only in terms of forest cover, but also of language, infrastructure, and legal and financial systems. Cross-border tension limits international collaboration. At national levels, weak accountability and quests for power lead to corruption, which can neutralize good policy where it does exist.

The continuum of conflict, ranging from tension to warfare to post-conflict recovery, presents challenges to conservation at every point. Protected areas in Côte d'Ivoire face encroachment and unrest from migrant farmers searching for settlement lands and agricultural sites. Refugees from Liberia and Sierra Leone flee into forests in adjacent countries, settle, and survive by hunting already-reduced populations of wildlife. War is waged over the control of diamond and timber resources. The 600,000 or more refugees who have settled in Guinea exceed the capacity of that country's forests to provide fuelwood, building materials, and other products.
The threat to biodiversity conservation posed by national and regional conflict must be met with conservation efforts rooted at the local level and fully supported by the people in charge of implementation. This should help reinforce the commitment of institutions that can provide large-scale support and that must remain confident that essential programs will continue even during times of civil unrest, corruption and uncertain governance.

**ASSESSMENT OF CURRENT INVESTMENT**

This section provides a breakdown of the various donors, government agencies, NGOs, academic and research institutions, and private-sector concerns that play a significant role in biodiversity conservation in the Upper Guinean Forest Ecosystem. Many programs and activities described here will also appear in a subsequent section of this profile that describes opportunities for CEPF investment.

**Multilateral and Bilateral Investment**

For the region overall, foreign donor assistance accounts for approximately 9% of the aggregate Gross Domestic Product of West African countries. Of this amount, approximately half is derived from multilateral sources and half from bilateral sources. The principal multilateral sources include the World Bank, the International Monetary Fund, the African Development Bank (ADB), the United Nations agencies, and the European Union. France, Germany, Japan, the United States, the Netherlands and Canada are the largest bilateral donors.

The prevailing trends in multilateral and bilateral donor investment in West Africa are relevant to biodiversity conservation only by comparison, not as a focus of the investments themselves. In fact, the portion of this support directed to biodiversity or, more generally, to environmental conservation has accounted for only 0.1% of the total investment by these countries and institutions over recent decades. In the region, conservation has been regarded as a luxury compared to the alleviation of poverty and refugee needs. Meanwhile, environmental degradation undermines the resources on which future economic growth and development depend.

**Regional Programs of International Support**

Support from the Global Environmental Facility, channeled to Conservation International through the United Nations Development Program, was instrumental in conducting the West African Conservation Priority-Setting Workshop (From the Forest to the Sea: Biodiversity Connections from Guinea to Togo) in December 1999. As noted, many of the recommendations from the workshop form the basis for strategic directions that will be supported by CEPF.

The World Bank-funded initiative that is most relevant in the region is the West Africa Pilot Community-Based Natural Resource and Wildlife Management Project. While the project’s focus is on drylands outside the Guinean Forest Hotspot, it is relevant for two reasons. First, it is an ongoing ambitious transboundary initiative in the region (between Côte d'Ivoire and Burkina Faso), and second, it promotes connectivity by working with communities on compatible land uses bordering national parks, and promotes sustainable use by building capacity for conservation-based enterprise.
The African Development Bank (ADB), based in Abidjan, Côte d'Ivoire, unites 53 African member countries and 24 nonregional members. Recognizing the importance of a strong resource base, the ADB has added environmental protection to its strategic areas of focus, and in its vision statement identifies environment and gender as two cross-cutting issues that will pervade all of its operations and sectoral activities. Additionally, its role in supporting good governance in member countries is described as "probably the single most important catalytic role the Bank will play in the years ahead in the fight against poverty." The ADB's developing role in resource management and multisector planning is expected to expand in the coming decade.

Similarly, the role of the Economic Community of West African States (ECOWAS) is expected to expand as its Early Warning Observatory becomes operational. Already involved in issues of governance, peace, and security, this regional entity now includes environmental degradation and monitoring among its goals. The 16 nation members of ECOWAS share a commitment to reduction of economic barriers across national lines, and consider environmental and resource management to be essential strategic components of a strengthened regional economy.

National Government Agencies
A large portion of the international support for environmental projects in West Africa is channeled through government ministries and institutions whose objectives include the management and regulation of natural resources. The agencies in each country in the Guinean Forest Hotspot are:

Côte d'Ivoire
- Ministry of Construction & Environment
- Direction de la Protection de la Nature
- Protected Area Management Program
- Société de Développement des Forêts

Ghana
- Ministry of Lands and Forestry
- Forestry Commission
- Wildlife Division
- Forestry Division
- Ministry of Environment, Science and Technology
- Environmental Protection Agency
- Water Resources Commission

Guinea
- Administration et Coordination des Grands Projets
- Direction Nationale de l’Environnement
- Direction Nationale des Eaux et Forêts
- Direction Nationale des Mines

Liberia
- Ministry of Planning and Economic Affairs
- Forestry Development Authority
- National Environmental Commission of Liberia

Sierra Leone
- Ministry of Agriculture, Forestry, and the Environment
National Programs that have Received International Support for Biodiversity

These are examples of national programs that have received support from international donor agencies for projects implemented by the government agencies listed above.

Côte d'Ivoire

National Protected Areas Management Program (PCGAP): Côte d'Ivoire's 12-year National PCGAP has been launched at a projected cost of US$68 million to enhance the country's protected-area management capacity, both by broadening the array of partners and improving the relationship between people and protected areas. National implementing agencies will be the Ministry of Construction and the Environment and the Directorate for Nature Protection. Because implementation of the strategy implies important legal and institutional reforms as well as major capacity-building efforts, PCGAP will be implemented in phases using the World Bank's Adaptable Program Lending mechanism, with multiple donors participating.

Primary goals for the PCGAP are to:
1. provide the Government of Côte d'Ivoire with the capacity to effectively manage protected areas over the long term;
2. develop and implement sustainable resource management strategies that enhance NGO, private sector and community involvement; and
3. restore most protected areas to ecologically acceptable levels.

The development objective will be achieved by establishing an appropriate legal framework, creating new institutions to manage the technical and financial aspects of the system, and investing in activities in the protected areas themselves.

Groundwork has been laid for PCGAP with resources from government, GEF Block C, EU STABEX funds and contributions by the World Wildlife Fund and Conservation International. Simultaneous work has focused on establishment of a new national institution for protected area management and the stabilization of three protected areas (Marahoué, Comoe and Mt. Peko) under the "Programme Transitoire." The project financing plan includes US$15 million from the International Development Association, US$12 million from the Government of Côte d'Ivoire and US$41 million in co-financing from the European Development Fund (EDF), Fonds d'Aide et de Cooperation, Agence Francaise de Développement, GEF, Kreditanstalt Fur Wiederaufbau (KfW) and the World Wildlife Fund. This support will be directed toward deforestation, biodiversity protection, land tenure and land management.

UNDP-GEF: The GEF Small Grants Programme (GEF/SGP) was launched in 1992 by UNDP. The GEF/SGP provides grants of up to US$50,000 and other support to community-based organizations and NGOs for activities that address local problems related to the GEF areas of concern. Since its inception, the GEF/SGP has funded over 1,500 projects in Africa, North America and the Middle East, Asia and the Pacific, Europe, and Latin America and the Caribbean. Today, the programme is operational in 50 countries, including Côte d'Ivoire.
The GEF/SGP recognizes the essential role that households and communities, applying locally appropriate solutions, can play in conserving biodiversity, reducing the likelihood of adverse climate change, and protecting international waters. The program operates on the premise that people will be empowered to protect their environment when they are organized to take action, have a measure of control over access to the natural resource base, have the necessary information and knowledge, and believe that their social and economic well-being is dependent on sound long-term resource management. However, the GEF/SGP is more than simply a fund that provides small grants to improve the local environment. By raising public awareness, building partnerships, and promoting policy dialogue, the GEF/SGP seeks to create a more supportive environment within countries for achieving sustainable development and addressing global environment issues.

The decentralized structure of the Small Grants Programme encourages maximum country and community level ownership and initiative. UNDP-GEF Small Grants Programme is supporting a project for the protection and recovery of degraded mangroves in an area near the Azagny National Park in Fresco.

**Ghana**

In Ghana, the *United States Agency for International Development* (USAID) has invested heavily in Kakum National Park and has pledged US$2 million to endow the *Ghana Heritage Conservation Trust*, as part of an economic growth through resource conservation initiative in Ghana's Central Region. Other important biodiversity investment in recent years has come through the *European Union*, which has focused on an integrated development and conservation program for Bia and Ankasa National Park, and several major *World Bank* initiatives over the past decade in the forest and wildlife sectors that laid the groundwork for a National Resource Management Program.

**Natural Resource Management Program** (NRMP): The government of Ghana has obtained a US$8.6 million grant from the *GEF* to support implementation of the Biodiversity Component of its US$90 million NRMP, for which the World Bank is coordinating investments from several donors. This program will be conducted under the auspices of the Ministry of Lands and Forestry. In Phase I of the NRMP, the Biodiversity Component will be implemented to identify, document, establish and legally protect two new types of strict protected areas, Globally Significant Biodiversity Areas and Provenance Protection Areas, in remnant dry forests of southern Ghana. All of the targeted forests are currently listed as forest reserves and are not included within the national system of protected areas.

The NRMP seeks to establish an appropriate national policy and an effective institutional framework for sustainable natural resource management, and to develop and test resource management systems. There are five project components:
- First, high-forest resource management will establish forest policy and legal framework, design and test integrated forest reserve management systems, and encourage private-sector involvement in settings on and off forest reserves.
- Second, savanna resource management will develop new multidisciplinary approaches to dry lands management, and will improve systems for community-based management of savanna woodland and other resources.
• Third, wildlife resource management will retrain personnel in the Wildlife Department and introduce park and reserve management plans.
• Fourth, environmental management coordination will support district-level planning and monitoring, and will improve information flow among sectoral agencies.
• Fifth, biodiversity conservation efforts will develop and implement integrated reserve management plans.

Recent talks have raised the prospect of integrating the follow-up program to the Coastal Wetland Management Program, creating a strategic package.

**UNDP-GEF**: The GEF Small Grants Programme (GEF/SGP) was launched in 1992 by UNDP. The GEF/SGP provides grants of up to US$50,000 and other support to community-based organizations and NGOs for activities that address local problems related to the GEF areas of concern. Since its inception, the GEF/SGP has funded over 1,500 projects in Africa, North America and the Middle East, Asia and the Pacific, Europe, and Latin America and the Caribbean. Today, the programme is operational in 50 countries, including Ghana.

The **UNEP-GEF** project description under development is "Preparation of a Transboundary Diagnostic Analysis for the Integrated Management of the Volta River basin."

The objective is to prepare a Transboundary Diagnostic Analysis, a preliminary outline of a Strategic Action Programme (SAP), and a GEF Project Brief. The project aims to establish the framework for a consensus-building process for which the long-term purpose is to secure global environmental benefits by reducing the degradation of the Volta River basin.

All the activities to be implemented in the PDF-B are designed as preparatory actions, and require a regionally collaborative SAP.

The project brief that will be submitted to the GEF will outline the modalities of operation and management of the full project. The document will include identification of priority short-term actions -i.e., pilot projects. More specifically, the project brief will include a list of activities required for the formulation of an SAP- such as additional studies; demonstration projects to test feasibility and costs; priority investment projects; and capacity-building at national and regional levels, including an analysis of baseline and incremental costs.

The **GEF/SGP** is also funding a Hippo Conservation Project on the north border of the Bui National Park, to be implemented by Conservation International, as well as two projects in the Western Region: Wantram Sacred Grove Conservation in an off-reserve area, and a second project that supports NGO efforts to conserve on and off-reserve forests in exceptional hotspots by maximizing returns per unit area of forest land in ways that are compatible with forest conservation.

**Guinea**

Guinea received support from the **USAID**, approximately US$4 million of which has been directed to the Guinea Natural Resources Management Project completed in September 1999. This project focused on the Fouta Djallon Highlands. It is being followed by the Expanded Natural Resources Management Project, which will run through the year 2005 and include other forested regions of Guinea, possibly those of the southeastern portion of the country.
The **European Commission** has supported watershed-based regional planning in the northern sector of the country, including the establishment of national parks and agricultural and infrastructure development.

**UNEP-GEF** is in the process of developing a project brief on "Integrated Management of the Fouta Djallon Highlands" with UNEP functioning as the lead IA with support from World Bank and UNDP. The Executing Agencies at a regional level are International Co-ordination Office (ICO/OAU) of the FDH-IRDP, Conakry, Guinea, in collaboration with ECOWAS.

The main objectives of the GEF project to be developed during the PDF-B are the conservation and sustainable use of the international watersheds and the biodiversity resources of the Fouta Djallon Highlands that are of paramount importance for the subregion. The GEF project will draw on the experiences and information collected by the Fouta Djallon Programme coordinated by ICO-OAU, to promote holistic approaches to integrated ecosystem management and to design participatory and community-based strategies for management of basin slopes in the Fouta Djallon Highlands that will lead to *in-situ* conservation and sustainable use of soil, water and biota. These activities are also expected to mitigate downstream effects of land degradation in the international river basins that originate in the Highlands. The project will take a watershed approach to ensure transfer of best practices and lessons learned between different river catchments, and to identify socially and culturally acceptable approaches that are economically viable; the resulting improvements in land management and catchment management will be disseminated throughout the Highlands. The project will also draw on the broad political support for the OAU-coordinated program from the eight member states watered by rivers originating in the Highlands.

**Liberia**
Liberia's ratification of the Convention on Biodiversity is still pending approval by the Secretariat; until it is approved, Liberia will not be eligible for CEPF support or any GEF investment. The UNDP and European Union resident representatives have both taken personal leadership to initiate the first significant biodiversity investment since Liberia’s civil war. Last year UNDP pledged US$350,000 to establish the National Environmental Commission, and the EU approved a US$750,000 for a forest assessment that requires 20% matching funds. In addition, the U.K.-based Darwin Initiative has recently invested US$100,000 in Sapo National Park, the country’s sole protected area.

**Sierra Leone**
Biodiversity investment in Sierra Leone in recent years has been limited to extremely small sums through regional NGOs such as the Environmental Foundation for Africa and individual field research biologists.

**NGOs**
The NGO community in West Africa includes local, national and international entities, many of which have interests in natural resource management and conservation -including management of natural habitats, investment in capacity-building, and better communication regarding the significance of conservation efforts.
Local and National NGOs: Local NGOs vary significantly with regard to their institutional capacity and the degree to which their activities focus on biodiversity conservation. Many are young institutions that lack experience. Others function largely as consultants to development agencies, working on contracts. Many have a limited geographic scope. The leading NGOs in this region, in terms of their past and potential contribution to biodiversity conservation, have worked on biodiversity conservation projects in the past, maintain an active presence with government agencies, and have track records that indicate leadership potential for the civil sector. These are:

- Ghana Wildlife Society
- Guinée Ecologie
- Society for the Conservation of Nature in Liberia
- Conservation Society of Sierra Leone
- Côte d'Ivoire-Nature
- Nigerian Conservation Society

The Environmental Foundation for Africa, based in Monrovia, Liberia, has worked successfully in the U.K. to raise awareness and build support there for the region. The foundation has emphasized the impact of conflict on conservation. Although small and young, its focus and leadership occupy a unique niche among regional organizations.

International NGOs dedicated to biodiversity conservation in the region are relatively few. World Wide Fund for Nature – International (WWF-IT) maintains a regional office in Abidjan, Côte d'Ivoire, providing conservation support to a large region extending from Senegal to Nigeria. In Côte d'Ivoire, WWF-IT serves as partner to the government for the management of Comoe National Park and participates in a consortium that advises the government on the development of PCGAP. BirdLife International is involved in a parallel role in Mt. Peko National Park and has been active designing initiatives on the Côte d'Ivoire side of Mt. Nimba and participating in the PCGAP consortium. The third NGO consortium member in Côte d'Ivoire is Conservation International (CI), which has its project base in Marahoué National Park. CI also has been involved since 1992 in Ghana, starting with the Central Region Natural Resource and Cultural Heritage Conservation Project and maintains offices in Accra and Cape Coast. WWF-Cameroon is now actively involved in efforts to survey and monitor wildlife populations in the Takamanda and Mone Forest Reserves, especially the critically endangered Cross River gorilla, and to upgrade the status of these reserves to that of national parks. Flora and Fauna International's project roster includes the upcoming Liberia forest assessment and Mt. Nimba (Guinea side) GEF project. Wetlands International has a regional office in Dakar, Senegal, and to date has had more intensive involvement west of Guinea (outside the Guinean Forest Hotspot), but is potentially a strong ally.

Academic Institutions
With only a few exceptions, the involvement of West African institutions of higher learning in conservation is best described as minor. Progress suffers for lack of available researchers, analysts, and facilities that can support baseline studies, periodic monitoring, and training. Nevertheless, with appropriate strengthening, this sector could be positioned to fortify the conservation community significantly.
One way to strengthen the capacity of West African universities to contribute to conservation efforts is to promote exchange and collaborative work with foreign universities that have been active in the region. There are several good examples of foreign university programs that have already established such collaborations or could do so. The University of Wageningen (Netherlands) and its ECOSYN Project has conducted a series of vegetation studies and botanical surveys in the Upper Guinea region. The University of Quebec (Canada) has initiated an environmental studies program at the University of Conakry, Ghana. Beaver College (United States) has established the Bioko Biodiversity Protection Program in collaboration with the Universidad Nacional de Guinea Equatorial, the focus of which is the long-term monitoring and ecological study of Bioko's endemic primates.

Likely national academic partners from West African countries to participate in future activities of this nature include:

**Ghana**
- University of Ghana – Legon
- University of Cape Coast
- University of Science and Technology (Kumasi)

**Côte d'Ivoire**
- Université de Cocody (Abidjan)
- Université d'Abobo-Adjamé

**Guinea**
- Université de Conakry

**Liberia**
- University of Liberia

**Sierra Leone**
- University of Sierra Leone (Freetown)

**Research Institutions**
Many national research institutions in West Africa region are quasi-governmental entities affiliated with universities from which they remain distinct. Like universities, their capacities and infrastructure are severely constrained, but their missions and output could be strengthened as part of the effort to provide greater benefit to national conservation efforts. Many of these research institutions already participate in the development of national conservation strategies and contribute to impact assessments for development agencies. These research institutions are potential partners in regional biodiversity conservation efforts:

**Ghana**
- Center for African Wetlands (regional), Legon
- Center for Development Studies, Cape Coast
- Remote Sensing Applications Unit, Legon

**Côte d'Ivoire**
- Bureau National d'Etudes Techniques et de Développement
- Centre de Recherche en Ecologie, Abidjan
- Centre de Recherche Océanologique
- Centre Suisse de Recherche Scientifique
Private Sector
The private sector, in this context, includes businesses and companies whose profits are derived from the exploitation of natural resources through logging, mining, oil and gas, and fisheries, but which could contribute to biodiversity conservation by adopting environmentally and socially responsible practices — and by giving financial and logistical support to specific projects. Historically, private-sector support for conservation has not been strong in this region, however, the potential is considerable and early interest from companies such as Rio Tinto Mining and Exploration Ltd. is promising. Airlines, particularly British Airways, have also supported the conservation community with in-kind services and through the design of industry-selected "conservation travel" awards.

CEPF NICHE FOR INVESTMENT IN THE REGION
In developing this profile, root causes were considered, including: poverty; civil unrest and political instability, lack of national-level policies for conservation; and limited opportunities for education. More proximate threats include local community activities that are incompatible with biodiversity conservation, bushmeat hunting and lack of local awareness of conservation issues and biodiversity values. Given the small amount of money available through CEPF for this corridor, project designers had to make some choices regarding resource allocation. This project is fundamentally regional and transboundary in its approach. As such, it proposes to address some national-level root causes directly, such as policies for conservation. In other cases, it addresses more proximate-cause issues, such as implementation problems at the level of communities and municipalities. The communications component seeks to build a constituency for conservation at the national, regional and local levels. Recognizing that its resources are limited, CEPF has always proposed to play a strategic coordination role and in so doing leverage considerably more resources in support of conservation than it could possibly bring to the table itself. In this spirit, CEPF proposes to invest significantly in activities that will focus the many disparate efforts at work in this vast corridor while ensuring that the best and most objective information is available to shape decision-making by a broad range of actors. In this way, CEPF expects to influence the root causes of biodiversity loss, albeit indirectly in some cases.

It has been determined that the most strategically compelling niche for CEPF is to focus on filling the gaps between existing efforts and investments. For this reason, defining the mechanisms to ensure the proper coordination among existing efforts is a major component of each of the profiles.

It must also be understood that the set of CEPF objectives is not meant to resolve all of the threats described in the profile. CEPF is one small element of much larger strategies in each ecosystem. Given the current levels of investment, the programs and strategies already in place and those anticipated, CEPF strives to fill a particular niche that has yet to be addressed at the level required for positive impact. This niche, and the main objective of CEPF, is to provide civil society, organizations, and individuals with the capacity to manage biodiversity conservation more effectively. CEPF focuses on this group based on the hypothesis that sustainable biodiversity conservation will only be realized if civil society groups existing within
the critical ecosystems drive the process. To extend the logic, if these groups become the actors and voices for biodiversity conservation, then decision-makers will begin to incorporate these issues into national and transboundary policies, legislation and action. Only if this impact is achieved will resources from CEPF be able to realize sustainable biodiversity conservation.

CEPF INVESTMENT STRATEGY AND PROGRAM FOCUS

CEPF's current investment will focus on the Upper Guinean Forest Ecosystem of the Guinean Forest Hotspot, based on the expert consensus of the Conservation Priority-Setting Workshop. The Lower Guinea portion of the hotspot may become eligible for investment from CEPF in the future. For both CEPF and the CPW there are a variety of justifications to dividing this 11-country hotspot. First, as noted, there is a biogeographic separation of Upper and Lower Guinea by the dry zone known as the Dahomey Gap. Second, because the Guinean Forest Hotspot covers a culturally diverse and politically complex area, a narrow focus is more feasibly implemented than a broad agenda. However, there are some types of conservation action that will be best organized hotspot-wide and this investment strategy provides guidelines that encourage the exchange of lessons between Upper and Lower Guinea and sets in motion hotspot-wide coordination for long-term monitoring.

As noted, the CEPF investment strategy builds on recommendations of priority areas and actions that resulted from the CPW. In response to the threat of fragmentation in West Africa, a primary direction of the CEPF program there is to support connectivity. Fragmentation is not only ecological - it also characterizes the region's political, administrative, and social systems. Consequently, CEPF seeks to establish connections not only among forest fragments, through either biophysical links or through standardized management approaches, but also among agencies that have not traditionally coordinated their activities across national borders and with regulations and policy instruments that would harmonize approaches to biodiversity conservation.

CEPF priorities will be to counter the most serious threats to biodiversity in this region, including:

- **forest loss and fragmentation** due to agricultural expansion, exploitative logging and rapid population growth;
- **ecosystem degradation** due to extractive practices such as mining and bushmeat hunting;
- **limited local capacity for conservation** due to insufficient professional human resources, minimal information, lack of regional mechanisms and limited cross-border collaboration; and
- **institutional elements** (policies, regulations, and practices) that undermine conservation effectiveness.

The thematic foci of this investment will include:

**Institutional Strengthening**, including capacity-building, training, and technical assistance, to help increase of protection for biodiversity by:

- supporting development of conservation professionals;
- strengthening protected-area management practices;
• commissioning biological surveys and other needed research;  
• providing resources to analyze the feasibility of using financial incentives to promote biodiversity conservation;  
• leveraging additional investment for conservation in West Africa; and  
• strengthening policy instruments and intersectoral support for biodiversity conservation.

**Development of Conservation Corridors**, to expand the application of conservation practices in a variety of land-use contexts, including:  
• agricultural landscapes;  
• transfrontier areas;  
• civil conflict zones; and  
• watersheds.

**Increased Public Awareness** to broaden support for, and understanding of, biodiversity conservation at local and national levels, including:  
• value (cultural and social) and amenities of forests and protected areas;  
• impact of bushmeat trade and unregulated hunting; and  
• global significance of local resources.

**Hotspot/Regional Biodiversity Database** establishment, to monitor and track conservation progress and challenges.

1. **Strengthening Institutional Capacities for Conservation**  
   **Training, Networks, and Protected Area Management**  
   In terms of research and management capacity, the Guinean region lacks expert botanists, wildlife ecologists, environmental educators, protected-area managers, and law enforcement officials. Through CEPF, training in these related fields will be supported through participation in biological surveys and other field activities; resident programs based at existing parks and reserves; and scholarships for study at national and foreign institutions. Similarly, efforts to connect professionals through networks of scientists, academics, and area resource managers will be instrumental in reducing the tendency for each country’s cadre of professionals to "reinvent the wheel" when addressing conservation challenges.

   Innovative protected-area management programs, such as the one overseen by Conservation International at Ghana's Kakum National Park during the late 1990s, provide fine models and natural classrooms for national and regional professional training programs. In the case of Kakum, this includes a very successful ecotourism strategy that could benefit biodiversity conservation efforts at other national parks and nature reserves throughout the Guinean Forest Hotspot. The ecotourism aspect of such training could also attract partners and support from the private sector.

   Along the border of Ghana and Côte d'Ivoire, vast cultivated areas have fragmented forests, and there is well-organized, but illegal, commercial surface mining and extraction of non-timber forest products within the region’s system of forest reserves and protected areas. A critical need in this region is training in law enforcement, conservation education, and GIS and land-use management techniques to support biodiversity conservation.
While working with the scientific and conservation communities, efforts should also focus on training and employing an appropriate number of law enforcement officials (guards and rangers) for those same protected areas. This is one of the best ways to reduce threats to biodiversity within parks and reserves due to human encroachment and illegal extractive activities. Significantly increased law enforcement may be the most effective way to curtail bushmeat hunting, which should be halted within protected areas. A commitment to the enforcement of existing wildlife laws also presents an opportunity for CEPF to leverage considerable funding from other sources, such as from the pool of multilateral and bilateral donors that are supporting Côte d'Ivoire's PCGAP.

The next step, and just as important, will be to develop approaches for long-term ecological monitoring of wildlife populations and ecosystem functions within existing protected areas. This initiative should build on professional expertise already in place and should increase the number of conservation professionals at work within the region’s national protected area systems to an effective level.

As Côte d'Ivoire's PCGAP becomes operational, it will be necessary to bridge support for essential operations of the Ministry of Construction and Environment and the Directorate of Nature Conservation. To ensure that tens of millions of dollars of future funding from multilateral and bilateral sources are put to the best use, a relatively modest amount of CEPF funding could be used in the short term by civil society to support the efforts of the appropriate national partner agencies, especially those that focus on protected areas of the Krahn-Bassa/Sapo/Grebo/Taï-N'Zo Complex in southwestern Côte d'Ivoire.

Also in Côte d'Ivoire, as well as in Liberia, there is a trend toward involving NGOs (such as Côte d'Ivoire Nature and the Society for the Conservation of Nature in Liberia) in the management of national protected areas. CEPF support of such collaborations could add a new dimension and broader support to government programs that are currently under funded and understaffed. The resumption of management efforts in Liberia's Sapo National Park, following years of abandonment during the country's civil war, would be a good focal point for such support.

**Research: Catalyzing Comprehensive Biological Surveys in Priority Areas**

As noted earlier, there is inadequate information about biodiversity in the existing protected areas of the Guinean Forest Hotspot. Current data were assembled for the CPW, and the results reflect multiple geographic and thematic gaps. A series of surveys is needed to fill those gaps. Provisions for a number of these targeted surveys already exist in national inventory programs to be funded by multilateral and bilateral donors; such funding would reduce the need for, and would complement, CEPF support for this effort.

The CPW assessment acknowledged limited research capacity in most countries in the region. The institutions and experts involved recommended the integration of training, capacity building, and international teams in all survey work undertaken. Economies of scale, including bilingual efforts, are recommended in order to stimulate collaboration among colleagues in neighboring countries and to stimulate additional national-level efforts based on international projects.
Before surveys are conducted, a thorough investigation of previous information from these areas is in order. Targets will include:

- areas rated by the CPW as having significant needs for biological research;
- areas rated by the CPW as having high biological value;
- areas for which the generated information will have immediate practical bearing on priority management challenges; and
- areas in which biological assessments would be feasible, taking political stability into account.

During the CPW, participants were asked to rate priority areas according to research needs. The areas prioritized for further scientific research in three or more of the thematic groups (Mammals, Birds, Insects, Reptiles and Amphibians, Plants, Freshwater and Marine) are (as shown in Figs. 3 and 4):

- A3 - Loma-Tingi Hills Complex (Birds, Insects and Freshwater)
- A4 - Scarvies Riverine Forest (Mammals, Plants, Marine)
- B8 - Gola/Ziama Complex (Birds, Insects, Plants)
- C2 - Eastern Liberian Moist Lowland Forest/Sapo National Park (Mammals, Insects, Plants)

Such inventories would provide the basis for an ongoing biodiversity monitoring network that would provide researchers and policy makers with access to constantly updated information in the form of an early warning system. Currently, the lack of reliable data precludes measurement of forest cover and biodiversity in the region. There is no established baseline from which to calculate change. With reliable data, threats to biodiversity will be more easily detected and mitigated. Additionally, biological research stations remain undeveloped in the region. Their roles—not only as sources of new information, but in maintaining a management presence in protected areas—merit attention and long-term financial support.

**Institutional Assessments and Policy Instruments**

Long-term funding for conservation is inadequate throughout the region. Funding opportunities in the region are limited and financial mechanisms to create conservation funds have not been adequately explored. Similarly, policy instruments to create conservation incentives, or to eliminate disincentives, have rarely been considered. Varying regulations between countries create a mosaic of management prescriptions that result in the region’s fragmented approaches to ecosystem management, especially in transboundary watersheds.

CEPF will seek to leverage a range of policy and regulatory instruments to evaluate their potential to resolve barriers to conservation. These include support for improved law enforcement and strengthened regulations, and for assessment of potential financing mechanisms and incentives that, where appropriate, can influence land use trends. The creation of the Ghana Heritage Conservation Trust has broken new ground in creating conservation funds that support protected areas. Similarly, efforts in Côte d’Ivoire to create a quasi-national parks management agency, drawing on international support for funding, has led to modification of national policies to support biodiversity. While CEPF will not fund the capitalization of trust funds, nor provide resources for conservation set-asides, it will provide funds to evaluate the feasibility of such mechanisms. Private-sector engagement in key corridors will be sought as well. Conservation International’s new **Center for Environmental Leadership in Business** has already committed
matching funds and expertise to assess the most strategic private-sector conservation opportunities across the region and will provide technical assistance to engage corporations thought to have the greatest opportunities for investment.

2. Establishing a Hotspot Biodiversity Monitoring System
Concurrent with the biological surveys would be the development of a regional biodiversity database, mostly archiving biological information regarding the existing national parks, nature reserves and wildlife sanctuaries. The database would also serve as a repository for information about Guinean forests currently unprotected, which is essential to the broader long-term biodiversity conservation goals for the region. This database project like the surveys, may need to be managed initially by foreign specialists, but it would provide employment and significant training opportunities for their West African counterparts.

Building an operational monitoring system to evaluate trends in the Upper Guinea Forest requires a multifaceted approach addressing biological systems, socioeconomic factors, and institutional capacities. First, a standard monitoring protocol is needed to make accurate measurements of indicators used to correlate relationships within the ecosystem. Identifying gaps in scientific efforts, and establishing geographic priorities for research, will help focus investment and incorporate the best scientific methodology available. Ideally, a network of institutions staffed with local biologists in each of the six West African countries will be developed to provide the necessary capacity to survey and monitor the status of critical species and habitats.

This strategy will be tailored to the specific national contexts, including institutional capacity, ecological and biological significance, and socioeconomic threats. Establishing a baseline of knowledge at a country level is required in order to implement the protocol. In addition to conducting surveys and developing a regional biodiversity database, CEPF support will be used to strengthen the reference libraries and information management systems of key national NGOs and to promote independent, longer-term ecological studies by West African biologists. This includes incorporating current museum collection records for each country’s biodiversity into a database to retrieve information from past field surveys — a process that will enhance understanding of the biogeography of the region. Prioritizing areas within the region based on their biological characteristics will provide a rough map of the greatest concentrations of biodiversity and identify areas ripe for field surveys. These priorities will form a baseline of information from which to deduce changes and specific threats.

The last step in this process will be the actual collection and analysis of data specified as inputs into the monitoring strategy. Field data must be well documented, validated, and distributed in a logical package to all stakeholders. Additionally, data must be fed into a monitoring system that allows the evaluation of indicators both temporally and comparatively. Remotely sensed data will be a key input to the system, providing up-to-date information on the extent, condition, and integrity of the forest ecosystem. Two regional organizations are in the process of developing environmental information systems: the African Development Bank, based in Abidjan, developing a centralized knowledge and information system for all 40+ member countries; and ECOWAS, which has taken initial steps to develop an Environmental Monitoring Information System. These initiatives will help to disseminate and store data
collected for the monitoring protocol, enhancing government's access to better information concerning biodiversity.

3. Developing Conservation Corridors

**Intersectoral Initiatives For Biodiversity Conservation**

Success factors are likely to reside as much in sectors and agencies outside of parks and wildlife departments as within them. Thus, CEPF initiatives that successfully integrate biodiversity concerns into other public or private sectors, such as forestry, agriculture, mining, tourism, governance, and development, will broaden conservation impact beyond its traditional and limited scope by expanding stewardship responsibilities and commitments. Such integration will be favored by partnerships that address overlapping areas of interest and responsibility. Recent integration of efforts by the forestry and wildlife sectors in Ghana is one example in which biodiversity assessments of forest reserves contribute to management plans. CEPF support for assessment of forest reserves in other countries in the region would actualize these links between institutions. Similarly, the cocoa sector in the region, especially in Ghana, is becoming cognizant of the nexus between agriculture and biodiversity, and efforts are needed to identify "win-win" solutions and incentives that integrate conservation considerations into agriculture.

The 41 priority areas identified during the CPW (Fig. 2) include fragmented forests and coastal ecosystems. Natural areas found within these priority sites emerge as key foci for place-based CEPF conservation projects and could ultimately function as core areas in larger corridors for protection of biodiversity and ecosystem functions. Of the intact forest remaining in the six-country region, the largest portion (43%) is believed to remain in Liberia. Côte d'Ivoire share is estimated at 28%, Ghana at 16%, Guinea at 8%, Sierra Leone at 5%, and Togo at 0% (though remnant patches still exist).

**Transfrontier Collaboration**

Of all 41 CPW priority areas, 25% occupy transfrontier lands. Overcoming political and administrative fragmentation, by developing collaborative efforts that focus on the biological and environmental resources shared throughout the Upper Guinea region, will prevent these critical areas from “falling through the cracks” in the region. International support for these key areas will be sought, especially from entities that have regional oversight and which join countries in forums that consider regional issues such as African Development Bank and ECOWAS.

The three largest forest complexes in the region can be viewed as clusters of priority areas, and illustrate comprehensive conservation initiatives in the region. They include the Gola/Lofa/Mano complex of Sierra Leone and Liberia, the Krahn-Bassa/Sapo/Grebo/Taï complex of Liberia and Côte d'Ivoire, and the fragmented *forêts classées* and forest reserves of eastern Côte d'Ivoire and western Ghana respectively. On a coarse scale, these three clusters range across a west-east continuum of threats dominated by conflict, logging, and agricultural expansion. Each cluster reflects the challenges that would be faced in any of the priority areas they comprise.

**Cluster 1: Sierra Leone-Liberia**

The Gola/Lofa/Mano Complex represents a mix of lowland forests on the Sierra Leone and Liberia border (A2). This priority area represents the westernmost extent of many plant and animal communities within the Upper Guinea forest ecosystem. Though poorly studied and largely inaccessible by researchers and conservationists in recent years, the area still contains
large tracts of contiguous forest for the potential establishment of core-protected areas. These include the Gola Forest Reserves in Sierra Leone and the Lofa-Mano National Forests in Liberia, each of which could be upgraded to National Parks or Strict Nature Reserves. The contiguous nature of these cross-border forests also presents opportunities for transfrontier conservation initiatives between the two countries.

Both the Liberian and Sierra Leonean portions of this complex have experienced a high degree of civil conflict over the past ten years. The highly porous border between Sierra Leone, Liberia, and Guinea to the north has allowed several groups of competing factions to move freely between countries. Since the end of the civil war in Liberia, there are indications of increased settlement, shifting agriculture, hunting and general human disturbance along with the resumption of full-scale logging activities. Furthermore, violence has again flared up in the Liberian portion of this complex and continues to displace local peoples in some areas and to increase pressure from refugees in others. Persistent civil unrest in the Sierra Leone portion of the complex continues to cause tension among government, rebels, and international intervention efforts providing peacekeeping and humanitarian assistance.

Choosing from a range of priority needs for the Gola/Lofa/Mano complex, CPW participants placed an emphasis on first undertaking a rapid biological assessment and, second, updating scientific knowledge, notably the capacity for remote sensing in the area. Furthermore, regional experts noted, "Collaboration with the respective governments of Guinea, Sierra Leone and Liberia is important, with the aim of incorporating management strategies into national conservation action plans."

**Cluster 2: Liberia-Côte d'Ivoire**
The Krahn-Bassa/Sapo/Grebo/Taï complex contains the largest tract of contiguous forest left in the entire Upper Guinea ecosystem and represents the greatest opportunity to establish and maintain protected areas containing large intact stands of forest. Most of the forests in eastern Liberia (C1-C4) emerged as extremely high regional priority sites and include prospective core areas like Sapo National Park, Krahn-Bassa National Forest, and the Grebo National Forest. Taï
National Park (C6) in Cote d'Ivoire is the single largest existing forest protected by a national park in the region and offers a potentially good opportunity for transfrontier conservation along the Liberian border.

In the Liberian portion of the complex (C1, C4, C2, and C3), a range of new disturbances is underway within forest areas believed to be mostly intact. After the civil war, scientists working in the region in 1997 observed little disturbance to areas of forest not formally exploited for timber. In fact, observations indicated that in many areas wildlife had made a comeback during the war. However, since 1998, human settlement, farming, and hunting have steadily advanced into the forest. Such activities have generally followed a pathway opened up by a new Malaysian timber operation that built a major highway into the remaining forest clusters. The operation currently extracts an estimated 50,000-80,000 cubic meters of timber per month, which could destroy the remaining forest blocks in less than five years. Lack of enforcement of existing forestry legislation reflects the limited capacity of the Liberian Forest Development Authority and inadequate environmental governance in general. Scientists participating in the CPW documented the primary threats to the forest ecosystem as timber extraction, road construction, and increased human settlement, which leads to a higher intensity of farming and hunting. Recommended interventions include updating scientific knowledge, conducting biological surveys, building capacity within the forest development authority, and reassessing the protected area network. Major stakeholders in this region include the Oriental Timber Company, the Liberian Forest Development Authority, the Society for Conservation of Nature in Liberia, and a diverse array of local communities from several ethnic groups.

The Ivorian side of the complex (C7, C6, C5) has, by contrast, a host of threats affecting biodiversity. Industrial plantations of cocoa, rubber and palm have increased pressure on the surrounding landscape by drawing in workers who supplement their wages by farming in adjacent forests. Furthermore, human pressure, intensified by the arrival of thousands of
Liberian refugees during the 1990s, has continued along the border region. The growing population has increased demand for bushmeat and small-farmer agricultural production. Low-level gold mining also occurs in this area, which threatens to increase erosion and siltation of aquatic systems.

Experts at the CPW recommended several specific interventions for the Ivorian side of the complex:
1. taking an inventory of unknown areas to the northwest of Taï National Park on both sides of the Cavally River;
2. measuring the impact of conservation activities on wildlife using Taï National Park as a reference point;
3. developing a transnational approach to conservation to harmonize wildlife management;
4. developing regional tourism as an alternative income source; and
5. investigating the potential for upgrading the protection status of the region's protected areas.

**Cluster 3: Côte d'Ivoire–Ghana**
This complex includes a large number of forest reserves in Côte d'Ivoire and Ghana. The 10 priority sites in this complex are largely contiguous, providing an opportunity for landscape approaches to conservation that could incorporate existing forest fragments as "core" areas. The existing landscape contains wet evergreen, moist evergreen, and moist semi-deciduous vegetation zones. Several national parks — Bia, Ankasa and Kakum — contain remnant wildlife populations of species typical of the eastern Upper Guinea (i.e. the area east of the Bandama River, Côte d'Ivoire). Sadly, this is the first region to have recorded the extinction of a large mammal, with the recent report of the apparent disappearance of Miss Waldron's red colobus. Until the mid-1970s, this subspecies of red colobus was known in a few localities within this region.

![Fig. 5. Fragmented forests of Côte d'Ivoire and Ghana](image)

Threats documented by scientists at the Conservation Priority-Setting Workshop include vast areas of cash/food crop cultivation resulting in forest fragmentation, well-organized illegal
extraction of non-timber forest products, timber extraction, and commercial-scale surface mining. Recommended responses include training in law enforcement, conservation education, and GIS and land-use management. Experts recommended that long-term conservation strategies for the region include ecological monitoring, community participation, conservation education, land-use management, and rapid assessments and biological inventories.

**Conservation Corridor Coordination and Strategies**

Fragmentation of landscapes inhibits or alters flows of genetic materials, water, and wind. It also isolates small populations and places biological resources in the fragments at greater risk. Furthermore, fragmentation can lead to piecemeal interventions for conservation when more extensive landscape approaches may be more effective. Corridor feasibility, function and establishment have not been appropriately explored in the region as a means to counteract fragmentation. However, CPW priority areas, especially in clusters, offer opportunities for landscape management and regional planning.

Corridor strategies in these areas, coordinating the integration of multiple sectors and using protected areas as anchors, will be promoted under CEPF as part of CPW follow-up and implementation. The range of activities for corridor development includes biological surveys, aerial photography and remote sensing imagery analyzed in GIS packages, multi-agency planning, enterprise development, and community outreach and awareness. Whether corridors become physical presences in the landscape, or whether they are conceptual patterns that broaden management approaches to include transfrontier efforts or cross-border watersheds, they can serve as valuable units for protecting biological and other natural resources on the ground. Multisector initiatives will also be instrumental in leveraging investments from multiple donors to corridors. Corridor coordination will also be linked clearly with the Hotspot Biodiversity Monitoring System.

**4. Public Awareness**

Initiatives developed at the local level are essential to the success of larger-scale national and regional conservation programs. These are most often created as collaborations between communities and NGOs. CEPF grants will be directed to such collaborations to support environmental education programs, appropriate agroforestry extension services, the replacement of slash-and-burn agricultural techniques with cash-crop production, ecotourism guide training, and other employment opportunities that biodiversity conservation programs may generate. In the process, CEPF will also be sensitive to the institutional needs of the NGOs involved, and will be prepared to help sustain their continued participation in regional efforts.

Awareness campaigns will also be supported at the national level within countries whose forests constitute the Guinean Forest Hotspot. Broadened impact will result from projects that successfully increase biodiversity awareness among potential partners, decision-makers, and the general public. Campaigns to educate consumers about impact of the bushmeat trade, and to inform the judiciary of wildlife laws and regulations, will contribute to efforts to reduce the impact of unregulated hunting. Conservation International’s Center for Applied Biodiversity Sciences (CABS) has supported a regional bushmeat assessment workshop and will contribute to a national campaign in Ghana on the subject. The bushmeat trade is a problem requiring a multi-pronged, extensive strategy. Since this is such an important challenge, CEPF resources will
focus on supporting additional initiatives, led by CABS and others, to reduce the bushmeat trade, rather than mobilizing to combat the threat independently.

There is a growing trend in Ghana and Guinea for local communities to become involved in conservation planning. CEPF support for such grassroots activities would be most appropriate in communities surrounding existing protected areas based on a model employed by Conservation International at Kakum National Park in Ghana. Kakum has been the site of innovative programs in revenue-sharing, community outreach, enterprise development, agroforestry, and environmental education, all of which can be replicated throughout the region.

There is an urgent need for conservation education in communities that surround forest reserves along the border of Ghana and Côte d'Ivoire, a region that is currently being ravaged by over-exploitation of forest resources. Education programs would be linked to biological surveys aimed at upgrading protection levels in extractive reserves.

5. Biodiversity Action Fund
In order to respond to unforeseen circumstances that affect biodiversity conservation, and to facilitate inter-institutional coordination and small-scale capacity building, it is recommended that CEPF provide resources to establish a Biodiversity Action Fund. Small grants from the Biodiversity Action Fund will range in size but no single grant will exceed US$10,000.

SUSTAINABILITY
The CEPF Investment Strategy will be funded over a period of three years and represents the beginning of a larger process to bring about sustainable biodiversity conservation within the region. It is therefore important to highlight the sustainability of the CEPF strategy beyond the initial three-year funding period. There are three key elements to the sustainability of these objectives; the first, already noted, is a tremendous current level of investment within the region by several multilateral and bilateral organizations, government agencies, and international and local NGOs. In order to build on this, CEPF plans to encourage sustainability by building local capacities, the second key element of sustainability. Much of the implementation of biodiversity conservation efforts is currently done by outside organizations and the focus of CEPF is to build local capacities to take over much of this role and for these civil society groups to take the lead on conservation efforts. Capacity alone, however, may not be sufficient. Financial resources for biodiversity conservation will remain a critical issue for sustainability. For this, through cultivation of partnerships and alliances, CEPF hopes to leverage new funding for biodiversity conservation. This is the third element of sustainability. It is expected that quality results from CEPF projects will generate increased interest and confidence in the donor community leading to increased investment. The combination of local capacity and increased overall funding, together with current levels of investment in the region, should lead to greater biodiversity conservation impacts that can be sustained for a long time to come.

While the overall sustainability hypothesis is logical and sound, there will be much to learn from each individual CEPF grant project. Accordingly, all project proposals will include a section in which external risk factors and long-term sustainability issues will be addressed. Projects will be required to highlight key external factors that might reduce the benefits of their activities and discuss plans to mitigate these. Applicants will also explain how they see the objectives of their specific projects carrying forward after the initial CEPF funding period. All
of this will be shared on the CEPF web site, allowing other project teams to learn from successful risk mitigation strategies and sustainability measures put in place by various projects. To continue this process after the initial project design phase, grantees will revisit these issues in each of their quarterly project performance reports. The purpose is not only to highlight risk and sustainability at the outset, but also to track these critical issues throughout the life of each project.

CONCLUSION
The CEPF investment strategy for West Africa builds on priority areas and actions identified during the Conservation Priority-Setting Workshop held in Elmina, Ghana, in 1999. Consensus recommendations from the 140 participants created a blueprint for conservation investment in the region that addresses the most pressing threats to the forests and coastal zones of the six-country area. Drawing on the expertise of conservationists, biologists, ecologists, economists, sociologists, and planners, the CPW examined biological criteria within a socioeconomic context. By highlighting biological diversity and species endemism against a backdrop of threats to their continued existence, CPW results point to the most important sites for conservation and the issues that must be confronted to conserve them: lack of institutional and human capacity, destructive land-use practices, limited conservation awareness, underdeveloped environmental processes, and weak governance.

By stepping beyond a set of recommendations that is exclusively biological, the CPW results illustrate the broad approach that must be taken among institutions and sectors if natural environments are to be conserved in West Africa. For environments to function properly, supporting a full complement of species and providing a wide range of goods and service, multiple roles and initiatives must converge in new ways. That convergence is already beginning, with similar goals and needs assessments appearing independently within the strategies of a wide range of donor agencies, NGOs, and governments. Linking these varied convergences of mission with specific actions in the region through the collaborative work of alliances is the primary focus of CEPF.

CEPF is intended to provide a rapid response to conservation needs, to complement initiatives already underway, and to stimulate wider participation in conservation in West Africa. Immediate actions now to "hold the line" on the biodiversity crisis, stabilize protection, and to begin building alliances to rescue the hotspot will establish a positive trend toward the long-term vision of ecosystem health and stability in a region eager for solutions.
APPENDIX 1

Summary matrix of general description, biological priorities, existing core protected areas, socio-economic threats, and research and conservation priorities for regional priority sites from Guinea to Togo

<table>
<thead>
<tr>
<th>Sub-Region</th>
<th>Regional Priority Site ID</th>
<th>General Description of Landscape and Locality</th>
<th>Biological Priorities</th>
<th>Existing Core Protected and Managed Areas (National Parks, Forest Reserves, Forêt Classées, and National Forests)</th>
<th>Socio-Economic Threats (Land Use, Civil Conflict, Extractive Industries, and Protected Areas)</th>
<th>Research and Conservation Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Western Region (Sierra Leone, Liberia, and Guinea)</td>
<td>A11 and A12</td>
<td>A12 is the coastal area of mangroves in northern Guinea, extending from the Guinea-Bissau border to just south of Tougoufili. A11 abuts this coastal area and extends inland to Sangaredi and Boké to accommodate important drainage basins (Kogon River). The area is well known for bauxite mining.</td>
<td>Plants (mangroves vegetation), Birds, Freshwater (fishes), and Marine (coastal mangrove ecosystem)</td>
<td>Land Use: Extraction of firewood, fishing, hunting and rice paddies Civil Conflict: Over-hunting, deforestation, disturbance of water courses, search for alternative sources of revenue by displaced populations and refugees, sand mining, small scale diamond and gold mining, commercial overexploitation of marine resources, coastal erosion, water pollution, and land degradation.</td>
<td>Both sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, improved protection of existing protected area and training are needed</td>
<td></td>
</tr>
<tr>
<td>A7, A8</td>
<td>All four areas are</td>
<td>Insects</td>
<td>Forêt de Sala</td>
<td>Land Use: Hunting,</td>
<td>All sites need</td>
<td></td>
</tr>
<tr>
<td>Area</td>
<td>Description</td>
<td>Primary Resources</td>
<td>Threats</td>
<td>Conservation Needs</td>
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<tr>
<td>A9, A10</td>
<td>within the Fouta Djallon mountain area in Guinea. The landscape consists of rolling hills with savanna and naturally fragmented forests in the valleys. The mountain range is an important source of several major rivers in West Africa. It is also an important agricultural region in Guinea.</td>
<td>(butterflies) and Freshwater (fishes)</td>
<td>bush fires, farming and settlement within classified forests, overgrazing of pastureland, poor agricultural systems/methods and erosion of soils. Civil Conflict: Uncontrolled fisheries, deforestation, over-exploitation, disturbance of water courses, and habitat degradation by refugees.</td>
<td>update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, improved protection of existing protected area and training are needed.</td>
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<tr>
<td>A5, A6</td>
<td>This area includes the coastal mangrove zone north (to Boffa) and south (to the Sierra Leone border) of Conakry, capital of Guinea. It is important for the agriculture and fisheries industry.</td>
<td>Plants (mangroves), Birds, Freshwater (fishes) and Marine (coastal mangrove ecosystem)</td>
<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, and training are needed.</td>
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<tr>
<td>A4</td>
<td>This area encompasses all of the Sierra Leone coastal mangroves, stretching north from the Guinea border to south to the Liberian border. It also</td>
<td>Plants (mangrove vegetation), Birds, Mammals, Herps, Insects (butterflies), Freshwater (fishes), and</td>
<td>Area needs update of scientific information through quick assessments and ecological studies; habitat restoration,</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>A3</td>
<td>Includes the Loma and Tingi Mountains, and adjacent lowland areas (including Lake Sonfon) in Sierra Leone. The vegetation is primarily semi-deciduous forest.</td>
<td>Plants (semi-deciduous forest), Birds, Mammals, Herps, Insects (butterflies), and Freshwater (fishes)</td>
<td>Loma Mountain Forest Reserve Tingi Hills Forest Reserve Tonkoli Forest Reserve Tama Forest Reserve</td>
<td>Land Use: Overgrazing; bush fires, mining for diamonds and gold, logging and road construction, agriculture and settlements. Protected Area: Encroachment on existing forest reserves from agriculture and settlements, poaching, lack of awareness and community involvement in management.</td>
<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, and training are needed</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>Primarily lowland moist evergreen forest vegetation. Extends from the Kambui Hills in Sierra Leone across the Liberian border to the Lofa-Mano National Forests. Includes important</td>
<td>Plants (evergreen forest), Birds, Mammals, Herps, Insects, and Freshwater (fishes)</td>
<td>Tiwai Island Game Sanctuary Gola National Forest Gola West Forest Reserve Gola East Forest Reserve Gola North Forest</td>
<td>Land Use: Hunting; logging; shifting cultivation and agricultural expansion. Civil Conflict: Deforestation through increased agricultural activities (shifting cultivation) by refugees</td>
<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, and training are needed</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Area</td>
<td>Description</td>
<td>Natural Areas and Wildlife</td>
<td>Land Use</td>
<td>Civil Conflict</td>
<td>Protected Area</td>
</tr>
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<tr>
<td><strong>Mount Nimba Range (Liberia/Guinea/Côte d'Ivoire)</strong></td>
<td>A1</td>
<td>Area is centered on Lake Piso in western Liberia and extends along the coast to include estuaries of the Lofa River.</td>
<td>Plants (coastal forest and mangrove vegetation), Birds, and Marine (coastal mangrove ecosystem)</td>
<td><strong>Land Use:</strong> Poaching, logging and shifting cultivation (agricultural expansion). <strong>Civil Conflict:</strong> Deforestation and habitat degradation by refugees and internally displaced persons</td>
<td><strong>Protected Area:</strong> Farming (subsistence)</td>
<td>All sites need update of scientific information through quick assessments and ecological studies; restoration, establishment of new protected area, and training are needed</td>
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<td></td>
<td>B3, B4, and B5</td>
<td>Mountainous zone, stretching across Guinea, Ivory Coast and Liberia. Biosphere reserve and world heritage. Equatorial humid forest, drained by several waterways, very rich in endemic fauna species (birds, mammals, reptiles, insects) and flora.</td>
<td>Plants (montane forests), Birds, Mammals, Herps, Insects, and Freshwater (fishes)</td>
<td><strong>Land Use:</strong> Agriculture and hunting; exploitation of the forest resources, mining, logging and road construction, and settlements. <strong>Civil Conflict:</strong> Deforestation, sand mining, commercial overexploitation of marine resources, coastal erosion, water pollution, deforestation and land degradation due to refugees.</td>
<td><strong>Protected Area:</strong></td>
<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, improved protection of existing protected area and training are needed</td>
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<tr>
<td>B7, B8 and B9</td>
<td>B7 and B9 are both mountainous extensions situated in Guinea, and covered mostly by tropical moist forest vegetation. B8 extends from the Wologisi mountain range in Liberia to the Ziama Massif in Guinea. These mountain ranges contain headwaters of several major rivers including the Lofa and St. Paul River's.</td>
<td>Plants (montane forests), Birds, Mammals, Herps, Insects, and Freshwater (fishes)</td>
<td>Wologisi Mountain Nature Reserve North Loma National Forest Ziama Massif</td>
<td>Poaching, encroachment by refugees, road construction, lack of effective surveillance, lack of community participation in management, and agriculture. Poaching, encroachment by refugees, road construction, lack of effective surveillance, lack of community participation in management, and agriculture.</td>
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<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, improved protection of existing protected area and training are needed.</td>
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<tr>
<td>South Western Region (Liberia and Cote d'Ivoire)</td>
<td>C1, C2, C3, C4, C5, C6, and C7</td>
<td>Encompasses much of the lowland evergreen forest areas of southeast Liberia and across the Cavally River into Western Cote d'Ivoire. C1 is mostly wilderness area between the Cestos and Sehnkwen Rivers in Liberia and contains one of the most unique forest types for Upper Guinea. This area receives the highest rainfall in Upper Guinea, up to 4000 mm. C7 is covered with lowland evergreen rainforest with a few large inselbergs.</td>
<td>Plants (lowland evergreen forest vegetation), Birds, Mammals, Herps, Insects, and Freshwater (fishes)</td>
<td>Krahn-Bassa National Forest Gbi and Gbo National Forest Sapo National Park Grebo National Forest Forêt Classée de Haute Dodo N'Zo Faunal Reserve Taï National Park Forêt Classée de Cavally-Gouin</td>
<td>Rubber and oil palm plantations, farming in forest and wildlife hunting, road construction, settlements. Civil Conflict: Forced migration, movement and settlement of refugees and internally displaced persons. Extractive Industries: Timber extraction, and small scale mining. Protected Area: Agriculture encroachment, potential for expansion of cocoa and coffee in Cote d'Ivoire, mining and poaching.</td>
<td>All sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of new protected area, improved protection of existing protected area and training needed.</td>
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<tr>
<td>C8 and C9</td>
<td>C8 lies in Upper Sassandra river basin, and includes a zone of transition from evergreen forest to driest type of semi-deciduous forests at medium altitude. The landscape also includes inselbergs, riverine forest, and Plant (semi-deciduous forest vegetation), Birds, Mammals, Herps, and Insects (butterflies)</td>
<td>Forêt Classée de Haute Sassandra Marahoué National Park</td>
<td>Land Use: Urban migration in south west region of Cote d'Ivoire, agriculture; exploitation of forest resources, hunting, cash cropping (cocoa). Protected Area: Agriculture encroachment, overexploitation of</td>
<td>Both sites need update of scientific information through quick assessments and ecological studies; habitat restoration, improved protection of existing protected area and training needed.</td>
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<tr>
<td>C9</td>
<td>Savanna. C9 is also primarily transitional zone, and includes semi-deciduous forest with savanna vegetation dominated by <em>Borassus</em> palm.</td>
<td>Forests, potential for expansion of cocoa and coffee in Côte d'Ivoire, mining, poaching and inadequate protected area management.</td>
<td>Need for update of scientific information through quick assessments and ecological studies; habitat restoration, improved protection of existing protected area, and training are needed.</td>
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<td>C10 and C11</td>
<td>Includes the lower Sassandra river, and coastal area between the Cavally and Bandama Rivers. The area is interspersed with urban centers, and includes a major East-West road. The vegetation is coastal evergreen rainforest, with coastal lagoons, swamps, marshes, and mangroves.</td>
<td>Plants (coastal forests and mangrove vegetation), Birds, Mammals, Herps, Insects, Freshwater (fishes), and Marine (coast mangrove ecosystem)</td>
<td>Land Use: Agriculture (numerous plantations), exploitation of forests, migration for agricultural labor, habitat conversion, industrial plantation development, timber exploitation, over-fishing in coastal areas. Civil Conflict: Refugee migration and settlement. Protected Area: Agriculture encroachment (and associated bush fires), uncontrolled hunting and fishing, invasion of exotic plants, demographic pressure, and inadequate protected area management. Both sites need update of scientific information through quick assessments and ecological studies; habitat restoration, improved protection of existing protected area, and training are needed.</td>
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<td>C12</td>
<td>This site lies on the southern most part of savanna (south of the</td>
<td>Plants (semi-deciduous forest and riverine)</td>
<td>Lamto Forêt classée de La Téné</td>
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<td>Eastern Region (Cote d'Ivoire and Ghana)</td>
<td>D1</td>
<td>Coastal lowland and promontories between Abi lagoon in Cote d'Ivoire and west of Takoradi Town in Ghana. Includes beaches with rocky outcrops and promontories, islets, coastal lagoons, swamps, and river estuaries. Vegetation is mainly composed of mangroves, palms (coconut, oil, etc.), grass and evergreen forest, including an area of primary forest (Cape Three Points).</td>
<td>Plants (lowland forest and mangrove vegetation), Birds, Mammals, Herps, Insects, Freshwater (fishes) and Marine (coastal mangrove ecosystem).</td>
<td>Cape Three Points Forest Reserve Neung Forest Reserve îles des Ehotiles National Park</td>
<td>Land Use: Poaching, logging and shifting cultivation (agricultural expansion). Protected Area: Agriculture encroachment, overexploitation of forests, poaching and inadequate protected area management.</td>
<td>Needs update of scientific information through quick assessments and ecological studies; habitat restoration, improved protection of existing protected area and training are needed</td>
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<tr>
<td>D8 and D9</td>
<td>Includes all of remaining lowland forests in Eastern Cote d'Ivoire. The vegetation is moist evergreen forest. Riverine vegetation is also included as part</td>
<td>Plants (moist evergreen forest), Birds, Mammals, Herps, Insects (butterflies), Freshwater (fishes)</td>
<td>Forêt classées de Mabi Sognan-Yaya-Tamin Forêt classée de Bossématie</td>
<td>Land Use: Logging, hunting, agriculture, exploitation of forest, urbanization</td>
<td>Both sites need update of scientific information through quick assessments and ecological studies; habitat restoration, establishment of</td>
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<td>of the Comoe River drainage basin.</td>
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<td>D2, D3, D5, and D6</td>
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<td>This area encompasses the lowland forests in the Western, and Central Regions of Ghana. The vegetation is wet evergreen to moist evergreen with rainfall of 1500-2000mm. There are also large areas of moist semi-deciduous forests, primarily cocoa farming areas. An important drainage basin for several major rivers including the Bia, Tano Sui and Pra. The terrain is undulating, hilly and difficult to access. This is Ghana's main cocoa production area, and includes important mining areas for gold.</td>
<td>Plants (evergreen and moist semi-deciduous forest), Birds, Mammals, Herps, Insects, and Freshwater (fishes)</td>
<td>Ankassa Game Production reserve Nini-Suhien Bia National Park &amp; Game production reserve Dadiasco Forest Reserve Kakum National Park Assin Attandaso Game Production Reserve</td>
<td><strong>Land Use:</strong> Logging, hunting, agriculture, extraction of firewood, fishing, and rice paddies. <strong>Extractive Industries:</strong> Timber extraction, hunting. <strong>Protected Area:</strong> Agriculture encroachment, lack of institutional capacity, increased access to locals, population explosion, mineral exploitation, poaching, deforestation.</td>
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<td>D4 and D7</td>
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<td>D7 consists of scattered, partly degraded forest reserves, including the Neung Forest reserve Atewa Range Forest Reserve</td>
<td>Plants (moist evergreen forest), Birds, Mammals, Herps, and</td>
<td></td>
<td><strong>Land Use:</strong> Logging, hunting, agriculture, and urbanization. <strong>Extractive Industries:</strong> Both sites need update of scientific information through quick assessments</td>
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</tbody>
</table>
Nkawkaw scarp and the Atewa Range Forest Reserve (D4). The landscape is covered mainly by moist semi-deciduous forest, and is generally gentle rolling up to the escarpment at Nkawkaw near Atewa Ranges where the land rises to about 600m. The Atewa Range (D4) includes a series of highlands between 300-600m above sea level. Rainfall in this region is between 1500-1800mm.

**Illegal mining activities and land degradation.**

**Insects (butterflies)**

**Togo Highlands and Eastern Ghana Coastal Region**

<table>
<thead>
<tr>
<th>Land Use: Hunting, agriculture, and exploitation of forest resources</th>
<th>Needs update of scientific information through quick assessments and ecological studies; establishment of new protected area, improved protection of existing protected area and training are needed</th>
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<tbody>
<tr>
<td>E1</td>
<td>This area extends from the Volta region in Ghana to the eastern highlands of Togo. It is characterized by a series of mountain ridges running almost north-south. The vegetation is moist semi-deciduous forest with pockets of forest-savanna transition areas.</td>
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<tr>
<td>Birds, Mammals, Herps, and Insects (butterflies)</td>
<td>Kyabobo National Park Fazao-Malfakassa National Park</td>
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<tr>
<td>Insects (butterflies)</td>
<td>Kyabobo National Park Fazao-Malfakassa National Park</td>
</tr>
<tr>
<td>Land Use: Hunting, agriculture, and exploitation of forest resources</td>
<td>Needs update of scientific information through quick assessments and ecological studies; establishment of new protected area, improved protection of existing protected area and training are needed</td>
</tr>
<tr>
<td>Natural Habitat</td>
<td>Resource Reserve</td>
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<td>mangroves, coconut groves, lagoons, freshwater depressions and adjoining grasslands along Ghana's Eastern Coast.</td>
<td>vegetation), Birds, Mammals, Insects (butterflies), Freshwater (fisher), and Marine (coastal mangrove ecosystem)</td>
</tr>
</tbody>
</table>
APPENDIX 2

Institutional Affiliations of Conservation Priority-Setting Workshop Participants: “From the Forest to the Sea: Biodiversity Connections from Guinea to Togo”
December 6-10, 1999

Côte d’Ivoire:
Agroforesterie et Gestion des Aires Protégées
Centre de Recherche en Ecologie
Centre de Recherche Océanologiques
Centre Suisse de Recherche Scientifique
Bureau National d'Etudes Techniques et de Développement
Société de Développement des Forêts
Direction de la Protection de la Nature
ECOSYSN
GEPRENAF Project
Ministère de l'Environnement et de la Forêt
Network for Environment and Sustainable Development
Tropenbos Foundation
Université d'Abobo-Adjame/CRE
University of Cocody

Ghana:
Environmental Protection Agency
Ghana Wildlife Society
Ministry of Lands and Forestry
University of Ghana, Legon
University of Science and Technology
Water Resources Commission
Wildlife Department

Guinée:
Administration et Coordination des Grands Projets
Centre de Recherche Scientifique de Conakry Rogbane
Centre National des Sciences Halieutiques de Boussoura
Direction Nationale de l'Environnement
Direction Nationale des Eaux et Forêts
Direction Nationale des Mines
Institut de Recherche Environnementale de Bossou
Université de Conakry

Liberia:
Environmental Foundation for Africa
European Commission
Forestry Development Authority
Ministry of Planning and Economic Affairs
Refugee Repatriation and Resettlement Commission
Society for Conservation of Nature in Liberia

Sierra Leone:
Conservation Society of Sierra Leone
Ministry of Agriculture, Forestry, and the Environment
University of Sierra Leone

Togo:
Direction de la Faune et de la Chasse
Ministère de l'Environnement

International:
American Museum of Natural History-USA
Biodiversity Support Program-USA
BirdLife International
Chester Zoological Gardens-UK
Conservation International
Eberhard-Karls-University-Tuebingen-Germany
ECOSYN-Wageningen University-The Netherlands
Food and Agriculture Organization (FAO)
GEF - UNDP/PNUD Regional Bureau for Africa
ICRAM-Italy
Institute of Zoology-UK
Instituto di Ecologia Applicata-Italy
International Soil Reference and Information Center
Jardins Botaniques-Switzerland
National Museums of Kenya
Natural History Museum-UK
New England Aquarium-USA
Northwestern University-USA
Population Action International-USA
Rio Tinto Mining and Exploration Ltd.
Texas A & M University-USA
United Nations High Commission on Refugees (UNHCR)
United States Agency for International Development (USAID)
United States Department of State
University of Cambridge-UK
University of California at San Diego-USA
University of Sussex-UK
University of Vermont-USA
University of Wuerzburg-Germany
Wetlands International
World Bank
World Conservation Monitoring Centre (WCMC)
World Resources Institute (WRI)
World Wildlife Fund (WWF)
Zoological Museum University of Copenhagen-Denmark
An Overview of CEPF's Portfolio in the Guinean Forests of West Africa
Biodiversity Hotspot: Upper Guinean Forest Ecosystem

The Guinean Forest Hotspot represents the Guinean portion of the Guinea-Congolian forests and contains two main blocks that incorporate several major Pleistocene refugia. The Upper Guinean Forest Ecosystem extends from Guinea into eastern Sierra Leone, and eastward through Liberia, Côte d'Ivoire and Ghana into western Togo. The Lower Guinean Forest extends from western Nigeria into southwestern Cameroon and includes Equatorial Guinea, São Tomé and Príncipe. The two ecosystems are separated by the Dahomey Gap, a mixture of savanna and dry forest in Togo and Benin.

The Guinean Forest Hotspot contains impressive levels of biodiversity and endemism. Approximately 9,000 species of vascular plants occur in the hotspot, including significant assemblages of endemic plant species. New data released in 2005 following a global hotspots reanalysis indicates that there are 785 species of birds, and more than 200 reptile species and nearly 225 amphibian species, although knowledge of the herpetological fauna is regarded as inadequate. Mammal diversity is exceptional, with nearly a quarter of the mammals that are native to continental Africa represented. Sixty are endemic to the hotspot. With regard to primates, the hotspot is one of the top priorities for primate conservation – five species are Critically Endangered, and another 21 are considered Endangered; 92 percent of the hotspot’s primates are endemic.

The main threats to biodiversity present a formidable challenge to conservation in this region. Most serious is poverty, which drives short-term needs that eliminate long-term opportunities. Much of the livelihood of the region’s population is closely dependent on, or not far removed from, the natural resource base. Unemployment can stimulate social unrest, human migration, ethnic tension and land tenure conflicts, and all of these factors are now present in the region. Deforestation, due to both commercial logging and the slash and burn agriculture that often follows timber extraction, threatens populations of flora and fauna across the hotspot. Large-scale logging began as early as the 1840s in some countries (i.e. Sierra Leone and Ghana), and contributed to forest loss on a massive scale. Sierra Leone’s forest cover for example, decreased from 70 percent to 6 percent in less than a century. Timber extraction continues to threaten the region’s forests, with Liberia now being one of the key countries under pressure.

Small-scale and industrial mining pose serious threats to the region’s remaining tropical forests, as most of these are located on substrates rich in iron ore, diamonds, gold and bauxite. The effects of mining vary, with large-scale mining a major concern in mountainous areas such as Mt. Nimba where mining can affect the health of freshwater systems and regional watersheds, and small-scale mining leading to forest clearance and increased levels of hunting for bushmeat. The harvest of bushmeat is a deep-rooted tradition in West Africa, and when practiced at subsistence levels in areas of low population density, may not necessarily result in negative impacts. However, bushmeat
harvest has increased dramatically in recent years, largely due to new logging roads that open up access to formerly remote areas, and the increasingly commercial nature of the bushmeat trade. Now, bushmeat is harvested at high levels for sale in markets in key urban areas such as Abidjan, Accra, Freetown and Monrovia, and there is evidence of cross-border trade, and even international trade to European markets where West African immigrants reside. This harvest is having immeasurable repercussions, and has resulted in the "empty forest syndrome" in many areas in the region.

Other obstacles that can be characterized as threats include the limited local capacity for conservation, which broadly speaking means that there are insufficient professionals, few local NGOs, insufficient academic support for training, research and implementation, and inadequate biodiversity data to use to meet conservation objectives.

Conflict, which ranges from tension to warfare to post-conflict recovery, is an ever-present factor and challenge to conservation. Conflicts for example in Liberia, Côte d'Ivoire and Togo have resulted in differing levels of encroachment and unrest. The flow of refugees from one country to the next is a constant problem, as people arrive without resources and require at the very least food, shelter and fuel. Large refugee camps often deforest neighboring forests for firewood and consume all wildlife. Returning refugees present a similar challenge, as people return hoping to start anew, yet they have few resources. Civil unrest has indeed been, and continues to be, one of the most important factors affecting the ability of stakeholders to achieve success in the conservation arena.

The Guinean Forest Hotspot covers 11 countries, and is characterized by significant cultural diversity and political complexity. Given the small amount of money available for investment in this region, CEPF has focused on the Upper Guinean Forest Ecosystem, while acknowledging that investment could expand in the future to the Lower Guinean Forest if additional funds become available.

CEPF’s strategy for investment in the Upper Guinean Forest is based upon the West Africa Conservation Priority Setting (CPW) workshop held in Elmina, Ghana, in 1999. With funding from the UNDP/GEF, Conservation International organized this important workshop to assess the status of biological resources and to determine the areas most in need of urgent conservation intervention. All stakeholders, including government agencies, research institutions, NGOs, private sector interests, development agencies, and the 150 participating scientists, adopted the results of the workshop. The CEPF investment strategy, as articulated in the ecosystem profile, builds upon the recommendations of priority areas and actions that came out of this CPW. Analysis of the CPW priority sites and actions, coupled with CEPF’s preparation of the ecosystem profile which included a threat assessment and review of current investment, led to the development of an investment strategy focusing on the most serious threats in the region, including forest loss and fragmentation, ecosystem degradation, limited local capacity for conservation, and ineffective policies and regulations. The primary niche for CEPF investment in the region is to support connectivity, seeking to address not only ecological but also political, social, and administrative fragmentation.

CEPF investment in the Upper Guinean Forest Ecosystem commenced in December 2000 with the approval of the Ecosystem Profile and an allocation of $4.3 million to be spent over five years. In December 2001 an additional $1.9 million was allocated to this hotspot for a total allocation of $6.2 million over five years. The additional allocation was
made after the MacArthur Foundation joined the CEPF partnership and additional resources became available, resulting in a reassessment of allocations. The reallocation also responded to the MacArthur Foundation’s desire to provide increased resources to a focused number of hotspots.

The CEPF strategy is described in the CEPF ecosystem profile, and includes the following strategic directions that guide CEPF investment in the region.

2. Establishing a hotspot biodiversity monitoring system.
3. Developing conservation corridors.
4. Public awareness.
5. Biodiversity action fund.

In addition to the identification of the strategic directions outlined above, each strategic direction has further refined investment guidance provided through investment priorities, which are more specific and concrete. The investment priorities provide more specific targets for CEPF funding in the region and are used to inform grantmaking decisions. They are included as part of the full investment priority table in the ecosystem profile and/or on the CEPF Web site (www.cepf.net).

Although the main emphasis for CEPF investment is along the lines of the strategic directions described above, this is guided by geographic priorities that were defined at the CPW (see map following the overview). A total of 41 areas were identified during the CPW, and these include fragmented forests and coastal ecosystems. Of the intact forest remaining in the Upper Guinean Forest Ecosystem, the largest portion (43 percent) is believed to remain in Liberia. Côte d’Ivoire is estimated to harbor 28 percent, while Ghana has 16 percent, Guinea has 8 percent, Sierra Leone has 5 percent, and Togo has less than 1 percent. The three largest forest complexes in the region can be viewed as clusters of priority areas, and are:

- The Gola/Lofa/Mano complex of Sierra Leone and Liberia
- The Krahn-Bassa/Sapo/Grebo/Tai complex of Liberia and Côte d’Ivoire
- The forest reserves of SE Côte d’Ivoire and SW Ghana

Investment has occurred in areas identified as priorities by the CPW, and where possible, investment has focused on one of the corridors described above. In addition, Conservation International has identified an additional corridor – the Greater Nimba Highlands, and this has been added into the list of priority corridors for CEPF investment.

To date, CEPF has awarded 65 grants valued at $5,716,482 (see Chart 1). These grants range in size from $1,000 to $655,312, with the average grant size being $89,000 (see list of grants). The full status of the portfolio to date and the timeline of grants awarded are illustrated in Charts 2 and 3.

Coordination

As one of the first hotspots approved for CEPF investment, models of coordination of CEPF on the ground did not exist. Although the ecosystem profile did advocate for coordination of activities within corridors (and specifically the three forest complexes mentioned above), coordination was poorly defined and described as a range of
activities such as aerial photography, multi-agency planning and community outreach. While a number of these activities are key tasks that comprise the overall mandate for coordination, these do not accomplish the need for coordination as CEPF sees it in hindsight.

It should be noted that this six-country hotspot consists of three francophone and three Anglophone countries, and at the start of CEPF investment, there was no clear indication of a single institution, or even a partnership, that could provide the sort of balanced leadership and expertise that would be essential for this region.

Thus, no specific “Coordination Unit” has been established to assist with implementation of CEPF on the ground. Coordination is in effect accomplished via the DC-based Grant Director, with heavy reliance on the many individuals and institutions knowledgeable about the region. In addition, a number of initiatives have contributed to greater “coordination,” including two grants to Conservation International for coordination within the corridors, and a grant to BirdLife International to build capacity amongst five NGOs in the region. This latter grant, although focused primarily on training and institutional capacity building, did and continues to contribute significantly to coordination in the region, as it has created a regional conservation spirit with national and regional conservation goals. Most recently, CEPF has supported the Environmental Foundation for Africa-Sierra Leone to establish a resource and Internet center in Freetown, and to host the first symposium for environmental NGOs in that country. This initiative has already developed a regional aspect, and is serving as a hub of coordination that benefits CEPF and other donors greatly. Finally, CI-Liberia is in the initial steps of setting up a “conservation campus” where a number of key NGOs will be based – this will increase collaboration and coordination within Liberia immensely.

It is evident that a coordination presence can be extremely helpful and can stimulate significant conservation activity. In the Upper Guinean Forest, some coordination efforts have reaped good results but others have met challenges difficult to overcome. In any future coordination effort, it will be important to assess models and lessons learned to develop a mechanism that can effectively coordinate amongst groups and across borders to benefit the entire region.

Portfolio Investment Highlights by Strategic Direction

SD1: Strengthening institutional capacities for conservation.
Throughout West Africa, CEPF investment has aimed to build capacity of local organizations and governmental institutions for implementing conservation efforts. The need for training in management, administration, financial accounting, project implementation, as well as specialist skills such as biological surveys and working with communities, is enormous. Some of these efforts have been more successful than others, and the reasons for failure appear to be numerous and include staff departure for higher-paying jobs, continued corruption despite new opportunities, and inability of trainees to make use of their new-found skills in their immediate job situations. Some of these factors are difficult to address, however, it is extremely evident that despite the lack of capacity in West Africa, it is not for lack of training courses. Some individuals in the region continue to request training courses, when in fact they have received so much training they ought to be teaching the courses themselves. The culture of needing more training is in some cases, a vicious circle in that some people and institutions feel that
they can’t do anything until their capacity is built, and when they start to do something, they feel hindered because they would like to have some training.

In order to deal with this situation, CEPF is trying a new strategy in the most recent grant on this topic, one of on-the-ground training. A grant to CI-Liberia will involve training and on-the-ground, in-office supervision so that newly trained staff can receive backstopping when they have problems using their new financial, administrative or other skills. This project is a step up from CEPF’s grant to BirdLife International, which sought to build the capacity of five NGOs in the region: Guinee Ecologie, Society for the Conservation of Nature in Liberia, Conservation Society of Sierra Leone, SOS Forets, and Ghana Wildlife Society. The emphasis of this recently concluded project was to raise the capacity of three institutions so that they could meet standards suitable to become a partner in the BirdLife network, and to continue training to two of the NGOs who already are BirdLife partners. This approach combines training by the BirdLife Secretariat and Birdlife partners to up and coming NGOs, and includes numerous field training sessions and many training opportunities where trainees meet colleagues from other countries (in this case the five participating countries/NGOs) and share experiences and objectives.

<table>
<thead>
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<th>Highlights to date</th>
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<td>• Through a grant to BirdLife International, five local NGOs have improved their capacity in project management, communications, fundraising, administration and Important Bird Area (IBA) survey techniques. These local NGOs have also developed “sustainability” strategies that will allow their continued operations and contributions to conservation, after the close of the CEPF grant.</td>
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<tr>
<td>• Conservation International has established an office in Liberia, following the signing of an MOU between CI and the Government of Liberia to increase the size of the protected area network. CI’s mandate to collaborate and coordinate is helping to bring together the various NGOs in Liberia, and follows on from the efforts of the ACL – Alliance for Conservation in Liberia – created in 2002. The ACL was an ideal forum for promoting conservation action, but was ineffective due to lack of leadership.</td>
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<tr>
<td>• CEPF support allowed CI-Ghana to partner with the Ministry of Environment and Science to update the National Biodiversity Strategy, synthesizing results of the West Africa Biodiversity Conservation Priority Setting Workshop into national level policies and further consolidating them into national action plans. A similar partnership with Ghana’s Environmental Protection Agency (EPA) has resulted in the revision of the National Environmental Education Strategy.</td>
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<tr>
<td>• Several grants to the Environmental Foundation for Africa-Sierra Leone have helped to move conservation in Sierra Leone to a new level. Assistance to revitalize the Tiwai Island Wildlife Sanctuary, and to host the first symposium of green NGOs, have made EFA and Sierra Leone a new center of enthusiasm and action on the conservation front. Collaboration with other donors (e.g. NC-IUCN) via EFA has stimulated collaboration and coordination within the region.</td>
</tr>
</tbody>
</table>
SD2: Establishing a hotspot biodiversity monitoring system.
CEPF has not been successful in establishing a hotspot-wide monitoring program, yet a number of projects have contributed to improved knowledge, and will be important additions to any future monitoring effort.

**Highlights to date**
- CEPF funds have supported the establishment of a West African Rapid Assessment (RAP) team to undertake site-specific assessments throughout the region. To date the team has conducted surveys in Côte d’Ivoire, Ghana and Guinea, providing important data about species and their status. The project also provided hands-on training to West African scientists as part of the process, resulting in a capable team of West Africa scientists able to conduct future surveys.
- IUCN has been supported in its efforts to continue with the MIKE project (Monitoring the Illegal Killing of Elephants), and CEPF funds contributed to training of West African park rangers and provision of equipment to undertake monitoring. CEPF funds were essential to the expansion of the MIKE project into West Africa, where 90 percent of elephant habitat has been lost in the last decade. Ultimately the elephant assessments taking place though MIKE will act as benchmarks for entire African ecosystems.

SD3: Developing conservation corridors.
CEPF’s investment in this strategic direction has primarily been through several grants to Conservation International, as CI is the most prominent proponent of the corridor concept in the region.

**Highlights to date**
- CI has promoted the corridor concept by focusing on four corridors and involving partners – NGOs, government and private sector in their conservation.
- A MOU between CI and the Government of Liberia has set the foundation for the establishment of a network of protected areas in Liberia. Although this MOU was signed by the previous Liberian administration, the new government has agreed to uphold the MOU and thus progress toward this important objective continues.
- A grant to the Living Earth Foundation for work in the Ankasa Exploration Base has helped to disseminate the concept of conservation in the areas and communities around Ankasa.

SD4: Public awareness.
The CEPF Ecosystem Profile recognized that one of the factors contributing to natural resource destruction was lack of public awareness. CEPF has invested in numerous initiatives under this strategic direction, and a number have been quite innovative. One of the challenges under this strategic direction has been to work with partners to develop awareness projects and activities that are creative and stimulating, and not the traditional actions that result in products but little change in behavior.
**Highlights to date**

- Via support to RARE, CEPF is supporting a pride campaign in Sierra Leone using the white-necked picathartes as a flagship to engage communities in minimizing threats to the Western Area Peninsular Forest Reserve. This exciting project brings environmental messages to people who have had little to no exposure to these issues before.

- CEPF is exploring the use of theatre to convey conservation messages, through several grants. AGORO is being supported in Ghana to train music/drama troops around Kakum National Park. Most recently, the project team performed for the President of Ghana – an incredible opportunity to demonstrate their skill and enthusiasm, and get the environmental message out to a higher level.

- CI-Ghana has conducted a national campaign aimed at reducing bushmeat consumption. This campaign attempts to revive Ghana’s traditional conservation practices such as the totem concept, and has been monumental in changing public perception of wildlife as a ‘free good’ and curbing the devastating effects of this trade. Baseline and post-campaign surveys indicate a marked reduction in willingness to consume bushmeat.

- The Wild Chimpanzee Foundation is working in Tai National Park in Côte d’Ivoire, and is using drama in local communities living near the park to reduce the animosity that exists toward chimpanzees because of crop raiding.

- CEPF supported a conference that brought together 72 experts in Abidjan to assess the status of chimpanzees in West Africa and devise a strategy for ensuring their survival. CEPF funding also made possible the subsequent publication of the IUCN/SSC Action Plan for the Conservation of the West African Chimpanzee, which has become an important tool to raise awareness and attract further donor support.

**SD5: Biodiversity action fund.**

Designed to respond to unforeseen circumstances that affect biodiversity conservation and support small-scale capacity building, this strategic direction was created with a limit of $10,000 for small grants. As the portfolio developed, it became evident that the need for small grants is very large. The main reason is that many of the civil society organizations in the region lack the capacity to handle larger quantities of funds. Therefore, although some applicants for CEPF funds requested large quantities, after review and recommendation, it was determined that they would be more appropriate to receive a small grant under this strategic direction, and if all went well, then additional requests for funds would be considered.
Conclusion
CEPF is now entering its fifth year of implementation in the Upper Guinean Forest Ecosystem. Regrettably, political instability, civil conflict and poor resource governance throughout the region continue to make conservation in West Africa a challenge. CEPF’s partners confront these challenges everyday and have made significant progress despite them. CEPF has made a great effort to build capacity in the region and encourage sustainability of operations such that conservation work will continue without a break when CEPF investment comes to an end. While some NGOs have capitalized on this assistance, others have been slow to do so, and it is clear that we have not achieved the base of civil society involvement that is needed to meet the conservation challenge. At the same time, initiatives in some countries such as Sierra Leone, are proving exceptional and are likely to carry on well into the future with funds successfully leveraged by these enthusiastic and capable partners.

The need for external funding is still critical in West Africa. However, the current tumultuous political environment in the region has created a feeling of donor reluctance that makes fundraising extremely difficult. Core operational funding is needed for conservationists across the region to maintain activities. In Liberia, continuous funding is needed for partners to sustain the impact conservation is currently achieving in the country. New investment in Sierra Leone and Guinea is needed to develop partnerships and increase capacity for biodiversity conservation as political and economic stabilization occurs. Support to Côte d’Ivoire, when feasible, will be necessary to help this country emerge from civil unrest with a comprehensive strategy and the capacity for conservation. Additional funding is required to formalize partnerships and promote the biodiversity corridor concept in the country. Continued investment in conservation in

<table>
<thead>
<tr>
<th>Highlights to date</th>
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<tbody>
<tr>
<td>• Grants have addressed key urgent needs for biological surveys, such as of sea turtles in Liberia, white-necked picathartes in Ghana, and reptiles and amphibians in the Ghana-Togo highlands.</td>
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<td>• Grants have addressed capacity-building needs, such as that of local staff of Liberian NGOs, and the Tiwai Island Administrative Committee in Tiwai Island, Sierra Leone.</td>
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<td>• Small grants have been useful to build the confidence of local NGOs and have given the experience (and project results) necessary to raise additional funds from CEPF and other donors to meet their conservation objectives.</td>
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<tr>
<td>• A new grant to CI-Liberia will establish a small grants coordination committee of partner organizations to be responsible for recommending small grants for Liberia for approval by CEPF. CEPF has allocated $200,000 for small grants for this country, and will rely on the committee to refine biodiversity priorities, oversee the application process, review proposals and provide project design assistance, provide recommendations on applications, and conduct monitoring of approved projects.</td>
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<td>• By mid-2005, CEPF will approve a block grant of $50,000 to the IUCN/SSC Primate Specialist Group to manage a small grants fund supporting implementation of the IUCN/SSC Action Plan for the Conservation of West African Chimpanzees.</td>
</tr>
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</table>
Ghana is needed to maintain the successes achieved to date and to extend efforts into the southwest Ghana corridor. In Togo, funding is needed to support local efforts to maintain the few fragmented forest patches that exist in the country.

Thus, as CEPF investment comes to an end, efforts are being made to ensure that the few remaining fund are spent as wisely as possible, and that they can be used to leave the region in the best possible state to ensure that CEPF funds leverage funds for the future, to carry on the many excellent efforts that have begun over the past four years.

- March 2005

Guinean Forest Priority Areas
# West Africa Portfolio Project Map Key

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<th>Mapped #</th>
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<th>Project Title</th>
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<td>Biological Inventory and Ecological Study of the Southern Dassioko and Monogaga Forests (Southwest Coast of Côte d'Ivoire)</td>
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<td>Bushmeat Hunting and Trade in the Nimba Mountains</td>
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<td>Stimulating a Coordinated and Informed Approach to Biodiversity Conservation in Sierra Leone through Capacity Building of EFA and the Forum for Environmental Action</td>
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<td>Habitat Assessment, Ichthyological Inventory and Management Recommendations for High Priority Coastal Mangrove Zone and Fouta Djallon of Guinea</td>
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<td>Ensuring Sustainable Funding for Conservation: An Analysis of Existing and Potential Conservation Finance Mechanisms for West Africa</td>
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<td>Conservation International-West Africa Program</td>
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<td>Monrovia, Liberia as a Transport Hub for the Bushmeat Trade</td>
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<td><strong>Strategic Direction 3</strong></td>
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<td>Corridor Conservation--West Africa</td>
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<td>IUCN-The World Conservation Union</td>
<td>Development of a Strategic Plan for the Establishment of International Corridors for Elephant Migration in West Africa</td>
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<td>Intensification of the Liberia Forest Re-assessment Project to Create New Conservation Areas in Liberia</td>
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<td>Conservation International-West Africa Program</td>
<td>Liberia: Laying the Foundation for the Creation of a Network of New Protected Areas</td>
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<td>Conservation International-West Africa Program</td>
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<td>Echoes of the Rain Forest Project ? Second Phase</td>
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<td>Support For African Ornithologists From The Upper Guinea Forest To Attend The Eleventh Pan-African Ornithological Congress - PAOC XI</td>
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<td>World Wildlife Fund, Inc.</td>
<td>Support for the Africa Biodiversity Collaborative Group</td>
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<td>Wild Chimpanzee Foundation</td>
<td>Education and Awareness to Improve the Protection of Wild Chimpanzees in West Africa</td>
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<td>Center for Applied Biodiversity Science</td>
<td>Action Plan for the Conservation of Chimpanzees in West Africa</td>
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<td>Environmental Foundation for Africa -- Sierra Leone</td>
<td>Reconstruction for Biodiversity Conservation, Research and Ecotourism in the Tiwai Island Wildlife Sanctuary, Sierra Leone</td>
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<td>Zoological Society of Philadelphia</td>
<td>National Public Awareness Campaign for Liberia</td>
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<td>Ghana Heritage Conservation Trust</td>
<td>Development Of Summer Camp</td>
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<td>Rural Bushmeat and Public Opinion Survey</td>
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<td>Primate and Birds Diversity in the Fazao-Malafacassa National Park, Togo</td>
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<td>Guinee-Ecologie</td>
<td>Capacity Building of Local Riverine Communities for Biodiversity Conservation of Two Important Bird Areas: the Grande Chutes Forest at Kindia and the Kounoukan Forest at Forécariah (Guinea)</td>
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<td>Environmental Foundation for Africa -- Sierra Leone</td>
<td>Ensuring Effective and Sustainable Management of the Tiwai Island Wildlife Sanctuary, Sierra Leone, Through the Establishment of the Tiwai Island Administrative Committee Secretariat</td>
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<td>Association pour la Gestion Intégrée et Durable de l'Environnement</td>
<td>Inventory of Butterflies in the Missahoe Classified Forest in Togo, Upper Guinea Forest</td>
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<td>Equals Three Communications</td>
<td>Market Research Support to the Africa Environmental News Service</td>
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<td>Engaging the Private Sector in Conservation in Côte d'Ivoire</td>
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<td>Africa Environmental News Service: Phase Two ? E-commerce Development and Market Research</td>
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<td>Bushmeat Awareness &amp; Sustainable Development in Southeast Liberia Project</td>
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<td>Durban Botanic Gardens</td>
<td>First African Botanic Gardens Congress</td>
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<td>Marcus Parren</td>
<td>Preliminary Meeting to Establish Elephant Corridors between Ghana and Côte d'Ivoire</td>
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<td>Center for Applied Biodiversity Science</td>
<td>Protected Area Gap Analysis the Upper Guinea Ecosystem Contribution to Regional Workshop on Protected Areas in Western and Central Africa</td>
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<td>IUCN-Regional Office for Central Africa</td>
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<td>University of Western Ontario</td>
<td>Healthy Ecosystems, Healthy People: Linkages Between Biodiversity, Ecosystem Health and Human Health</td>
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<td>Fauna &amp; Flora International</td>
<td>Support to Coordination of Biological Monitoring Program at Sapo National Park, South-east Liberia</td>
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<td>University of Vermont, Department of Biology</td>
<td>Herpetological Survey in the Ghana-Togo Highlands</td>
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<tr>
<td>University of Vermont, Department of Biology</td>
<td>Photographic and Technical Field Support for Survey of the Ghana-Togo Highlands, Volta Region (Ghana)</td>
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</table>

* These projects are region wide and are not spatially represented on the project map
Approved Grants
Guinean Forests of West Africa: Upper Guinean Forest
(Through March 2005)

Strategic Direction 1: Strengthening Institutional Capacities for Conservation

Biological Inventory and Ecological Study of the Southern Dassioko and Monogaga Forests (Southwest Coast of Côte d'Ivoire)
Conduct biological surveys together with local communities and raise environmental awareness in two classified forests - Monogaga and Dassioko Sud - in the littoral forest zone of Côte d'Ivoire.
Funding: $27,125
Grant Term: 10/04-9/05
Grantee: SOS-FORETS

Status of White-Necked Picathartes (Picathartes gymnocephalus) in Ghana
Study and investigate data to update existing information on the distribution and population status of the white-necked picathartes in Ghana.
Funding: $19,320
Grant Term: 10/04-9/05
Grantee: Ghana Wildlife Society

Stimulating a Coordinated and Informed Approach to Biodiversity Conservation in Sierra Leone through Capacity Building of EFA and the Forum for Environmental Action
This project aims to redress the specific challenge of environmental reform in gov't policy in post-civil war Sierra Leone by providing substantive forums and telecommunication devices as appropriate tools for engaging thoughtful discussion and action in both the private and public sector areas of environmental management.
Funding: $96,700
Grant Term: 7/04-6/05
Grantee: Environmental Foundation for Africa -- Sierra Leone

Building Capacity for Conservation in Liberia
Build the technical and logistical capacity of Liberian organizations to collaborate and coordinate in achieving conservation and in implementing conservation projects in Liberia.
Funding: $135,550
Grant Term: 9/04-3/06
Grantee: Conservation International

Bushmeat Hunting and Trade in the Nimba Mountains
Establish a collaborative management program for wild fauna, involving local communities and Mt. Nimba Biosphere Reserve authorities as the first phase of a long-term initiative for the management of Mt. Nimba Biosphere Reserve.
Funding: $49,946
Grant Term: 7/04-9/05
Grantee: Fauna & Flora International

Improving Implementation of Environmental Legislation in Liberia
Improve institutional capacity of this association, also known as Green Advocates, through review of existing biodiversity legislation, raising awareness about environmental laws and enforcement, training a number of lawyers in environmental law and motivating local communities to conserve biodiversity.
Funding: $40,000
Grant Term: 1/04-12/04
Grantee: Association Of Environmental Lawyers of Liberia
Support for the Africa Biodiversity Collaborative Group
Support the Africa Biodiversity Collaborative Group in its review of the effectiveness of select forms of networking and communication of conservation concepts, tools and lessons to conservation decisionmakers and practitioners in all regions of Africa.
Funding: $26,156
Grant Term: 11/03-10/04
Grantee: Conservation International
*The original funding amount has been decreased by $12,264.

Improving the Capacity of GECOMSA in NGO Management
Attendance of the Executive Director of GECOMSA at a course in nongovernmental organization (NGO) management to be held Nov. 3 to Dec. 12, 2003, at the Ghana Institute of Management and Public Administration.
Funding: $3,666
Grant Term: 10/03-12/03
Grantee: Grand Gedeh Community Servant Association

Building a Global Constituency for Biodiversity Conservation
Implement a series of targeted public awareness and education campaigns in nine hotspots in Africa, Asia and Latin America. Campaign leaders participate in an intensive training course at the UK's Kent University or Mexico's Guadalajara University, prepare detailed plans to implement campaigns, link with a local organization in their region and commit to a minimum two years with that organization.
Funding: $153,373
Grant Term: 12/02-6/06
Grantee: Rare ($104,925.38) and Conservation International ($48,448.08)
*This is a multiregional project covering nine hotspots; the total grant amount is $1,993,854.98 (Rare $1,364,030 and Conservation International $629,825).
The original total funding to Rare has been reduced by $205,000 and to CI, increased by $205,000.

Ankasa Exploration Base
Build an experiential learning center, the Ankasa Exploration Base, near the Ankasa Resource Reserve in southwestern Ghana to encourage school children and out-of-school youth to use their senses to explore the environment. Lessons are connected to the children's lives back home with clear possibilities for action in relation to building a more sustainable lifestyle.
Funding: $250,600
Grant Term: 11/02-12/05
Grantee: Living Earth Foundation

Interim Support to the Management of Sapo National Park, Liberia
Based upon experience gained and momentum begun under the Darwin- and WWF-funded program to restart management of Sapo National Park, continue supporting basic management of the park. This includes, for example, provision of basic training in protected area management skills to park staff and local volunteers; providing rudimentary motivational allowances and field rations; and installing basic park infrastructure.
Funding: $136,193
Grant Term: 10/02-12/05
Grantee: Fauna & Flora International
*The original grant term has been increased by one year and three months.

Implementation of Activities for Creating a Protected Area Network and Biodiversity Conservation
Support creation of a protected area system to include 1.5 million hectares of Liberia's remaining rain forest. Specific activities include providing management and expertise to plan and develop the network, recruiting and training appropriate staff, constructing and maintaining infrastructures at Sapo National Park and ensuring boundaries are demarcated, maintained and patrolled.
Funding: $155,000
Grant Term: 7/02-6/03
Grantee: Society for the Conservation of Nature of Liberia
Phytomedica Network: Enhancing Exchange of Information through Phytomedica Network
Share information on sustainable use and conservation and management activities in ecosystems with high medicinal plant species diversity in Africa through Phytomedica, an information service to improve the exchange of ideas and information on medicinal plants conservation and natural products.
Funding: $16,074
Grant Term: 7/02-6/03
Grantee: Conserve Africa Foundation

Building Capacity for Biodiversity Conservation in West Africa
Conduct capacity building with partner organizations in Ghana and Sierra Leone to improve capacity for biodiversity conservation and the development of conservation programs with national organizations in Côte D'Ivoire, Guinea and Liberia.
Funding: $655,312
Grant Term: 1/02-3/05
Grantee: BirdLife International
*The original grant term has been increased by three months.

Habitat Assessment, Ichthyological Inventory and Management Recommendations for High Priority Coastal Mangrove Zone and Fouta Djalon of Guinea
Conduct inventory of fishes in the Fouta Djalon and coastal mangrove zone, including creating georeference and analysis through maps, databases and tissue samples. Provide technical assistance and equipment to local institutions to ensure sustainability of the project.
Funding: $132,818
Grant Term: 1/02-6/05
Grantee: Museum of Natural History, University of Louisiana at Monroe
*The original grant term has been increased by one year.

Developing a National Biodiversity Strategy for Ghana
Update the 1997 national biodiversity strategy to incorporate all the major initiatives that affect biodiversity conservation in the country. The Council for Scientific and Industrial Research in the Ghana Ministry of Environment, Science and Technology is also providing funding.
Funding: $11,865
Grant Term: 11/01-8/02
Grantee: Conservation International

Strengthening Legal Capacity for Biodiversity Conservation and Management in Liberia Through Training, Local Capacity Building and Institutional Strengthening
Co-finance a Liberian environmental lawyer to pursue a graduate program in environmental law at Tulane University.
Funding: $11,215
Grant Term: 8/01-8/02
Grantee: Association Of Environmental Lawyers of Liberia
*The original grant term has been increased by five months.

Forest Conservation at Mont Péko, Côte d'Ivoire
Conserve forests in the Peko-Nimba Highlands by building capacity in Mount Péko, training individuals and promoting interests with managers of other protected areas.
Funding: $98,454
Grant Term: 6/01-5/02
Grantee: BirdLife International
*The original grant term has been increased by five months.

Conservation of Biodiversity in Marahoué National Park, Côte d’Ivoire
Establish park management systems to conserve biological diversity, ecological processes and productivity of the park.
Funding: $359,314
Grant Term: 3/01-5/02
Grantee: Conservation International
*The original funding has been increased by $72,957 and the grant term by five months.
Ensuring Sustainable Funding for Conservation: An Analysis of Existing and Potential Conservation Finance Mechanisms for West Africa
Assess and recommend finance mechanisms for conservation in Ghana, Côte d'Ivoire and Liberia, conduct workshop with stakeholders and facilitate implementation.
Funding: $0
Grant Term: 1/01-6/02
Grantee: Conservation International
*This grant has been terminated.

Strengthening the Role of Universities in Biodiversity Conservation in West Africa: An Analysis of
Conduct assessment of barriers that limit the involvement of academic institutions in conservation in Ghana and then develop and implement projects to strengthen the role of these institutions and build widespread support.
Funding: $18,081
Grant Term: 1/01-6/02
Grantee: Conservation International
*This grant has been terminated.

Strategic Direction 2: Establishing a Hotspot Biodiversity Monitoring System

West African Vulture Survey
Conduct a survey of vultures in northern Guinea, Ghana and Togo that complements a 2003-2004 census undertaken in neighboring countries, to ascertain status and range of West African vulture species and determine the main factors responsible for the declines in these species. The project will also survey diurnal raptors. This survey is one of the priority actions of the newly established West African Vulture Conservation Program.
Funding: $13,642
Grant Term: 3/05-6/05
Grantee: Afrique Nature International

Monrovia, Liberia as a Transport Hub for the Bushmeat Trade
Conduct surveys of bushmeat trade in Monrovia, Liberia, particularly to collect data on volumes and species traded and factors that affect supply of bushmeat to the market (such as the price of gasoline and ammunition). Investigate the potential outlets for bushmeat to enter international markets. The research will be conducted in collaboration with the Philadelphia Zoo, which will provide assistance and oversight of survey methods and data analysis.
Funding: $9,838
Grant Term: 4/03-7/04
Grantee: Concerned Environmentalists for the Enhancement of Biodiversity

Acoustic Monitoring of Forest Elephants
Develop and refine acoustic systems for assessing and monitoring local populations of forest elephants in Ghana's Kakum National Park. Detect and analyze elephant sounds, including infrasonic calls that are inaudible to human ears, to help researchers and conservationists generate abundance estimates and deduce population structure from acoustic information. This information will contribute to management strategies that will ensure the long-term survival of elephant populations.
Funding: $75,000
Grant Term: 10/02-10/03
Grantee: Cornell University
*The original grant term has been increased by four months.
Liberia Sea Turtle Project
Building on baseline data collected in 2000, conduct a survey in all the coastal communities from Sinoe to Maryland County and a series of communal meetings to gather basic data about sea turtles in this sector, including species identification, threats and potential for conservation of sea turtles and other endangered marine species.
Funding: $6,500
Grant Term: 9/02-3/03
Grantee: Save My Future Foundation

Increasing Our Knowledge of Biodiversity in Priority Areas of the Upper Guinean Forest Through Biological
Identify and train Rapid Assessment Program biologists, conduct two expeditions in the Haute Dodo region of southern Côte d'Ivoire and in a site in Liberia and publish the results of both assessments in French and English.
Funding: $155,991
Grant Term: 12/01-6/04
Grantee: Conservation International
*The original grant term has been increased by six months and the funding amount has been increased by $4,300.

Strategic Direction 3: Developing Conservation Corridors

Building the Capacity of Farmers in the SW Ghana Conservation Corridor to Practice Cocoa Agroforestry
Field test and learn about effective agroforestry techniques that can be disseminated to approximately 30,000 union members in Ghana to improve farming practices, maintain livelihoods through cocoa farming and conserve the natural environment. Techniques include shade management, use of biological pest and disease controls, crop diversification and soil and watershed management.
Funding: $74,992
Grant Term: 4/03-3/05
Grantee: Kuapa Kokoo Farmers Union

Corridor Conservation – West Africa
Maintain Conservation International's coordinating office in Abidjan, with the objective of establishing five biodiversity conservation corridors, thus expanding the range of conservation practices applied in a variety of land use contexts. The five corridors are partially defined by conservation priority areas as identified by experts at the 1999 priority-setting workshop. The proposed corridors contain more than 75
Funding: $353,465
Grant Term: 10/02-12/04
Grantee: Conservation International
*The original grant term has been increased by one year and three months and the original funding amount has been increased by $2,689.

Development of a Strategic Plan for the Establishment of International Corridors for Elephant Migration in
Develop a plan for the management and protection of African elephant migration corridors across the countries of Western Africa, via a sub-regional workshop. The workshop will also determine next steps for implementation of the
Funding: $46,432
Grant Term: 6/02-8/03
Grantee: IUCN-The World Conservation Union
*The original grant term has been increased by six months.
**Intensification of the Liberia Forest Re-assessment Project to Create New Conservation Areas in Liberia**

Complement and intensify the existing Liberia Forest Reassessment Project through additional surveys and new protected area proposals.

- **Funding:** $106,067
- **Grant Term:** 5/02-3/03
- **Grantee:** Fauna & Flora International

*The original grant term has been increased by five months.

**Liberia: Laying the Foundation for the Creation of a Network of New Protected Areas**

Form an alliance for conservation in Liberia, develop a strategy and implementation plan for the Conservation International-Government of Liberia agreement on protected areas and establish a protected area coordinating office in

- **Funding:** $100,784
- **Grant Term:** 2/02-11/02
- **Grantee:** Conservation International

*The original grant term has been decreased by five months.

**Conservation Priority-Setting Products and Dissemination**

In follow-up to the West Africa Conservation Priority Setting Workshop held in 1999, publish and widely distribute a French translation of the workshop report and a CD-ROM database, and create an interactive Web site.

- **Funding:** $78,145
- **Grant Term:** 10/01-9/02
- **Grantee:** Conservation International

*The original grant term has been increased by three months.

**Long-Term System for Monitoring the Illegal Killing of Elephants (MIKE)**

Coordinate and interpret data on the levels and trends in illegal killing of elephants to assist decision-makers. The European Union and the governments of Belgium, Japan and the United States are also supporting this project.

- **Funding:** $343,520
- **Grant Term:** 2/01-1/05
- **Grantee:** IUCN-The World Conservation Union

*The original grant term has been increased by two years.

**Conservation Connections: Developing a Conservation Corridor for the Nimba Highlands and the Sapo-Tai**

Create two biodiversity conservation corridors by establishing an office in Abidjan, developing and implementing a fundraising strategy and forming a committee to guide project development.

- **Funding:** $317,670
- **Grant Term:** 1/01-12/02
- **Grantee:** Conservation International

*The original funding amount has been decreased by $136 and the grant term increased by three months.

**Hunting to Extinction: Addressing the Threat of the Bushmeat Trade to Wildlife in the Upper Guinea Forest**

Develop a comprehensive strategy to curb the bushmeat trade in Ghana and a handbook for the general public on endangered species and bushmeat trade issues. Review legal and traditional wildlife regulations.

- **Funding:** $492,000
- **Grant Term:** 1/01-4/04
- **Grantee:** Conservation International

*The original funding has been increased by $143,422 and the grant term by one year and 10 months.

**Liberia Forest Reassessment**

Create a geographic information system database for Liberia's forests, train Liberian and international staff to interpret satellite images and create management plans for priority areas.

- **Funding:** $200,852
- **Grant Term:** 1/01-12/03
- **Grantee:** Conservation International

*The original funding amount has been decreased by $1,136.
Strategic Direction 4: Public Awareness

Echoes of the Rain Forest Project – Second Phase
Develop and support eco-cultural groups in three communities near the eastern and western boundaries of Kakum National Park in Ghana to disseminate conservation messages to local communities, school groups and wildlife clubs through music, dance and drama.
Funding: $44,958
Grant Term: 11/04-12/05
Grantee: AGORO Centre for Intercultural Learning and Talent Development

Support for the Africa Biodiversity Collaborative Group
Support the Africa Biodiversity Collaborative Group in its review of the effectiveness of select forms of networking and communication of conservation concepts, tools and lessons to conservation decisionmakers and practitioners in all regions of Africa.
Funding: $12,807
Grant Term: 7/04-10/04

Support For African Ornithologists From The Upper Guinea Forest To Attend The Eleventh Pan-African Ornithological Congress - PAOC XI
Support attendance of five African biologists from the Upper Guinean Forest of West Africa to attend the eleventh Pan-African Ornithological Congress – PAOC XI, to be held in Tunisia, 21-26 November 2004.
Funding: $15,500
Grant Term: 7/04-3/05
Grantee: BirdLife International

Education and Awareness to Improve the Protection of Wild Chimpanzees in West Africa
Contribute to the lasting protection of viable chimpanzee populations in their original forested habitat by conducting environmental education (drama, newsletters) and capacity building to generate support from local populations for the protection of the chimpanzees and their habitat in various regions in West Africa: the Taï region, the Marahoué and the Banco national parks (Côte d'Ivoire), Sapo National Park (Liberia) and the Fouta Djallon region (Guinea).
Funding: $184,276
Grant Term: 12/03-12/06
Grantee: Wild Chimpanzee Foundation

Action Plan for the Conservation of Chimpanzees in West Africa
Produce and publish a document in both French and English that contains the most up to date information on the status and threats to the survival of the endangered chimpanzee. The publication will be produced in French and English.
Funding: $33,617
Grant Term: 6/03-6/04
Grantee: Conservation International
*The original grant term has been increased by three months.

Reconstruction for Biodiversity Conservation, Research and Ecotourism in the Tiwai Island Wildlife Sanctuary, Sierra Leone
In collaboration with local communities, construct facilities for scientific research and a visitor center at the Tiwai Island Wildlife Sanctuary in Sierra Leone. The project will be a model for protected area management and community development in the country.
Funding: $195,487
Grant Term: 3/03-5/05
Grantee: Environmental Foundation for Africa -- Sierra Leone
National Public Awareness Campaign for Liberia
Create a national public awareness campaign about the trade in bushmeat. Involve local companies in a series of radio programs and live theater productions in rural communities.
Funding: $67,955
Grant Term: 10/02-9/05
Grantee: Zoological Society of Philadelphia

Development Of Summer Camp
Develop a summer camp that promotes conservation efforts and exposes both visitors and the local community to nature and environmental education.
Funding: $21,970
Grant Term: 9/02-12/03
Grantee: Ghana Heritage Conservation Trust
*Project closed and incomplete. No final report is available.

Rural Bushmeat and Public Opinion Survey
Conduct a survey to evaluate biological, social and economic impacts of the bushmeat trade in select rural communities identified as sources for the urban bushmeat trade.
Funding: $11,574
Grant Term: 6/02-5/03
Grantee: Zoological Society of Philadelphia
*This grant has been terminated. The original funding amount was $38,852.

Reconstruction for Biodiversity Conservation, Research and Ecotourism in the Tiwai Island Wildlife Sanctuary, Sierra Leone
In collaboration with local communities, construct facilities for scientific research and a visitor center at the Tiwai Island Wildlife Sanctuary in Sierra Leone. The project will be a model for protected area management and community development in the country.
Funding: $100,000
Grant Term: 5/02-5/05
Grantee: Environmental Foundation for Africa

Awareness Campaign on the Bushmeat Crisis
Develop and implement a public awareness campaign in Ghana. Generate public debate on the bushmeat crisis and encourage journalists to write about the issue. This project includes development of a monitoring system.
Funding: $126,934
Grant Term: 10/01-9/03
Grantee: Conservation International
*The original funding has been increased by $32,092 and the grant term by six months.

Strategic Direction 5: Biodiversity Action Fund

Primate and Birds Diversity in the Fazao-Malfacassa National Park, Togo
Undertake primate and bird surveys in the Fazao-Malfacassa National Park. Particular emphasis will be placed on surveying the area for the western chimpanzee and the Roloway guenon. Surveys will be undertaken in collaboration with staff from the Direction de la Faune et de la Chasse based in the park, and the Zoology Department of the Université de Lomé.
Funding: $6,110
Grant Term: 2/05-6/05
Grantee: University of Calgary
Capacity Building of Local Riverine Communities for Biodiversity Conservation of Two Important Bird Areas: the Grande Chutes Forest at Kindia and the Kounoukan Forest at Forécariah (Guinea)
Build capacity for natural resource management amongst local riverine communities associated with the two forests. Develop and prepare management plans for the two forests, and put the plans into action.
Funding: $19,605
Grant Term: 8/04-6/05
Grantee: Guinee-Ecologie
BirdLife International

Ensuring Effective and Sustainable Management of the Tiwai Island Wildlife Sanctuary, Sierra Leone, Through the Establishment of the Tiwai Island Administrative Committee Secretariat
Facilitate the establishment of a full time Secretariat to serve as the implementing agency of the Tiwai Island Administrative Committee, the entity that will be responsible for managing the Tiwai Island Wildlife Sanctuary, Sierra Leone. Prepare a business plan for the sanctuary.
Funding: $9,000
Grant Term: 2/04-7/04
Grantee: Environmental Foundation for Africa -- Sierra Leone

Inventory of Butterflies in the Missahoe Classified Forest in Togo, Upper Guinea Forest
In the Forêt Classée of Missahoe, Togo, conduct an inventory of butterflies, prepare an ecotourism management plan for the area and sensitize 11 adjacent villages on revenue-generating activities that do not degrade the environment.
Funding: $9,800
Grant Term: 10/03-12/04
Grantee: Association pour la Gestion Intégrée et Durable de l'Environnement

Market Research Support to the Africa Environmental News Service
Support the Africa Environmental News Service by advising on planning of market research and development of marketing research tools, conducting the market research exercise and assisting with the development of a business plan.
Funding: $3,334
Grant Term: 5/03-10/04
Grantee: Equals Three Communications
*This is a multiregional project covering three hotspots; the total grant amount is $10,000. The original grant term has been increased by one year and one month.

Engaging the Private Sector in Conservation in Côte d’Ivoire
Involve the private sector in conservation activities through public awareness tools such as a brochure and flyer for decisionmakers in the private sector and through meetings with private sector players.
Funding: $9,100
Grant Term: 3/03-5/05
Grantee: Afrique Nature International

Africa Environmental News Service: Phase Two – E-commerce Development and Market Research
Develop a business plan for a new environmental news service designed to serve African and global audiences. The project will take place during the second phase of an AENS project to develop the news service.
Funding: $10,000
Grant Term: 1/03-3/04
Grantee: Africa Environmental News Service
*The original grant term has been increased by six months.
Bushmeat Awareness & Sustainable Development in Southeast Liberia Project
Steer impoverished communities in three counties of Liberia away from slash and burn agriculture and hunting of wild animals toward the economic alternative of raising livestock. Activities include raising awareness about the unsustainable bushmeat hunting; surveying local communities to determine acceptable alternatives to bushmeat that could be promoted in a future initiative and ultimately becoming involved in the management of buffer areas near protected areas.
Funding: $7,500
Grant Term: 11/02-6/03
Grantee: Grand Gedeh Community Servant Association
*The original funding amount has been decreased by $2,478.

First African Botanic Gardens Congress
Support participation of African delegates from the Cape Floristic Region, Guinean Forests of West Africa and Madagascar hotspots at the first African Botanic Gardens Conference in November 2002 in Durban, South Africa
Funding: $6,000
Grant Term: 11/02-3/03
Grantee: Durban Botanic Gardens
*This is a multiregional project covering three hotspots; the total grant amount is $11,250.

Preliminary Meeting to Establish Elephant Corridors between Ghana and Côte d'Ivoire
Participate in a meeting at the Conservation International-Ghana office on the establishment of corridors for elephants between Ghana and Côte d'Ivoire and on a strategy to raise funds to conserve key areas.
Funding: $1,000
Grant Term: 10/02-12/02
Grantee: Marcus Parren

Protected Area Gap Analysis the Upper Guinea Ecosystem Contribution to Regional Workshop on Protected Areas in Western and Central Africa
Prepare background documents on the state of protected areas, gaps, opportunities and challenges for a regional workshop that will bring together protected area managers from West and Central Africa in preparation for the World Parks Congress in 2003.
Funding: $5,650
Grant Term: 10/02-5/03
Grantee: Conservation International

Regional Workshop on Protected Areas in West and Central Africa.
Bring together protected area managers from West and Central Africa in preparation for the World Parks Congress in 2003. This project includes support for 10 people from five West African countries to attend the workshop.
Funding: $10,000
Grant Term: 10/02-3/03
Grantee: IUCN-Regional Office for Central Africa
Echos of the Rain Forest
Recruit talented local performance artists in eight communities surrounding National Kakum Park to be part of community performance groups who will inform target communities on issues related to biodiversity conservation through the use of music, dance and drama.
Funding: $9,900
Grant Term: 10/02-9/03
Grantee: AGORO Centre for Intercultural Learning and Talent Development
The original grant term has been increased by three months.

Healthy Ecosystems, Healthy People: Linkages Between Biodiversity, Ecosystem Health and Human Health
Cover travel and full participation costs for individuals from the Atlantic Forest, Chocó-Darién-Western Ecuador, Guinean Forests of West Africa, Madagascar, Philippines and Tropical Andes hotspots to attend the Healthy Ecosystems, Healthy People conference.
Funding: $3,885
Grant Term: 5/02-7/02
Grantee: University of Western Ontario
*This is a multiregional project covering six hotspots; the total grant amount is $27,200.

Support to Coordination of Biological Monitoring Program at Sapo National Park, South-east Liberia
Upgrade field and data analysis skills of Liberian staff implementing the biomonitoring program; ensure proper data analysis; expand, where possible, the program to new areas and provide training in these areas; and ensure monitoring results are incorporated in the five-year management plan for the park.
Funding: $7,910
Grant Term: 1/02-4/02
Grantee: Fauna & Flora International

Herpetological Survey in the Ghana-Togo Highlands
Undertake a vertebrate field survey in the Ghana-Togo Highlands of the Upper Guinean Forests.
Funding: $3,535
Grant Term: 7/01-9/01
Grantee: University of Vermont, Department of Biology

Photographic and Technical Field Support for Survey of the Ghana-Togo Highlands, Volta Region (Ghana)
Produce high-quality photographic images of a vertebrate field survey in the Ghana-Togo Highlands for use in illustrated report about the survey, other publications and the project's Web site.
Funding: $7,413
Grant Term: 7/01-9/01
Grantee: University of Vermont, Department of Biology
Conservation Highlights

E-news

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• New RAP Scientists in West Africa – November 2004
• Marketing Social Change – November 2004
• Action Plan for West African Chimpanzees – April 2004
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• Outgoing Liberian Government Passes Forest Protection Laws – February 2005
• Guinea Fish Study Lays Ground for Improved Conservation – August 2003
• Eavesdropping on Elephants – March 2003
• Planning Leads to Project Success in Côte d’Ivoire – February 2003
• Environmental Foundation for Africa, Communities Restore Tiwai Island – February 2003
• Chiefs Join Bushmeat Campaign in Ghana – January 2003
• CI Targets Critical Threat to Biodiversity in Ghana – September 2002
• Students Get Off to Strong Start for Conservation Education – August 2003
• Sharing Knowledge of Conservation Priorities in West Africa – August 2002
• Survey Finds Surprising Diversity but Warns of Disappearing Species – June 2002
• Monitoring Illegal Killing of Elephants – April 2002

Other Highlights

• WebSite: Conservation Priority Setting Workshop
• Memorandum of Understanding: Government of the Republic of Liberia and Conservation International
• National Biodiversity Strategy for Ghana
• Brochure: Building Capacity for Biodiversity Conservation in West Africa
• Bushmeat Reports
• Anti-Bushmeat Material
• News Article: Conservation International honours two women for protecting endangered species
Multimedia Village Initiative Helps Conserve Chimpanzees

In Focus, December 2004

It’s African tradition that village meetings carry great importance—which is one reason why a conservation project incorporating theater, film and a cartoon newsletter within village gatherings in Côte d’Ivoire is yielding early results.

The Wild Chimpanzee Foundation (WCF) project aims to contribute to the lasting protection of viable West African chimpanzee populations in their original forested habitat in the upper region of the Guinean Forests of West Africa Hotspot.

The three-year project is now underway with Critical Ecosystem Partnership Fund support in Côte d’Ivoire’s Tai, Marahoué and Banco national park regions. It will also expand to include the Fouta Djallon region in Guinea, the Lofa-Mano-Gola forest area in Sierra Leone and potentially Sapo National Park in Liberia.

It focuses on bringing “the life of chimpanzees” direct to the local communities living near chimpanzee populations to increase public awareness and support for conserving this primate and its habitat. The approach is particularly important in West Africa, where civil strife and law enforcement breakdowns have led to increased poaching.

Throughout their range, chimpanzees are threatened by deforestation, poaching, and capture for the pet trade and research purposes. While meat from wild animals provides important protein for rural communities, the scale of consumption in many parts of West Africa is now causing irreversible declines in chimpanzee and other important animal populations.

Education through Theater

At the core of the project is “Nos cousins de la Forêt” (“Our Cousins from the Forest”), a play about chimpanzees and their coexistence with humans.

Created by local theater company Ymako Teatri in collaboration with WCF, the play has been performed in more than 50 villages located in close proximity to...
It’s also changing public attitudes about eating chimpanzee meat, according to a recent study by sociologists from the University of Abidjan and the Centre Suisse de Recherches Scientifiques.

While 112 villagers—70 percent—surveyed cited chimpanzee meat as their preferred meat prior to seeing the play, the study found that only 1 percent said they preferred chimp meat after seeing the play, and 30 percent said they planned to abandon eating it altogether.

Equally important, Herbinger said, is the action of a village chief in Guiroutou who responded by proclaiming the chimpanzee as a totem and therefore taboo for any of the more than 3,000 members of his village to kill.

“These positive results will have an immediate and positive knock-on result for local people,” said WCF African Director Ilka Herbinger, who is based at the WCF office in the Ivorian capital of Abidjan. “When funding agencies see results like this, they see people are willing to protect wildlife, so they’re more willing to invest in micro-projects like pig farming and chicken farming.”

The project is also building local capacity for conservation. At least half of the local authorities or other village representatives have participated in performances of the play.

In the Taï region, two school theater groups, one in the west and one in the east of Tai National Park, have also been trained to perform an adapted version of the play. In the east, WCF took the action after being approached by a local association of teachers that focuses on environmental education in 176 schools.

As part of the project, WCF has also launched and distributed a cartoon newsletter in English and French in more than 50 villages. The newsletter, called Parôles de Forêts (Forest Wisdom), has been developed and designed in cooperation with Madame Daw N’Daw Koumba and her team of local cartoonists in Abidjan.

Center for Education

In Banco National Park, WCF created an educational nature center. Situated next to the game warden headquarters and the botanical garden, the center now welcomes hundreds of local schoolchildren and tourists to the park.

The park, often considered the “lung of Abidjan,” is a 3,200-hectare forested area in Abidjan—an opportune site for educating the public. It’s also newly equipped with local people trained as animators and guides as part of the project by WCF, which is underway in the park in close cooperation with the park’s director.

WCF also carried out its first studies on the park’s chimpanzees, including gathering data on population size, ranging behavior and preliminary group composition.
One project-related finding: Fewer hunting snares are being set up in the park than before. During the initial months of the project, up to 10 snares a day were collected in the park. More recently, however, only about five snares were collected over a two-week period.

“The reason this project works is because we’re changing attitudes,” said Christophe Boesch, WCF founder and president. “But we need to ensure [the change] lasts, so we need to continue repeating education activities, and we’ll be going back in a year’s time to check in with a second evaluation.”

Boesch said a second main point of action for his organization is to develop reliable biomonitoring tools, particularly for great apes. “For years a lot of money has been invested in conservation here, but there aren’t any numbers to show success rates,” he said.

Meanwhile, in the coming months WCF will be taking its road show to Guinea, Sierra Leone and other regions. The goal: for village youngsters and adults to learn how to perform “Nos cousins de la Forêt” themselves so the campaign will multiple and expand on its own.
New RAP Scientists in West Africa

November 2004

Several key biodiversity areas in West Africa now have new capable local scientists, thanks to a recently concluded project carried out by Conservation International's West Africa and Rapid Assessment programs along with local partners.

As part of the project "Increasing Our Knowledge of Biodiversity in Priority Areas of the Upper Guinean Forest Through Biological Assessments," some seven new scientists are fully trained and available to conduct Rapid Assessment Program (RAP) surveys throughout the upper region of the Guinean Forests of West Africa biodiversity hotspot.

Abdulai Barrie and Soumaoro Kante (large mammals), Elhadj Ousmane Tounkara (primates), Mohamed Alassane Bangoura and Alex Agyei (reptiles/amphibians), Yeo Kolo (invertebrates), and Erasmus Owusu (birds) all benefited from participating in RAPs and their experiences have made them valuable members to the biodiversity surveys.

“The great part about this project is that we are providing critical links between local scientists and international experts, which will be maintained far beyond the life of this project,” RAP Team Leader Jennifer McCullough said.

“We've established a cadre of experts, both local and international, who work well together and are able to perform at the highest conservation standards,” she said. “The teams assembled through this project have all expressed their interest in additional projects similar in nature that we are currently pursuing.”

Also, as a result of a training course and survey in Côte d'Ivoire that took place at the beginning of the project, the Pic de Fon, Guinea RAP was made possible. It also led to another RAP in southeast Guinea as well as a Rio Tinto/USAID/Conservation International alliance.

This, in turn, is leading to additional possibilities for advancing conservation in Guinea and providing opportunities for scientists trained during these RAPs to find further work in the field of conservation.
The RAP in Ghana (see related story: RAP Team Discovers New Species in Ghana) has created a relationship between several Ghanaian participants and the University of Vermont. The University has now provided research materials, equipment and books to Ghanaian institutions and plans to conduct further work in the country.

Several participants from these RAPs are now continuing on in their education – some are working toward a master’s degree and others toward a Ph.D.

The Guinean Forests of West Africa Hotspot’s forests have the highest mammal diversity of any hotspot and are among the highest priorities for primate conservation.

The Critical Ecosystem Partnership Fund supported this project as part of its strategic focus on the upper region of the hotspot, which extends from Guinea into eastern Sierra Leone and eastward through Liberia, Côte d’Ivoire and Ghana into western Togo.

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Marketing Social Change

Zhang Zhe is a 27-year-old environmental engineer by training. She is accomplished and intelligent. But she has an alter ego—a large golden pheasant (a friend in a big bird costume, actually) that accompanies her as she spreads her conservation messages to hundreds of school children in China’s Sichuan Province every month.

And she’s not the only one.

With funding from the Critical Ecosystem Partnership Fund (CEPF), Zhang Zhe is one of 13 individuals being trained in social marketing and the art of convincing local communities and governments that conservation is key.

The project brings promising individuals and local groups together with the support of Rare and Conservation International’s global communications team to build a global constituency for biodiversity conservation through Rare’s replicable Pride program.

It’s an entertaining, creative approach to the complex issue of biodiversity conservation, while building and bettering lives of local people.

“In the village that I am working in, most families have small home-based businesses, and tourism-related businesses,” explained Zhang Zhe about one of the villages around Baishuihe National Nature Reserve where she is working in the Mountains of Southwest China biodiversity hotspot.

“It’s mostly families, and though they’re not lacking food or sanitation, they are still very concerned about generating incomes for the family. So we are trying to find a way, working with government and nongovernmental organizations, to combine economic development and conservation in this area.”

Zhang Zhe’s work is part of a project implemented by the Jane Goodall Institute Roots and Shoots China office, which is one of the organizations participating in the program.

With a marketing zeal not too unlike that which a marketeer for Coke or Pepsi would approach their audiences, the new Pride campaign leaders are generating huge interest and participation in their efforts to promote conservation of
important ecosystems and the globally threatened species they shelter.

**Enabling Expansion**

A CEPF grant awarded last year is supporting an expansion of the Pride program with the 13 new campaigns in the Atlantic Forest, Cape Floristic Region, Chocó-Darién-Western Ecuador, Guinean Forests of West Africa, Mesoamerica, Mountains of Southwest China, the Philippines, Succulent Karoo and Sundaland hotspots.

In addition to the CEPF-supported campaigns and others already underway, Rare has also launched 12 new campaigns in additional areas with support from others such as the David and Lucile Packard Foundation and The Nature Conservancy.

Each campaign aims to save a Critically Endangered species, solidify or create new protected areas, or conserve healthy biodiversity conservation corridors.

Rare’s experience in conservation education stems from its work in the 1980s developing a very structured social marketing tool, known then as the Promoting Protection Through Pride program. The recipe is simple and effective: turn a charismatic flagship species into a symbol of local pride, as a lever for improving public understanding of biodiversity’s value and the need to take action to preserve it.

Both grassroots and mass-marketing techniques are used to create broad-based support—on a local or national level—for ecosystem protection.

Promising individuals are chosen to become campaign leaders, linked with a local organization and supported throughout the process, which officially begins with a 10-week training course at the University of Kent at Canterbury in the United Kingdom or the University of Guadalajara in Mexico. (See related story: Students Get Off to Strong Start for Conservation Education.)

For each campaign, the objectives, flagship species, and target audience are selected to address a specific, realistic, and measurable threat identified together with stakeholders. Threats targeted by the CEPF-supported campaigns range from illegal logging and mining to unsustainable wildlife trade to an advancing agricultural frontier.

**In the Field**

For people like 31-year-old South African Jakob Hanekom, the project is crucial. Using the Clanwilliam cedar tree as his flagship species, and promoting the campaign slogan of “Be a Friend to the Cederberg!” he aims to conserve the plants and animals of the Cederberg Wilderness Area where the Cape Floristic Region and Succulent Karoo hotspots converge in South Africa.

As part of his campaign, this married father of two is doing a weekly 10-minute live radio spot talking about conservation challenges, and spreading key campaign messages. He has
also prepared a package of materials to use during his visits to local schools, including rulers with messages that serve as “prompts” to remind children (and their families) even months later about the conservation messages they heard in school.

“It's really rewarding to work in my home town and bring information about nature and ecosystems to the people here,” Hanekom said. “For many it’s the first time ever they've been exposed to this type of program.”

Hanekom, who is linked with Cape Nature, has also designed and printed an education booklet and fact sheet to spread information on conservation and development issues important to the wilderness area; recorded and sung a school song to more than 4,700 children; and developed a bilingual puppet show to use during his school visits.

Through the project’s online club, campaign managers can also share information with their fellow managers in other hotspots, who are using similar social marketing techniques but specially adapted to the local situation.

In the Chocó-Darián-Western Ecuador Hotspot, Luis Arroyo Carvache is leading a campaign to preserve critical forests of San Lorenzo del Pailon in northwestern Ecuador. The campaign aims to help stop conversion of the forests and mangroves to agricultural land, particularly palm oil plantations, in the Chocá-Manabi conservation corridor.

Among his activities, Carvache has produced a costume of the red-lored parrot (*Amazona autumnalis*)—his campaign’s flagship species—and a variety of materials for his work in 22 schools. He is also hosting a local radio show, producing a variety of radio spots to help people understand the benefits they receive from the forests.

**Replicating Success the Pride Way**

For the Pride program, success breeding success is part of the strategy.

For example, the campaign leaders conduct pre- and post-campaign surveys of 1-3 percent of their target population to learn about relevant knowledge, attitudes, and practices. The survey data is used to develop objectives, design messages, and ultimately to measure the change achieved during the campaign.

Rare has also developed a "Learning Framework for Pride," a set of 66 different data points that it is collecting throughout all the current campaigns. At the end, it will use this data to develop a predictive model of success for a campaign to determine, with statistically valid data, "what characteristics are most important for success,” said Megan Hill, senior director for Pride at Rare’s U.S. headquarters.

“All of that said, one of the most important points I use to define success is seeing Pride campaigns implemented long after Rare’s direct involvement is over,” Hill said. “It is a replicable model, and our ultimate goal is to train people to keep running outreach campaigns long into the future.”
It’s this forward thinking that often proves pivotal to conservation success, and the new campaign leaders are already demonstrating their capacity as catalysts.

In the Philippines, the Katala Foundation’s campaign led by Indira Lacerna-Widmann recently convinced the Municipality of Puerto Princesa to protect 60 hectares of crucial feeding, nesting and roosting ground for the Critically Endangered Philippine cockatoo (*Cacatua haematuropygia*).

The Philippine cockatoo, the flagship species for Lacerna-Widmann’s campaign, was once considered common but now numbers no more than 4,000. The new protected area on the island of Dumaran off the coast of Palawan is also important for local communities.

“The protected area will protect and ensure the water supply not only for this community but also for other barangays (villages) dependent on this sub-watershed,” Lacerna-Widdman said.

**Planning for the Future**

Forward thinking is also pivotal in fast-developing economies like China.

In addition to her school and farm work, Zhang Zhe is completing a documentary about Baishuihe National Nature Reserve.

After a pre-campaign survey she conducted showed that 70 percent of her target audience gets its information from TV, she set out to produce this film to reach people living near the Reserve, as well as tourists. She hopes to have it broadcast on local and national TV stations, and to produce DVDs for use in schools.

“With the economic development and improving environmental awareness, China’s environmental protection work will be so different 10 years later from today,” Zhang Zhe said. “This film may well be used as study material by that time.”

Indeed time is of the essence and Rare appears to be ready to launch more programs keeping in step with the growing global economy.

“Pride is really ramping up,” said Brett Jenks, Rare’s president and CEO. “In the first 15 years of the Pride program, Rare supported 30 campaigns worldwide. In 2004 alone, we have 29 operating campaigns, and 2005 will see a total of 49. So CEPF’s return on investment will be greater than the sum of each campaign.”

*View more In Focus features*
A new action plan for the conservation of West African chimpanzees is already increasing momentum, networking and donor commitments in the Guinean Forests of West Africa biodiversity hotspot.

The Regional Action Plan for the Conservation of Chimpanzees in West Africa confirms that chimpanzees in the West African region are in serious decline and details a strategy for protecting 80 percent of those surviving. It is the result of a meeting of 72 experts in Abidjan, Côte d’Ivoire.

“This was the first time researchers, policymakers and donors all got together to talk about chimps in West Africa and what needs to be done,” says Rebecca Kormas, co-author of the report and a research fellow at the Center for Applied Biodiversity Science at Conservation International (CABS).

Since its publication in late 2003, the plan has become the springboard for funding in several projects, including a $226,780 investment by the U.S. Fish & Wildlife Service, $184,000 from CEPF and initiatives by several zoos.

In March, the United States Agency for International Development Mission to Guinea and Sierra Leone issued an official Annual Program Statement calling for potential partners to submit proposals to carry out activities in support of its Chimpanzee Conservation and Sensitization Activity in the two countries. The program expects to award approved projects a total of $1 million. The action plan also helped inspire a recent commitment by Liberia to protect more than 62,000 hectares of forest, including the Sapo National Park and the Nimba Nature Reserve.

The plan, published with support from the U.S. Fish & Wildlife Service and from CABS through a CEPF grant, comes at a crucial time. Wild chimpanzees are only found in tropical Africa, and in the last 30 years their numbers have plummeted from 600,000 individuals to fewer than 200,000. This is largely due to deforestation, poaching and capture for the pet trade and research purposes.

The two sub-species of chimpanzees found in West Africa—the Western chimpanzee and the Nigerian chimpanzee—are the most threatened. They have already disappeared from Benin, Togo and probably Burkina Faso, according to experts. Populations in Senegal, Guinea-Bissau and Ghana are extremely threatened, numbering only in the hundreds.

One of the regional activities emphasized in the action plan is the need for surveys and monitoring of chimpanzee populations. The plan also suggests three other regional actions: the creation of chimpanzee sanctuaries, education and awareness, and review of legislation and enforcement.

“People have to be educated that not only is it illegal to kill chimpanzees, but that diseases such as Ebola can be transferred from humans to chimps via blood, so eating them is also a real health risk,” says Kormos, who is also vice-chair of the IUCN/SSC Primate Specialist Group and who edited and compiled the report together with Christopher Boesch, president of the Wild Chimpanzee Foundation.

Beginning in December 2003, CEPF’s new $184,000 investment is supporting a three-year project by the Wild Chimpanzee Foundation to conduct an awareness campaign among local communities while also building their capacity to take part in forest management.
Local populations of chimpanzees and humans both stand to benefit. While deforestation is a principal driver of chimpanzee declines in the hotspot, scientists have shown that it has far-reaching consequences for human populations as well. Deforestation in West Africa has led to decreased rainfall, causing a desertification process that, combined with recent growth in human populations in the region, could bring about resource shortages that could be catastrophic. The degradation of natural resources has also been linked to poverty and civil conflict in the region.

Learn more from the CABS Knowledge Management System:

- Download the full publication in English or French.
**RAP Team Discovers New Species in Ghana**

A recent rapid assessment of four of southwest Ghana's Globally Significant Biodiversity Areas yielded exciting results, including the discovery of a new frog species and the observation of chimpanzees, duikers and Endangered forest elephants.

Conducted by a team of 14 international scientists, the survey organized by the Rapid Assessment Program of the Center for Applied Biodiversity Science at Conservation International (CI) took place in the forest reserves of Boi-Tano, Tano Nimiri, Draw River and Krokosua Hills. The goal: to collect scientific data on animal and plant diversity and the status of unique species for later recommendations to the Ghanaian government regarding protection and management efforts.

Significant finds include a new species of frog from the family Arthroleptidae and the first record of a frog of the genus Acanthixalus in Ghana, as well as the presence of the rare Hypoleucis sophia butterfly of which there are probably fewer than 20 in collections anywhere, the West African chimpanzee and both Black and Bay duiker. In Draw River specifically, scientists documented the presence of the Endangered forest elephant. This last find is particularly significant.

"For elephants to be in Draw River is exciting because there are also populations next door in Ankasa National Park," says Jennifer McCullough of CI's RAP program. "This means that if we can protect the Draw River reserve, we'll be able to provide a potentially viable spot for these forest elephants to breed."

The expedition's team of 14 scientists included representatives from Ghana's Wildlife Division of Forestry Commission, the University of Ghana, the University of Development Studies and the Ghana Wildlife Society, as well as national and international scientists specializing in West African ecosystems and diversity.

Ghana's government recently redesignated portions of 29 existing forest reserves into Globally Significant Biodiversity Areas. Covering some 117,332 hectares, these areas are known to house numerous rare plant species, though the data on their animals is relatively poor. Remaining forests are fragmented and face pressure from logging. This region also recently reported the possible extinction of Ms. Waldron's red colobus, which scientists say is potentially the first large mammal extinction for the region in centuries.

The findings from this latest RAP survey will ultimately help Ghana's government manage the four areas surveyed, and potentially ascribe a higher protected status to sites like Draw River.

"They have seen that the history of allowed extractive logging isn't viable if they want to maintain healthy forests—there is simply not enough forest left now—so they're leaning toward ecotourism and looking to us to help identify the most biologically rich areas and how best to manage them," McCullough says. "The government seems very eager to work with CI and we're encouraged that our recommendations will be implemented."

CEPF supported the rapid assessment in Ghana as part of our strategic approach to establish biodiversity monitoring and coordinating systems in the Guinean Forests of West Africa biodiversity hotspot.

Learn more about our strategy in this hotspot or about the hotspot on www.biodiversityhotspots.org.
Tracking Elephant Killings

In Focus, March 2004

by Elizabeth A. Foley

Backed up by the parties to the Convention on International Trade in Endangered Species (CITES) and a swath of nongovernmental organizations, the Long-term System for Monitoring the Illegal Killing of Elephants project is charged with setting up on-the-ground monitoring of elephant populations in Africa and Asia. It's also providing the first intergovernmental system of elephant data collection of its kind.

Some 29 countries in Africa and 11 in Asia are being targeted by the project, which is known as MIKE. In Africa, the project is in the initial stages of transforming data collection in the field and its analysis.

“At this point all the sites are set up and producing data,” says Nigel Hunter (right), Director of the MIKE project for CITES. "We're missing some quality control, and are a fair bit away from what you could consider standardization, but in the context of working with 29 different countries we've come a long way.

“It’s a bit soon to really see the impact of MIKE, but we’re already getting reasonable feedback regarding elephant mortality and found carcasses. At the moment illegal hunting is quite low in much of the African range, but there are some indicators that there are poaching hotspots in Central Africa.”

Ultimately the elephant assessments taking place though MIKE will act as benchmarks for entire African ecosystems.

“It applies to avoiding the empty forest syndrome as in cases like the ‘Park W’ ecosystem, a unified range and the largest savanna system in West Africa, crossing Niger, Burkina Faso, Benin and Togo,” Hunter explains. “The main focus of our survey in this ecosystem was elephants, but we took advantage of the processes we’ve developed to do surveys on other species like buffalo.”

Elephant population surveys at each site every two years, along with more continuous ground work in these sites, form the basis of the system.
The alliance supporting MIKE includes the European Commission, the governments of Belgium, Japan and the United States, the Critical Ecosystem Partnership Fund (CEPF), the Wildlife Conservation Society, IUCN-The World Conservation Union, Fauna & Flora International and World Wide Fund for Nature.

Focus on Guinean Forest Sites

Recently culminated, CEPF support to IUCN’s important role in this project focused primarily on sites in the Upper Guinean Forest, which contain elephant populations living in small and isolated forest fragments. This region is a priority area for CEPF investments in the Guinean Forests of West Africa biodiversity hotspot. West Africa suffers from the loss of 90 percent of elephant habitat in the last century.

Within the Guinean Forest sites, population surveys are underway in all the sites with the exception of Liberia due to civil unrest. Luckily the two Côte d’Ivoire forest sites were completed before civil strife erupted there.

“It’s really too early to tell what impact MIKE will have in the Guinean Forest sites—we’re only two years in, and forest sites are more time consuming because you can’t do aerial surveys,” Hunter said. “But in the savanna areas where we have been able to survey, like Togo, the government is recognizing a need to maintain its fragile elephant populations."

This recognition was echoed by participants in a recently completed CEPF-supported project also undertaken by IUCN geared toward identifying, defining and managing five key elephant migration corridors in West Africa, including a corridor between Ghana and Côte d’Ivoire. IUCN brought together 38 experts from throughout the region, including elephant and natural resource management specialists, sustainable use experts and various nongovernmental organizations (NGOs) to develop a strategic plan for the management and protection of the corridors.

The workshop results illustrated the need for elephant corridors and provided important reference tools for future work. For example, with the case of Gourma and the Ghana-Burkina Faso corridor, action plans established during the workshop are serving as a base for future project proposals. MIKE’s data will help establish management strategies for these and other corridors.

Though some of the African countries involved in elephant monitoring have adequate elephant data, the vast majority don’t. Population levels and solid statistics on poaching and illegal killing are inconsistent, making the job of comparing each nation—the core problems and how to deal with them—almost impossible.

In the two years since MIKE has been in place in West Africa, however, MIKE officials have seen more cross-border collaboration.

“Both population surveys and law enforcement are being recognized and discussed at key meetings with the wildlife agency chiefs,” Hunter said. “MIKE information is also helping the African Elephant Specialist Group collaborate...
with the West Africa range states on addressing elephant corridors and management strategies."

Key to achieving this has been building institutional capacity to monitor and enforce hunting laws through government-NGO partnerships.

Both the Wildlife Conservation Society and Fauna & Flora International have memorandums of understanding with the MIKE program and are active in helping achieve MIKE objectives in the field. WWF International is contributing funding support.

“Many governments already have NGO partners collaborating at MIKE sites,” Hunter said. “Given that MIKE is the initiative of the range states, then the focus of activities has been to encourage partnerships and support the capacity building and monitoring techniques that MIKE is promoting.”

Progress in the CEPF-sponsored project includes setting up sub-regional support unit staff with good communication systems, and putting national officers and site officers and their teams in place with communications systems. Site boundaries have been agreed in 11 countries and all 19 sites, and digitized maps are available for 14 of the 19 sites.

Information systems, including computers, software and the MIKE database are now installed in all sites. Training sessions in Accra and Ouagadougou in 2003 helped the national and site officers of all the participating countries, and follow up sessions are taking place in Niamey.

Law enforcement patrols are now active in all 19 sites and are delivering monthly reports from all countries except Liberia and Côte d’Ivoire. The emphasis now is to ensure that monthly reports come regularly and are of reasonably consistent quality.

In addition, population forest surveys were undertaken in Kakum in 2001, in Mole in March 2002, in Gourma in April 2002 and in Taï and Marahouô in July and August 2002. Ecosystem surveys have been conducted in five sites of Park W (Benin, Burkina Faso and Niger, as well as Pendjari and Keran) as well as the Nazinga site in April-May 2003. A survey team from Sapo, trained in Ghana in September 2002, could not continue work due to the war.

This institutional capacity forms the building blocks crucial to MIKE’s future.

“In sites where staff are and we can operate, we need to establish a routine, then we’ll have a platform to build on,” Hunter said.

Providing funding is in place for 2005, Hunter plans to work on developing analytical strategies focused on getting best use out of the MIKE data. Ultimately this and plans to add Geographic Information System and statistical analysis training at a national level to its activities will improve feedback to governments and enable better decisionmaking tools for maintaining elephant populations.
Connecting Conservationists In Africa

In Focus, January 2004

Information is key to effective conservation: collecting it, making sense of it and doing something with it. Two former Reuters news service correspondents, a chartered accountant and others have teamed together to develop a news service about Africa that will work in all three of these areas in the first dedicated service of its kind.

"Africa's environment—one of the last great natural wonders of the world—is under threat on virtually every front, yet its future health has immense implications not only for ordinary Africans but for the entire world," says Jonathan Clayton, co-developer of the Africa Environmental News Service (AENS) project and former Reuters regional bureau chief in the Maghreb and Eastern Africa.

"Despite this there is not one information service focusing on its plight," Clayton says. "AENS will do this, helped by people all over Africa and new technology to bring reports from some of the most remote parts of the planet."

The developers believe that if development processes are to take place in an environmentally friendly way it is critical and urgent, both for Africa and the international community, that all those who participate in these processes are given access to relevant information about the environment. The service is ultimately expected to be of use to a variety of audiences ranging from national governments, researchers, the private sector and even tourists.

The service, now in its design and market research phase with support from the Critical Ecosystem Partnership Fund, is the first dedicated to environmental information about Africa and is expected to provide a resource that draws attention to the linkages between Africa's environmental health and its potential for sustainable development and alleviation of poverty.

You can help with the team's market research. Visit the sample AENS Web site today at www.aens.org, and share your opinion about it by completing the simple and short survey questionnaire highlighted on the home page. Your time will be well spent in helping the developers create the most beneficial service possible.

© Donovan Kirkwood

AENS is inviting its pilot Web site www.aens.org to its project's market phase. Take a look and share your feedback by completing the short survey questionnaire highlighted on the home page. Your feedback will help the team create the most beneficial service possible.

DID YOU KNOW

The Succulent Karoo

The Succulent Karoo is one of the world's richest varieties of plants such as those with thick, fleshy tissue to store water—as well as invertebrate diversity.
The prototype site has been designed to stimulate ideas and provoke feedback as part of the market research exercise. It is not intended to simulate or prejudge the look of the final product. We recommend you explore the site to see how it works before answering the survey questionnaire.

Historically, information on environmental and conservation issues in Africa has relied on land-based communication and therefore timely news and data has been limited to the major cities. The emergence of new communications technologies such as satellite and mobile telephone networks offer up a new opportunity to make up-to-the-minute information available to the widest possible audience.

Currently, fragmented coverage of African environmental news and information is available from a number of sources but they tend to be patchy and have little in the way of original information, according to AENS co-developer Aidan Hartley who met Clayton while the two were working for Reuters in Nairobi.

"It struck both of us that there was an enormous gap in coverage of environmental issues across the continent by the established media," Hartley says. "We saw that even conventional news stories, such as humanitarian crises, had environmental elements that were being ignored. That was the seed for the project."

The News Service

AENS will operate through a network of regional correspondents supported by analysts, creating an independent information and news service that will provide original, comprehensive and timely coverage of environmental issues across Africa.

The service will address mainstream environmental topics as well as casting a lateral net to ensure capture and coverage of issues that are not conventionally reported from an environmental angle. These will include:

- Mismanagement and exploitation of natural resources
- Industrialization and development
- Urbanization
- Poverty
- Humanitarian crises and conflicts
- Globalization
- Political process and policy
- Degradation of wildlife habitats
- Loss of wildlife resources
- Desertification
- Pollution

An independent market research company has joined the team to help identify potential audiences and make sure their needs are met and ultimately incorporated into AENS’ final business plan.
"More and more people in the independent sector now accept that the development and use of a research-based business plan greatly improves the likelihood of the project's success by anticipating market opportunities and pitfalls," says Purnima Chawla of *Equals Three Communications*, the market research company. "It is also increasingly being recognized as a hallmark of a high quality project and the professionalism of its executors."

AENS is developing three principal service streams:

- Original news and information sourced through a network of country-based correspondents and delivered on a daily basis both through the AENS Web site and in tailor-made form via e-mail to individual consumers

- An information exchange forum for the African environment hosting a variety of interactive information exchange forums for individuals and organizations working with, or interested in, African environmental issues

- A definitive knowledge bank for the African environment. As AENS’ information and image database grows it is envisioned to become the primary source of environmental data for Africa—potentially its most valuable contribution and asset.

The online service is expected to include different levels of entry. The first level, for example, could be viewed by anyone visiting the site and will provide information about the AENS service and summarized headlines of the principal breaking stories of the day. Other levels would include a password-controlled system for paying subscribers.

All subscribers would get a daily package of news and information in brief via e-mail that could be tailored to the subscriber's preferences. There will also be a weekly package with features and analysis, interviews and topical editorial pieces.

The Web site will also contain information on events, contacts, projects and employment opportunities, along with live video footage, links to other sites and an online discussion forum for members.

"Using emerging technologies, we plan to source and package original news and information as it breaks direct from the most remote parts of the African front line, and distribute it worldwide in real time," Hartley says. "In addition, we plan to host various issue-based interactive exchange forums and to create a Web-accessible archive of information and reports from various sources.

"We hope this archive will be a valuable resource to a wide variety of researchers, practitioners and other interested parties in this area."

Initially, the provision of environmental information and news will be the primary face of AENS. Over time however, the
depth and breadth of archival information within its database could develop a critical mass of considerable importance.

View more In Focus features

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Outgoing Liberian Government Passes Forest Protection Laws

Just before a transitional government took its place in Liberia on Oct. 14, outgoing President Moses Blah signed three landmark laws representing an important step forward in securing protection for Liberia’s globally important biodiversity.

The three laws—the Protected Forest Area Network Law, the Sapo National Park Act and the Nimba Nature Reserve Act—aim to protect Liberia’s forests from deforestation, fragmentation and degradation.

Preparation of the laws was led by Fauna & Flora International (FFI) with technical input from numerous Liberian and international partners and with financial support principally from the European Commission, CEPF and the Panton Trust. All three laws were passed by the Liberian legislature earlier this year. They will now come into force shortly, after printing as handbills.

Liberia contains two of the three remaining large blocks of Upper Guinean rainforest: the Lofa-Gola-Mano block in the northwest contiguous with Sierra Leone, and the southeast Liberian block that extends into Taï National Park of Côte d’Ivoire.

The Upper Guinean Forest, CEPF’s strategic focal area in the Guinean Forests of West Africa hotspot, is a coastal rain forest belt covering six countries from western Togo to eastern Sierra Leone. Today roughly 40 percent of the original Upper Guinean forest cover survives in Liberia alone.

"Liberia harbors large primate populations, including the Diana monkey, the red colobus and the western chimpanzee," says Jamison Suter, FFI senior projects advisor. "A survey of the forests of the middle Cestos and Senkwehn rivers in early 1999 found dozens of endangered bird species, some thought extinct or whose range had not been established before in Liberia. The recently passed laws provide a framework in which efforts to conserve species such as these can be undertaken."

The first of the laws amends the New National Forestry Act of 2000. It defines a series of eight protected area types and the uses permitted and prohibitions for each, establishing a coherent legal framework for conservation of forest resources.

The second Act expands Sapo National Park—Liberia’s first and only fully protected area—to more than 180,000 hectares, an increase of 38 percent. Biological surveys coupled with GIS and remote sensing analysis since 2001 have demonstrated that Sapo Park is among West Africa’s least disturbed lowland rainforest areas, with populations of forest elephants, chimpanzees, pygmy hippos and other species whose West African ranges have been severely reduced outside of Liberia. Botanical collection experts who visited the Park in late 2002 found six species new to science in just 10 days.

The third Act creates the Nimba Nature Reserve out of the former Nimba East National Forest. Analysis indicates this mountainous reserve could be as great as 13,568 hectares. The reserve is contiguous with the Nimba Nature Reserves of Guinea and Côte d’Ivoire, which together were declared a World Heritage Site by UNESCO in 1981.

Together, these laws represent significant progress toward the overall goal of creating a biologically representative network of protected areas covering at least 30 percent of the country’s existing forest area or about 1.5 million hectares. The government of Liberia committed
to establishing this network, including an expansion of Sapo National Park and creation of Nimba Nature Reserve, as part of a Memorandum of Understanding signed with Conservation International—one of five CEPF donor partners—in 2002.

"During the unrest CEPF kept relationships with grantees alive and did not withdraw support from any projects that could be safely conducted," CEPF Executive Director Jorgen Thomsen said. "The signing of this legislation at this critical political juncture demonstrates that conservation achievement is possible even in very difficult circumstances. Donor support is really important during these times of conflict. I commend other donors who, like CEPF, have maintained their support for on-the-ground conservation action in Liberia."

CEPF has made a significant contribution to conservation in Liberia and hopes that others will join the effort to conserve this extraordinary area.
Guinea Fish Study Lays Ground for Improved Conservation

Biologists from Guinea and the University of Louisiana at Monroe (ULM) in the United States have joined forces to produce studies and management recommendations on the fish populations and habitat of the Coastal Mangrove Zone and Fouta-Djalon regions of Guinea in the Guinean Forests of West Africa biodiversity hotspot.

Studies of land-based species in Guinea have shown dramatic decline in species numbers but there have been few studies of aquatic species. Thanks to CEPF support, the new project is producing baseline data on fish distributions and habitat associations, as well as documenting local and regional threats. Comprehensive collections for the two areas are being built with maps, databases and fish and tissue samples for genetic studies.

“There are a few scattered fish collections in Guinea, some more poorly curated than others, none in great shape, none computerized and accessible off-site,” says Frank Pezold, director and curator of zoology for the Museum of Natural History at ULM. “The research collection we are developing begins with the best of these and will be completely computerized and accessible to all researchers.”

Mangroves are important nursery and breeding grounds for marine species of fish supporting commercial fisheries and major migratory bird rookeries. The Fouta-Djalon highlands provide a hub of many isolated habitats for species adapted to its radiating rivers and streams. Catfish, cichlids and barbs are among fish families with distinctive species native to these waters.

Like so many parts of the world, increases in human population threaten the unique biodiversity of the region, particularly in the dry season when pools of water attract an overload of domestic activity such as washing and cattle watering. In some places, deforestation is also a problem, with original forest removed for agriculture and mining of iron ore and diamonds aggravating silt content. Over-fishing is also taking its toll.

The 2.5-year project to address the need for a comprehensive study emerged from a workshop organized by Pezold for West African biologists. Despite the intense pressures of neighboring political instability and refugee movement, commitment to conservation in Guinea is high and promisingly, a national biodiversity plan has been established.

Strong Progress

The project represents the first of its kind for CEPF investment in the Upper Guinean Forest, CEPF’s priority area in this hotspot. So far, a team of five Guinean scientists have travelled to ULM for training in collection management, Geographical Information Systems (GIS) data analysis and management alongside modern systematic and ecological practices and English language skills.

The team of visiting scientists included Abdourahmane Kaba, Centre National des Sciences Halieutiques de Boussoura; Bangaly Kaba, Centre des Recherches Scientifiques de Rogbane; Bakary Coulibaly, Direction National des Recherches Scientifique et Technologique; Moussa Elimane Diop, University of Conakry; and Samba Tenin Diallo, CNSHB.

In addition to the technical training and the contacts provided by the workshop perhaps the most
significant outcome was greater understanding and appreciation by the Guinean scientists of the importance of current geographic technologies to conservation.

As part of the project, in the winter of 2002-3, American and French scientists also joined Guinean colleagues in Guinea for fish surveys and habitat assessment in the Fouta-Djalon and coastal mangroves.

As well as producing the needed baseline data, the project aims to build local capacity for in-country research and training through the development of infrastructure, both physical and human.

“We have shipped 100 cases of jars to the collection (in Guinea) donated by Tulane University and have purchased alcohol as well,” Pezold says. “There have been previous fish collections in Guinea, but the specimens generated by those efforts are mostly in France. Studies of collections by the Belgians and the French date back to the 1950s and improvements in roads mean new access to more comprehensive data.”

The survey has already revealed worrying numbers of jellyfish in the coastal mangroves and the presence of the widely invasive Butis koilomatodon, which tends to move with the introduction of ballast water. The only previous record of this Indo-Pacific native species in West Africa was in Nigeria.

The Guinean researchers have since extended the collections to increase the database in both regions. Pezold is impressed with their dedication and commitment. “They have done phenomenal work that includes an excellent CD presentation of the field data,” he says.

Still to Come

The collected material has been transported to ULM and awaits the next component of the project: the training of two Guinean research students from the field study party. The two students—both graduates in biology—have taken English language classes as part of the project and applied for admission to the ULM graduate program.

Once they are confident in their English language skills, they will travel to ULM’s Museum of Natural History, which contains one of the largest collections of freshwater fishes in the world, to take up scholarships in master’s level education.

They will be supported through graduate research assistantships in the museum provided by the ULM graduate school. Their assistantship duties will entail processing and identifying the specimens collected and the development of the GIS database. They will also develop master’s thesis research projects from the collections and data obtained during the program. After finishing the program at ULM, both students will be encouraged to apply to the Ph.D programs at the University of Kansas and Texas A&M University, partner institutions in the Guinean project.

The project is proving to be a very successful collaboration between Guinean and U.S. scientists with much being learned on both sides. The collections created during this project will act as a research resource and allow Guinean scientists to more effectively monitor and address aquatic ecosystem changes in both the near and long-term future.
Eavesdropping on Elephants

In Focus, March 2003

Katharine Payne discovered that elephants, like the great blue and fin whales, use sounds below the range of human hearing. Now Payne and her colleagues at the Cornell Lab of Ornithology are designing a new way to capture this infrasonic communication and use it to monitor the size and well being of Africa's elusive forest elephants.

"We've found that elephants make low-frequency, powerful calls that travel considerable distances," says Payne, who studied the songs of whales for 15 years before shifting her focus to elephants. "Now we're testing to see if these calls reflect numbers of elephants, population structures and reproduction. And we're finding that they do."

Payne now heads the Cornell Lab's Elephant Listening Project (ELP), a pilot project that is ultimately expected to benefit not only elephants but other species as well.

Little is known about forest elephants. Populations are low and highly fragmented throughout West and Central Africa, where ivory poaching and habitat destruction pose major threats. Experts estimate close to 10,000 elephants—or only about 3 percent of the entire continental elephant population—remain in the Upper Guinean Forest, where the Critical Ecosystem Partnership Fund is among the project's supporters.

Forest elephants are impossible to survey visually because of the density of the vegetation in their habitats. During a 10-year study in Kakum National Park in Ghana, researchers saw only a few elephants on a handful of occasions. In the same park, ELP researchers never saw a single elephant during a two-month period in 2000 but their special microphones recorded 3,000 elephant calls. The calls, ELP researchers say, were full of information about the population, its size, composition and movements.

Historically, the most reliable information about forest elephants had been based on counts of elephant dung. Now, the team's high-tech eavesdropping from an array of recording units is yielding information to supplement and help interpret the results from traditional monitoring methods.

The basis for the interpretation of elephant calls in unseen

populations is drawn from ELP’s research in the Dzanga-Sangha forest clearing in the Central African Republic, where elephants are highly visible and present in large numbers. There, in an intensive study using video and acoustic recorders, ELP researchers documented the extent to which calls reflect the numbers and circumstances of the many elephants that visit this clearing. The vocalizations of the forest elephants revealed a wealth of information about group size, composition and reproductive health.

In Ghana’s Kakum National Park, recording units with custom-made microphones are strapped to trees and left for two months before being taken back to the Cornell lab in New York. Payne and her colleagues then comb through and analyze the hundreds of hours of audio recordings based on the baseline knowledge about elephants that they gained and tested during their studies in the Central African Republic.

Elephant calls are generally 2-10 seconds in duration with the fundamental frequencies ranging from 5 Hz (in the infrasonic range) to 50 Hz (in the audible range). The infrasound calls can be heard only when the tape speed is accelerated during playback.

One major challenge, Payne says, is to create inexpensive, easy-to-use generic acoustic recording units and methods of analyzing large quantities of acoustic data.

"All of this will be really useful once it is cheap and easy," Payne says. "It has to work in the field. And when it works, we’ll have a tool for monitoring not only elephants but also any other vocal animal. In the long run, this should greatly help in the assessment of biodiversity."

Among the project's aims is to create bioacoustics detection and analysis capacities within at least two institutions in the region and to ensure that inter-agency agreements for use of the technology and information are established.

Boon for Conservation

Detection and analysis of elephant sounds, including the infrasonic calls that are inaudible to human ears, will help researchers and conservationists to generate abundance estimates and to deduce population structure from acoustic information. Ultimately, the findings will contribute to management strategies that will ensure the long-term survival of elephant populations.

Targeted conservation outcomes for this project include:

- Elephant populations documented and monitored throughout their range in West Africa, and managed according to previously unavailable information such as population size, age/sex structure, behavior and habitat use.
- Uncommon and understudied wildlife (such as primates and amphibians) identified and monitored in legally established protected areas.
- Acoustic indicators of elephant presence useful in crop raiding prevention.
An information-rich environment that guides conservation actions in West Africa, built on expanded databases and increased human capacity in Guinean Forests of West Africa hotspot countries.

The project operates under a Memorandum of Understanding signed by Conservation International (CI) and Cornell University in September 2000, which links Cornell's technical expertise with CI's goals and operational capacity in the field. The project involves a variety of CI programs, including the Center for Applied Biodiversity Science, the West Africa Program and CI-Ghana.

But why the Cornell Lab of Ornithology?

The lab is home to the Bioacoustics Research Program, where the techniques being pioneered by ELP are developed. And as Director John Fitzpatrick says, "Our mission explicitly acknowledges that we are here for the protection and interpretation of the Earth's biological diversity. All organisms, large and small, are linked. Elephants just happen to be one of the bigger links."

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Planning Leads to Project Success in Côte d'Ivoire

National Staff Assume Management of Mont Péko National Park

February 2003

"With hindsight, I would say that there is nothing we should have done differently."

So says Roger Safford of BirdLife International about the organization's project that has successfully established a nationally driven management and conservation system for Mont Péko National Park in west-central Côte d'Ivoire.

The park benefited from expatriate technical assistance during a previous phase of the project financed by the European Union (EU). With new CEPF funding, the time and conditions were right to transfer more of the management responsibility to the national staff of the field team in Côte d'Ivoire. Today, management of the park is overseen and implemented entirely by Ivorians. This includes general management by the Directorate for Nature Protection, infrastructure development, patrolling, biomonitoring and collaboration with nearby communities.

"We have achieved the gradual transfer of all the basic tasks that it takes to run a protected area," says Safford of BirdLife International's Site Action Unit.

Even as the park's headquarters are located in the city of Duékoué where French soldiers and rebels have clashed in recent weeks, the targeted building of local capacity is hoped to prove key.

"We have given the project the best possible resilience to weather the sorts of conditions that can scupper big environmental projects," Safford says. "The situation is really fluid but everyone is safe, the park is secure and we hope peace will return soon. When it does, we have maximized the chances of the park staff being able to pick up things straight away."

In one key move during the project, BirdLife anticipated a long delay in major follow-up funding from the EU, leading the organization to economize and stretch CEPF funding initially granted to cover six months of activities to a full year.

© BirdLife International
Mont Péko is home to an important population of White-necked Picathartes (above).

DID YOU KNOW
BirdLife is a global alliance of more than 100 national organizations.

You can download BirdLife's final report on the CEPF-funded phase of this project. CEPF is also supporting a BirdLife project in Madagascar to help meet a critical need for conservation capacity building in the country.
Says Safford: “The CEPF funding allowed us to continue seamlessly with the same team. We couldn’t have just kept going with our own internal resources.”

The CEPF funds also helped BirdLife leverage additional support for the project from the Foreign and Commonwealth Office in the United Kingdom for rural development initiatives in communities around the park.

The project made other strides as well. The project team strengthened its collaboration with the National Agency for Support to Rural Development (ANADER), the first between ANADER and a national park and now a model planned for the future in the country’s other parks. Regular biomonitoring revealed sight records of two new species for the park: black duiker, a forest antelope; and Pel’s anomalure, a type of flying rodent.

A new phase of the project is now being implemented by a BirdLife and Conservation International alliance with EU funding and will focus on strengthening more technical or scientific aspects of park management. The project will also expand to cover Marahoué National Park and Mont Nimba, two other important biodiversity sites in Côte d’Ivoire and the Upper Guinean Forest—the focus of CEPF’s strategy in the Guinean Forests of West Africa hotspot.

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Environmental Foundation for Africa, Communities Restore Tiwai Island

In Focus, February 2003

While long sought-after peace has arrived in Sierra Leone, reconstruction poses new challenges to a country already ravaged by a decade of civil war. Now, hundreds of thousands are returning home to pick up the pieces. The challenge of reconstruction is obvious and looms large. Less obvious, but at the fore as well, is the need to guard against further environmental damage as individuals, families and the country rebuild.

While there are signs of reconstruction everywhere and therefore hope for a better future, the country’s ecosystems and natural resource base, already very much depleted, are now facing further pressure from the growing influx of returnees and refugees.

"In the agriculture sector, thousands of acres of land are being cleared for subsistence farming activities," says Cecilia Utas of the Environmental Foundation for Africa (EFA), which has worked with refugee and returnee communities in Liberia and Sierra Leone as well as in villages and communities in Sierra Leone to rehabilitate areas damaged by mining and deforestation.

"In the northern, eastern and southern regions, thousands of people are going back to traditional artisanal diamond mining. All the stakeholders—government, civil society, NGOs and donor agencies—need to understand that failure to invest in the environmental sector at this crucial turning point in Sierra Leone's history will undermine all collective effort for sustainable development."

Together with local communities, EFA launched a project in May 2002 to restore Tiwai Island in southern Sierra Leone as a model for protected area management and community development. The three-year project is supported by CEPF as part of its strategy for the Upper Guinean Forest in the Guinean Forests of West Africa biodiversity hotspot. Its also a major part of EFA's strategy to assist communities in promoting conservation and protecting environmentally sensitive areas that are being increasingly threatened by returnee settlements mushrooming across Sierra Leone, particularly in the south and east.
The 12-square-kilometer island is located in the Moa River between the Koya and Barri chiefdoms on either side of the river. The two chiefdoms share the island and include the villages of Kambama and Mapuma, which have direct access to the island. Several returnee communities have also been established in the immediate vicinity of the island.

Prior to the outbreak of civil war in 1990, Tiwai Island had gained recognition for its contribution to ecological research, training, ecotourism opportunities and participatory conservation. Designated as a wildlife sanctuary in 1987 and still the country's only official protected area, Tiwai Island was then home to the country's first operational field research station, hosting students from the University of Sierra Leone, City University of New York, the University of Miami, University College London and others.

Tiwai Island, which means Big Island in the local Mende language, was emerging as a successful model of sound conservation management that accommodated human needs and created opportunities to benefit communities, according to EFA. The Tiwai Island Administrative Committee, the main governing body for the island, included representatives of the universities, Forestry Department, a local NGO and the communities. A management plan was completed in 1988 but yet to be implemented when the civil conflict erupted and forced suspension of all research and conservation programs.

EFA first became aware of poaching problems on the island during field visits in 2000. Since then, EFA staff members have worked with the two chiefdoms to revive hopes for restoration of the wildlife sanctuary. Following community meetings, the section chiefs of both chiefdoms imposed a ban on all hunting activities on the island and formed an interim project committee to mobilize the restoration efforts.

Now as part of the CEPF-funded project, EFA, Njala University College and community members are at work reopening trails and reconstructing the research center and a campsite for up to 10 researchers and 30 visitors at a time. The project includes activities to build awareness among returnees and other community members about sustainable resource management and capacity building for community members through literacy programs and skills training for income generation and practical techniques in nature conservation.

However, even as community support grows for the project, day-to-day needs and expectations about the project's benefits pose serious challenges. In a meeting in Kambama village, where many people are poor and relied on the forested island for their daily survival, one man said:

"Tiwai Island is like a ripe banana and we people around this area are very hungry. You are telling us to keep this banana for now and future generations but what would you give us while we are taking care of the banana for you?"

EFA Founder and Director Tommy Garnett says the immediate needs of community members is a major challenge, particularly as farming activities and, more recently, a lot of hunting and even some logging were taking place on the island before the project launched.
"The problem is that only a relatively small percentage of people can get involved at this point while in the future, when the island is restored and people are visiting, a lot more people can get involved and will benefit," Garnett said.

"The solution in between is to continue as best we can to involve community members in every way possible and to keep the promises we make," he said. "We said there would be training for women and we are doing it, we said there would be education and there is. We need to find ways to generate small incentives as outputs from the larger project. And we will continue to talk, educate, raise awareness and hope that in just a few months time, more people will begin to benefit."

In the meantime, the Tiwai Island Administrative Committee has been revived and includes community representation. With proper capacity building during the project, it will be fully responsible for the management of the facilities on Tiwai Island.
Chiefs Join Bushmeat Campaign in Ghana

January 2003

Clan leaders in Ghana wield more influence over their subjects than even Ghana's president, according to Okyeame Ampadu-Agyei, Conservation International's (CI) director in Ghana.

Now the clan chiefs from Ghana's 10 major regions have become a leading force in CI's ambitious campaign to stop the growing trade in wild animals for food that threatens many of the country's endangered species.

What is the key to such collaboration? Focusing on culture as a core campaign tool.

The culture and tradition of many Ghanaian communities are inextricably interwoven with wildlife. Some wild animals are symbols or totems of specific clans and therefore taboo to hunt while others are crucial to the celebration of certain festivals. In addition, many Ghanaian chiefs swear an oath to be custodians of the culture of their people—an oath proving to be an important foundation to support biodiversity conservation.

Historically, traditional rulers played a vital role in preserving wildlife by enforcing rules, taboos and social sanctions that prevented people from overexploiting natural resources. Since the colonial era, however, their authority has been considerably reduced. Now almost 98 percent of the animal totems associated with Ghana's 110 clans are no longer found in their traditional territory.

"The chiefs were shocked when they heard that most clan totems are threatened or extinct," Ampadu-Agyei says. "Now, in many of these tribes, if anybody is caught killing totems, traditional laws and sanctions will be applied."

Leaders of the Ashanti clan, Ghana's largest, have taken the most far-reaching action, banning all hunting of totem animals as well as the use of toxic chemicals, automatic rifles and bush burning for hunting—all of which have contributed to species declines.

Others are taking dramatic actions as well. Following Ghana's first national bushmeat conference organized by...
CI-Ghana and Ghana's Bushmeat Task Force with support from the Critical Ecosystem Partnership Fund in 2002, the Ghanaian government launched a $23 million program to establish livestock farming that could provide alternative food sources and income to bushmeat. The action was spurred in part by study results indicating that one-third of bushmeat sold in local markets was contaminated with pesticides and other chemicals. Meanwhile, in Accra and other major cities, some consumers are boycotting bushmeat.

As support for the campaign grows, there are already visible results on the ground: a marked decrease in the number of roadside sellers and restaurants offering bushmeat.

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Conservation International (CI) launched an ambitious public awareness campaign in Ghana in late August to stop a growing trade in wild animals for food that threatens many endangered species.

While meat from wild animals provides important protein for rural communities, the scale of consumption is now causing irreversible declines in important animal populations.

One key component in the new campaign is exploring the use of culture to secure the commitment and active participation of traditional leaders and their communities to reduce consumption and find viable alternatives.

"We've found you cannot use threats and you cannot rely only on laws," says CI-Ghana Director Okyeame Ampadu-Agyei. "You need to unlock the situation through people's culture."

The culture and tradition of many Ghanaian communities are inextricably interwoven with wildlife. Some wild animals are symbols of specific clans and therefore taboo to hunt while others are crucial to the celebration of certain festivals. In addition, many Ghanaian chiefs swear an oath to be custodians of the culture of their people—an oath that could prove to be an important foundation to support biodiversity conservation.

The campaign is one of four projects being supported by the Critical Ecosystem Partnership Fund (CEPF) in Ghana and neighboring Liberia to take aim at this critical threat to biodiversity in the Upper Guinean Forest, which is part of the Guinean Forests of West Africa biodiversity hotspot.

Learn more about CEPF's strategy in this hotspot.

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Students Get Off to Strong Start for Conservation Education

In Focus, August 2003

by Corrina Hackney

Amid the diverse student population of Kent University in England, a multinational team is nearing the end of an intensive 10 weeks of specialized training to become community educators with a single mission: to promote local pride in the environment in some of the planet's most threatened ecosystems.

The university course—offered in the United Kingdom and Mexico—is the first step in a 2.5-year program based on Rare's Pride Campaigns.

The Critical Ecosystem Partnership Fund (CEPF) is supporting a major expansion to biodiversity hotspots of these highly successful campaigns by a new partnership between Rare and Conservation International's (CI) International Communications Department (see press release: New Alliance).

In this initial university phase—run by Rare staff in conjunction with the University of Kent in the UK—students receive intensive training in all the skills needed to produce and carry out comprehensive conservation education campaigns.

"The university component of the course covers an incredible range of activities—from conservation law and biodiversity management to social marketing techniques and practicalities such as puppet-making," says Rosemary Godfrey, Rare's course manager at Kent University.

Pride Campaigns are run by local organizations and aim to appeal to the public on an emotional level. The campaigns focus activity on a single species, aiming to capture a sense of public pride and ultimately to change behavior and better protect the local species. The CEPF-supported campaigns will take place in 13 sites in China, Indonesia, the Philippines, Southern and West Africa and Central and South America.

Unique
While there are a number of conservation education courses offered in other institutions, the Rare course is unmatched in the kind of support structures it gives to students. The program is also unique in combining academic and technical training with hands-on campaign activity and implementation in the field.

The students start with the 10-week university component, followed by a 10-week preparation phase during which they each develop a comprehensive campaign plan using stakeholder meetings and attitudinal surveys. Each student will identify a key theme tailored to their local communities, core objectives and a species to be the focus. They then implement the campaign, returning to the UK after the first year to report back and share experiences.

Throughout the program, each student receives one-to-one support from course lecturers and RARE and CI staff to translate theory into practice during their campaigns.

"They are supported through weekly telephone calls (now free through MSN), online discussions with staff and fellow students and two on-site visits," says Godfrey, who developed an online discussion club now used by past and present participants to share best practices and address common challenges.

**Commitment to Conservation Education**

The students, who range in age from 22-45, have been carefully selected based on a demonstrated need for conservation awareness as a key conservation strategy in their home region.

Their existing involvement in conservation work, a supportive local employer and their individual dedication and commitment were also strong elements in the selection process. Personalities are strong and cheerful—two essential qualities if they are to succeed as the "voice" for the threatened species in their respective regions.

"There are not a lot of opportunities for conservation education," says Daniela Lerda, manager of CI's Community Education Program. "It is a very limited field in terms of training so there is a huge sense of privilege among the students, especially because the course has a hands-on component that will allow them to design locally appropriate programs for their communities."

None of the students knew each other prior to arriving in the UK but immediately established themselves as a cohesive group. The strength of this group will pay dividends when they return home and look to each other for additional support, via the Internet, while carrying out their campaigns.

The close, supportive nature of the group is characteristic of the program. Although the students will be leading their own campaigns back home, they will have the ongoing support of RARE and CI staff, fellow students and also past and future students through a Rare Club online community.

Course leader Godfrey and the other Rare staff are constantly looking for ways to make the program as well...
networked and supported as possible. The online community was developed to allow students past and present to talk to each other about challenges they face and solutions they are considering or have tried and tested.

One student, 34-year-old Clyde Scott, from the Cape Floristic Region hotspot in South Africa, said his preliminary campaign plan includes working the full network of 70 schools in Port Elizabeth, South Africa, to create a new generation of conservation-aware youngsters. He says the added layer of support from the online RARE staff and fellow students will be "a godsend."

"We can find out about what the other students have done, how they’re getting on and we can learn from their experiences," Scott says.

Students for the current course at Kent University have come from South Africa, Sierra Leone, the Philippines, China and Indonesia. They have a variety of backgrounds reflecting the program's selection criteria. Some students already hold conservation-related qualifications; others have basic school qualifications. Conservation experience and enthusiasm are more important, however, than academic qualifications.

Indira Lacerna (see photo right), a 31-year-old student from the Philippines hotspot, holds conservation-related qualifications already but had been looking for a program like this for years. Morne Farmer, 22, from South Africa, has his high school certificate and oceans of passion and enthusiasm.

The students' participation is fully funded throughout the campaign, including salary and a budget for campaign activity, meaning that no potential candidate or threatened region need be excluded for lack of financial resources.

Lacerna says she is planning major radio campaigns alongside building core youth groups. She intends to set up regular biodiversity field trips so that local young people can see first-hand what it's all about. This won't be easy. Transport in the Philippines presents logistical difficulties while rebel activity can make visits to communities a risky element of the job.

Edward Sesay (see photo right), a 45-year-old student from Sierra Leone in the Guinean Forests of West Africa hotspot, believes that adapting what they are currently learning to their own political and social environment will be one of the greatest challenges they face. While many countries have communications and logistical problems, Sierra Leone remains an unstable region and this will present an additional challenge.

Zhang Zhe, 25, is one of two students who will pioneer the campaign program in the Mountains of Southwest China hotspot. She acknowledges that the culturally controlled flow of information in China may present challenges but she is optimistic for her ambitions to engage the enthusiasm of China's young people. Zhang Zhe is assessing the possibilities of working in a community near Tibet. Here, one of the practical elements of the Kent course could be put into play: puppet shows that can cross language barriers...
and could also be used as an income generator in tourist areas.

Using the success stories of Rare's Pride campaigns in choosing a flagship species to focus understanding, Zhang Zhe has already identified the white-eared pheasant as a candidate. This bird has religious links amongst local people but is threatened by tourism, illegal hunting, logging and rapid economic development together with low environmental awareness about its status.

"My intention is to engage as many groups as possible to take ownership of the problem," Zhang Zhe says. "I am there to act as a facilitator so that the work will continue long after this particular diploma campaign ends."

In these next few weeks, the students are learning how to analyze problems and devise solutions that will benefit the people and wildlife of their region. When the students return to Kent University and the Rare course next year to report and review, they will hope to receive their Diploma in Conservation Education. The unique approach of the Rare course results not just in academic recognition but also practical achievement in conservation education thanks to the hands-on nature of this remarkable program.

Learn more:

- Visit www.rareconservation.org for more on RARE and Pride Campaigns, including success stories.
- Visit www.rareconservation.org.uk to learn more about the Kent University course and the students.

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Sharing Knowledge of Conservation Priorities in West Africa

In Focus, August 2002

The Upper Guinean Forest stretches approximately 420,000 square kilometers across six countries, but centuries of human activity have resulted in a loss of more than 70 percent of the original forest cover and left the remaining forest highly fragmented. The area is part of the Guinean Forests of West Africa biodiversity hotspot.

Determining where and how best to focus conservation efforts is vital for lasting success but so, too, is widely sharing the results. One project is helping meet the challenge.

The project team in Conservation International's West Africa program has created maps and full color workshop reports in English and French, a special, multi-language CD-ROM database and a Web site presenting the results of an intensive workshop to determine the highest priorities for conservation in the region. The project is an important extension to the priority-setting workshop, documenting the results in multiple formats and ensuring dissemination throughout the region and beyond.

The project is made possible through support from the Critical Ecosystem Partnership Fund, the Center for Applied Biodiversity Science at Conservation International and UNDP/GEF.

Dissemination is a vital part of the project, as is the continuation of the participatory process begun at the workshop.

Product launches have been held in Ghana, Guinea, Côte d'Ivoire and Liberia, where workshop participants and other local representatives helped develop distribution strategies. The team has distributed the maps and workshop reports widely and started distributing the CD-ROM to workshop participants, national governments and other stakeholders throughout the region.

The aim is to equip decisionmakers, donors and others with
the best possible information to take strategic action where it matters most and to enhance conservation planning efforts and focus investment in areas of greatest conservation importance.

Users of these tools will find information in a variety of multi-media formats, including images, maps, reports and findings.

The CD-ROM also includes a special software component that allows users to view and analyze the geographic data gathered as part of the priority-setting process. The contents form the base for the new Web site. Like the other workshop products, the site includes detailed maps on the top geographic priorities for conservation of birds, mammals, plants, reptiles and other wildlife.

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Survey Finds Surprising Diversity but Warns of Disappearing Species

June 2002

The Volta-Togo highlands in the Guinean Forests of West Africa biodiversity hotspot harbor more amphibian species than previously thought, according to the results of a new CEPF-funded herpetological survey. However, the survey failed to find previously recorded species and recommends urgent action to protect remaining forest fragments and avoid extinctions.

The survey, by Mark-Oliver Rödel of the University of Würzburg in Germany and Alex Cudjoe Agyei of the Wildlife Division in Accra, Ghana, focused on three study sites in the humid, semi-deciduous and dense deciduous forests in the Volta region of eastern Ghana.

The survey team recorded 34 amphibian species, including two that may be newly discovered and others that may be first recordings for this area. DNA analyses are underway. Based on sampling and statistical and comparative extrapolation, the team estimates the area is home to about 46 amphibian species.

Nonetheless, two forest toads—Bufo togoensis and Werneria preussi—reported in older literature to exist in the region could not be found. Despite extensive searches along fast-flowing creeks and rivers in the three sites, the surveyors also failed to find Conraua derooi, Petropedetes natator and other frog species highly adapted to this type of habitat.

In a report on their survey, the team calls for urgent protection of the remaining forest tracts in the region and efforts to link or buffer small forest remnants to avoid extinctions of forest species.

In addition, they recommend an urgent examination of whether aquatic frog species are generally declining in eastern Ghana and investigations of amphibian diversity in other forests and water catchment areas in western and central Ghana.

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Monitoring Illegal Killing of Elephants

In Focus, April 2002

Assessing the impact of international trade decisions is a complex business. In the case of elephants, an unprecedented system is being put in place to track developments on the ground and to help determine trends and causes in changing populations.

The Long-term System for Monitoring the Illegal Killing of Elephants (MIKE) project is targeting select sites in 29 countries in Africa and 11 in Asia. The project will ultimately enable sound decision-making at national, regional and international levels to benefit elephants and a host of other species that rely on the same habitat for survival.

On a long-term basis, the project will measure levels and trends in the illegal killing of elephants, assess the causes of any trends and integrate this information with a complementary system to monitor trade in elephants products.

The parties to the Convention on International Trade in Endangered Species (CITES) resolved to create the system in 1997 as part of an agreement to allow limited, one-time trade in elephant products from three southern African countries.

The project includes population surveys at each site every two years and routine collection of other information, such as the number of elephants killed illegally and law enforcement measures and capacity. A range of external factors, such as civil strife and community involvement in conservation, will be assessed annually.

Building institutional capacity to effectively manage elephant populations within the countries where elephants occur is an integral part of the project. In West Africa, for example, patrols and the resources to carry them out vary greatly from site to site. The Critical Ecosystem Partnership Fund (CEPF) is helping finance the project in this region, where 90 percent of elephant habitat was lost during the last century and remaining elephant populations are small and isolated.

MIKE implementation in West Africa officially launched earlier this year with the first training workshop.
Representatives from 10 countries attended the workshop, which was held in Niger in February. Visits to each site by project staff began in March.

A growing alliance is supporting the project, including the European Commission, the Belgium, Japan and U.S. governments, CEPF, the Wildlife Conservation Society, IUCN-The World Conservation Union and World Wide Fund for Nature.

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MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is between the Government of the Republic of Liberia (hereafter referred to as GOL), represented by the Forestry Development Authority (hereafter referred to as FDA) and the National Environmental Commission of Liberia (hereafter referred to as NECOLIB), and Conservation International Foundation (hereafter referred to as CI). CI, is a legally registered non-profit organization in the State of California, USA, with headquarters located at 1919 M Street N.W., Washington DC, 20036, USA. CI is dedicated to the conservation of biodiversity worldwide, by demonstrating that humanity and nature can live in harmony.

Whereas, CI and the global conservation community have recognized the regional and global importance of Liberia’s bio-diversity through the regional priority-setting workshop held in Ghana in December 1999,

Whereas, results of the priority-setting workshop has emerged as a basis for CI establishing a working relationship with the GOL,

Whereas, the conservation and sustainable management of Liberia’s forests is the common duty and shared responsibility of the GOL and people of Liberia and the international community, as expressed in the Convention on Biological Diversity and other international conventions and protocols to which Liberia is party to,

Whereas, the GOL is determined and committed to ensure and promote biodiversity conservation as an integral part of the national economic development process,

Whereas, CI and other international non-governmental organizations (Flora and Fauna International, World Wide Fund for Nature, Philadelphia Zoo, and Society for the Conservation of Nature of Liberia) have expressed in the form of a written letter, the priority needs and mechanisms for advancing biodiversity conservation in Liberia,

Whereas, CI has responded to an invitation by the GOL to visit Liberia, with a mission to work with the GOL towards a phased strategy for forest conservation and protected area establishment in Liberia

Now, therefore, the parties agree as follows:

That the GOL is committed to establishing a biologically representative network of protected areas covering at least 30% of the existing forest area, representing about 1.5 million hectares (or 3.7 million acres), by:

Short-term Actions (within 6 months)

1. Creation of basic protected area network based on existing government proposals, recognizing the need for a moratorium on logging and limitations associated with access
to some of the areas within the time frame stipulated. This would include the following areas and their respective proposed status:

<table>
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<th>Location</th>
<th>Proposed Designation</th>
<th>Estimate Coverage Hectares/Acres</th>
<th>Estimated Coverage of additional Areas Hectares/Acres</th>
<th>Proposed Time Frame for Gazettement</th>
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<td>334,993</td>
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2. To ensure that the extension of Sapo National Park includes an additional 90,000 hectares (222,000 acres) added to the proposed figure for a total of approximately 130,000 hectares (321,000 acres), effectively doubling the current size of this very important protected area.

3. Establish a National Park in the Grebo National Forest (totaling about 260,000 hectares or 643,000 acres), recognizing the need to address existing concession issues, including a moratorium to ensure that logging ceases during the assessment, to be worked out with relevant parties.

4. To ultimately link the new Grebo National Park with Sapo National Park by means of a bio-diversity corridor that will include other important pieces of forest, and other land that is slated for restoration.

5. To consider new proposals for additional protected areas that will emerge from ongoing biological assessment within the forests as part of the targeted 1.5 million hectares, including full access to logging concessions.

6. To finalize the various and relevant international environmental conventions (e.g. World Heritage Convention, Ramsar Convention, United Nations Framework Convention on Climate Change, and the Convention on Migratory Species).

**Medium-term Actions (within 24 months)**

7. Identification and designation of core protected zones within current logging concessions.
8. Prioritize establishment of core protected zones in areas that will act as biodiversity corridors between the newly established protected area network.

9. GOL recommits itself to ensure that hunting, farming and permanent settlements are properly regulated, especially in concession areas, in accordance with the laws of Liberia. In particular, making extra effort to ensure that critically endangered and endangered species (such as the Pygmy Hippo, Western Forest Elephant, Jentink's Duiker, Zebra Duiker, Western Chimpanzee) are effectively protected.

Long-term Actions (within 5 years)

10. Complete establishment of protected area network covering 1.5 million hectares (3.7 million acres). This will include a phased in establishment of larger protected areas through conversion of concessions after selective felling of high value timber (high grading).

11. GOL to seek matching funds for the creation of a Trust Fund for the national protected area system

CI is committed to working with the GOL to implement the various activities as specified, including the following:

Short-term Actions (6-8 months)

1. CI will strengthen the implementation by forming an alliance with other conservation organizations (e.g. Philadelphia Zoo, Fauna and Flora International, World Wide Fund for Nature among others, to effectively seek financial and technical resources for implementation of these activities.

2. To provide immediately relevant technical support and information/data for protected area creation, including GIS, Remote Sensing and Satellite Imagery, Aerial Photography, Rapid Biological Assessments, and rapid assessment of the social context. CI will also provide training and generation of complementary data relevant for decision making.

3. To provide immediate technical, financial and logistical support to GOL agencies, non-governmental agencies, institutions of higher learning, and institutions responsible to implement these activities.

4. To establish a presence in Liberia within 90 days defined by a country agreement that will further determine the nature, for assisting GOL, local NGOs, and civil society to conserve biodiversity. Such to include protocols for strengthening the proposed Environmental Science College, and to be extended to primary and secondary education system.
5. To facilitate development of a major project on the Western Chimpanzees through the UNEP Great Ape Survival Plan (GRASP).

Medium- to Long-term (2-5 years)

6. To assist in the development of Transfrontier Conservation Areas/Peace Parks with Cote d'Ivoire, Sierra Leone, and Guinea.

7. To assess needs and develop strategies for rebuilding the capacity of GOL agencies and institutions for effectively conserving biodiversity. CI will work with FDA and NECOLIB in the implementation of activities.

8. To explore and develop capacity building opportunities for civil society, including NGOs and the universities.

9. To develop long-term sources of funding through international Trust Funds to support Liberia's protected area network.

10. To initiate the investigation and establishment of new and innovative funding mechanisms such as carbon offsets, Debt-for-Nature swaps, ecotourism and non-timber forest products, and for instituting alternative income generation mechanisms for subsistence farmers.

This Memorandum Of Understanding will be governed and adjudicated following the laws of Liberia.

/17/02

[Signature]

Jan 17, 2002

[Signature]

[Signature]
National Biodiversity Strategy For Ghana
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</table>
Targeted Outcomes

- The initiation of functioning national bird conservation programmes in Guinea, Liberia and Côte d'Ivoire.
- A hotspot-wide system for monitoring IBAs established.
- Enhanced national NGO capacity for biodiversity conservation, advocacy, awareness-raising and fund-raising throughout the region.
- The importance of UGF and IBAs advocated successfully to governments such that they are integrated into national planning legislation, protected area budgeting and management.
- Resources secured to enable continued conservation work of NGOs.
- Improved perception, attitude and action towards the environment by the people of the participating countries.

Funding

Funds for the project are provided by the Critical Ecosystem Partnership Fund (CEPF) with additional funds from The Royal Society for the Protection of Birds and BirdLife International.

The CEPF is a joint initiative of Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation.

Implementing Organisations

The project is coordinated by BirdLife International with support from the Royal Society for the Protection of Birds and executed by national conservation NGOs in five West African countries: (Ghana, Sierra Leone, Liberia, Guinea, Côte d'Ivoire).

BirdLife International is a global partnership of conservation organisations working for the diversity of all life and sustainability in the use of natural resources. It aims to prevent the extinction of bird species and to reduce the number of species that are globally threatened through conserving crucial sites and habitats for birds and other biodiversity. It is currently represented in 106 countries and has 18 Partners in Africa.

For further information contact:

For more information please contact:

RSPB
CRITICAL Ecosystem Partnership Fund
BirdLife International

Produced by the Communications Unit of the Ghana Wildlife Society, Accra. Tel: +233 (32) 665687
Project Overview
The project aims to achieve additional capacity for biodiversity conservation within national BirdLife Partner organisations in Ghana and Sierra Leone and to establish and develop biodiversity conservation programmes with national organisations in Côte d'Ivoire, Liberia and Guinea.

Objectives

Long Term
To conserve all globally important biodiversity in the Upper Guinea Forest (UGF) zone.

Short Term
Capacity of conservation NGO's in West Africa enhanced to deliver biodiversity conservation at Important Bird Areas (IBAs), throughout the Upper Guinea Forest zone.

Conservation Status of Project Area
In West Africa, 157 IBAs have been identified of which 87 are found within Conservation International's (CI) UGF Biodiversity Hotspot. Some of the IBAs e.g. Mont Nimba, Gola and southwest Ghana, have been targeted as “exceptionally high priority” for conservation action. The UGF Biodiversity Hotspot coincides with BirdLife International’s Endemic Bird Area (084). Of the 240-250 forest dependent birds in the UGF region, over 25 key species are threatened, of restricted range or rare. Four species e.g. White-breasted Guinea fowl and the White-necked Picathartes are solely restricted to the western subsection of the Upper Guinea Forest.

BirdLife International has identified a minimum set of 10 IBAs, which if their ecological integrity is maintained, would ensure the survival of the majority of the key UGF species.

Strategy
Training and development in site-based conservation work involving local communities will form the basis of the project with additional work in the areas of advocacy, communications, fund-raising, and marketing. Exchange visits shall be encouraged to facilitate information and experience sharing.
ASSESSMENT OF BUSHMEAT TRADE DURING THE ANNUAL CLOSED SEASON ON HUNTING IN GHANA

(1ST AUGUST - 1ST DECEMBER 2001)

Prepared By

Conservation International Ghana
(In collaboration with FAO Regional Office for Africa)

FEBRUARY 2002

Action Plan for Bushmeat Crisis in Ghana

A Report on The National Stakeholders Meeting on Endangered Bushmeat

Organised at the Ghana National Association of Teachers’ (GNAT) Hall Kumasi - Ghana

21st - 22nd February 2001
Animals Maintain Our Forests

STOP KILLING Wild Animals

Animals Are Our Totems

Say No to Bushmeat

Animals Are Our Heritage

Our Animals Face Extinction
Conservation International honours two women

For protecting endangered species

It would be recalled that two young men, Peter Dapaa and Amadu Yakubu, were arrested last January for killing endangered vultures indiscriminately in the Kumasi metropolis without a valid hunting licence.

The arrest followed an alarm by the two women, Naomi Ama Besiwa Donkor and Ama Serwa. A Kumasi Circuit Court consequently convicted and fined the young men GH¢500,000 each.

The award for protecting endangered vultures for the two women coincided with the launch of a handbook of totems in Ghana by Conservation International at the Centre for National Cultural in Kumasi.

According to Okyeame Ampadu-Agyei, Country Director of Conservation International, the honour is to serve as a motivation for other members of the public to be on the lookout and help protect the environment.

He said the handbook of totems in Ghana represents a unique effort to document a traditional mechanism for biodiversity conservation in the country.

He said people are indiscriminately killing all sorts of animals including totems which are sacred to our culture.
<table>
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<tr>
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<th>Project Title</th>
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<th>Co Financing</th>
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<td>Bushmeat Hunting and Trade in the Nimba Mountains</td>
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<td>Support to Coordination of Biological Monitoring Program at Sapo National Park, South-east Liberia</td>
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<td>Intensification of the Liberia Forest Re-assessment Project to Create New Conservation Areas in Liberia</td>
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<td>Co-Financing: European Community ($788,455 total - $252,305 estimated for Upper Guinean Forest sites), USFWS ($27,632)</td>
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<td><strong>Co-Financing:</strong> Darwin Initiative ($10,000), Université de Cocody ($1,000), SOS-FORETS ($6,000)</td>
<td>Biological Inventory and Ecological Study of the Southern Dassioko and Monogaga Forests (Southwest Coast of Côte d’Ivoire)</td>
<td>$27,125</td>
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**Co-Financing:** Philadelphia Zoo ($5,500), University of Liberia ($800), Cuttington University College ($800)

**Project/Regional Leveraging:** See Above

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