



**USAID**  
FROM THE AMERICAN PEOPLE

# USAID'S BIODIVERSITY CONSERVATION AND FORESTRY PROGRAMS, FY 2005



JUNE 2007

## In Memoriam

The publication of USAID's FY05 Biodiversity and Forestry Report is dedicated to the twenty-four extraordinary and irreplaceable individuals who gave their lives while working to conserve the natural resources of the Himalaya of eastern Nepal on September 23, 2006. These colleagues, friends and family members lost in this tragedy were leaders in the field of conservation whose absence will be felt for years to come.

We cannot overstate the significance of the loss of these champions, who included USAID colleagues, senior Nepali government officials, World Wildlife Fund and IUCN partners, foreign government counterparts, and citizens. The twenty four perished in a helicopter crash as the group was returning from a ceremony that commemorated the handover of the management of the Kanchenjunga Conservation Area to local community groups. Their passion and dedication to this type of important work is part of what made each of them such an inspiration.

### **We dedicate this publication to:**

Ms. Margaret Alexander, *Deputy Director, USAID / Nepal*

Mr. Bijan Acharya, *Program Development Specialist, USAID / Nepal*

Mr. Gopal Rai, *Minister of State of Forests and Soil Conservation*

Mrs. Gopal Rai

Dr. Damodar Parajuli, *Acting Secretary, Ministry of State of Forests and Soil Conservation*

Mr. Narayan Poudel, *Director General, Department of National Parks and Wildlife Conservation*

Mr. Sharad Rai, *Director General, Department of Forests*

Mr. Pauli Mustonen, *Charge d'Affaires, Embassy of Finland*

Dr. Jill Bowling, *Conservation Director, WWF UK*

Mr. Hem Raj Bhandari, *Nepal Television*

Dr. Chandra Gurung, *Country Representative, WWF Nepal*

Dr. Harka Gurung, *Advisor, WWF Nepal*

Ms. Jennifer Headley, *Coordinator, WWF UK*

Klim Kim, *Captain*

Mrs. Yeshi Choden Lama, *Senior Program Officer, WWF Nepal*

Mr. Tirtha Man Maskey, *Co-Chair, Asian Rhino Specialist Group, IUCN*

Mr. Matthew Preece, *Program Officer, WWF Eastern Himalayas*

Mr. Mingma Norbu Sherpa, *Managing Director, WWF Eastern Himalayas*

Mr. Mingma Tsering Sherpa, *Captain*

Mr. Vijaya Shrestha, *Central Committee Member, Federation of Nepalese Chambers of Commerce and Industry*

Tandu Shrestha, *Crew*

Mr. Sunil Singh, *Nepal Television*

Valery Slafronov, *Crew*

Mr. Dawa Tshering, *Chairperson of Kanchenjunga Conservation Area Management Committee*

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## **Cover Photo**

**BANGLADESH BIRD WALK:** As part of a nature tour with a Bangladeshi bird expert, Boy Scouts try to identify a bird at Satchuri protected area in northern Bangladesh. In this predominantly Muslim country, USAID's Nishorgo Support Program reaches out to Muslim youth and religious leaders to gain their involvement in environmental issues. The project also organizes communities to patrol protected areas and helps them grow trees for firewood and timber on the degraded lands surrounding parks.

Patrick Smith, USAID

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# EXECUTIVE SUMMARY

The following report provides an overview of the United States Agency for International Development's biodiversity conservation and forestry programs for fiscal year (FY) 2005. The report is intended to provide USAID's partners and the public with a summary of the Agency's approaches, activities and results.

USAID is combining the reporting of its biodiversity and forestry programs in FY 2005 because of the significant overlap between these two program areas. Much of USAID's biodiversity work centers on better management and conservation of forest ecosystems, and much of USAID's forestry work is done with an objective of conserv-

ing biodiversity. However, because the overlap is not 100 percent (i.e., not all forestry is biodiversity conservation, nor vice-versa), this report presents separate budget summaries. In addition, although this report describes biodiversity and forestry programs for USAID Missions and Teams jointly, some portions of the text include



Chris Kosnik, USAID

**MANGROVE NURSERY:** These mangrove seedlings in Madagascar are almost ready to be planted along the coastline, where they will grow into dense mangrove forests that weaken storm surges and provide breeding habitat for a broad array of fish and crustaceans.

programs that are solely attributed to either forestry or biodiversity.

In FY 2005, USAID worked in more than 45 countries, investing more than \$176 million toward biodiversity conservation, more than \$162 million of which was Development Assistance (DA) funds. USAID invested more than \$101 million in forestry activities from all accounts. These investments led to significant biodiversity and forestry accomplishments in FY 2005, some of which are highlighted below.

### **Achievements in the Africa region include:**

- The Central African Regional Program for the Environment (CARPE) has improved the protection of nearly 28 million hectares of biologically significant tropical forest throughout Central Africa.
- In the Democratic Republic of the Congo, more than 2,000 ex-combatants were reintegrated into society in locations sufficiently distant from Virunga National Park to prevent poaching and deforestation.
- In Namibia, 11 new conservancies were registered in FY 2005, bringing the total area brought under conservancy protection since 1993 to 10.5 million hectares. In FY 2005, Namibia's 42 registered conservancies generated an estimated \$2.65 million and helped many wildlife species recover to their natural population levels.
- More than 25,000 Tanzanian women on the coast were introduced to income-generating opportunities like seaweed farming, coastal tourism, and beekeeping. USAID-supported conservation business



**AFTER THE KILL:** Sated, this lioness stares boldly defiant in Serengeti National Park, Tanzania. USAID supports protected areas around the world by improving park management and providing agricultural and ecotourism opportunities outside the park that reduce human pressures on the park and its wildlife.

ventures in Tanzania generated \$1.86 million in FY 2005.

### **Results in the Asia and Near East (ANE) region include:**

- Freshwater fish production in USAID-supported areas of Bangladesh rose by 150 percent in FY 2005—an increase of approximately 10,000 tons of fish that is worth more than \$10 million.
- The Timber for Aceh Alliance inspired the International Federation of Red Cross and Red Crescent Societies to purchase 32,000 cubic meters of certified timber for tsunami reconstruction in Indonesia.

- In Nepal, despite the Maoist conflict, forest products from 17,000 hectares of community-managed forests generated more than \$1 million in revenue, 65 percent of which was reinvested in community development activities.

### **Accomplishments in the Europe and Eurasia (E&E) region include:**

- Partnering with the United States Department of Agriculture's Forest Service, USAID helped establish a monitoring program for rare medicinal and aromatic species in Albania. This will support improved management of their habitats.



- In Russia, USAID raised fire prevention awareness by helping develop an interdisciplinary fire prevention curriculum for use in more than 1,000 schools.

### Successes in the Latin America and the Caribbean (LAC) region include:

- In Bolivia, 2.2 million hectares of forest have been independently and voluntarily certified as well managed, an area that has doubled in only three years.
- Six indigenous Quichua communities from Yasuni National Park negotiated a co-management agreement with the Government of Ecuador to protect 96,000 hectares of pristine Amazonian tropical rainforest.
- Mango producers in Haiti produced and shipped 6,000 boxes of certified organic mangos to new U.S. buyers, which earned farmers a 25 percent premium over prices offered by local markets.
- In Nicaragua, community fire brigades helped reduce dry season forest fires in 23,000 hectares of forest by 90 percent from 2004.

### Achievements through Centrally Funded Programs include:

- Through the Sustainable Forest Products Global Alliance, a three-year agreement was secured with Tetra Pak, an international packaging company with \$10 billion in annual sales. Tetra Pak committed to strengthen its purchasing of forest-based products from well-managed forests and to reduce its carbon dioxide (CO<sub>2</sub>) emissions over the next five years by ten percent.



Barbara Best, USAID

**THAI FISHERMEN:** Overfishing is a critical issue in Thailand and around the world. USAID programs are helping restart fishing livelihoods while also preventing over-fishing. For example, after the Asian Tsunami, fishers are accepting greater responsibility for controlling the amount and location of fish harvesting in exchange for assistance in acquiring new boats, motors, and gear.



Cristina Alarcón/Fundación Avifauna © 2005-06

**INDIGENOUS GUIDES:** Demonstrating their knowledge of local biodiversity, indigenous members of the Gamboa community guide tourists in Panama. These graduates of a University of Panama training course supported by USAID learned about identifying bird species, providing customer service to foreign tourists, and organizing their own business. The 22 graduates immediately put the training to use by forming a tourism cooperative.

- A Collaborative Research Support Program (CRSP) worked with rural farming communities in the Altiplano and high valleys of Bolivia and Peru to improve their ability to adapt to climate change and enhance the biodiversity of their agro-ecosystems.
- USAID's Biodiversity Team helped place more than 1.8 million hectares of biologically important habitat under improved management.

# INTRODUCTION

Food, shelter, income—these are a few of the critical human needs that can be met through the use of natural resources. Tropical forests and biodiversity are two resources that are particularly critical for sustenance, especially for those who live in rural areas of developing countries. For example, many people depend on tropical forests for timber, fruits, medicines, and as a source of clean water. Forests help mitigate climate change by storing carbon, and regulating regional and global hydrological cycles. Biodiversity also

provides critical goods and services to people. Approximately two-thirds of the world's crop plants are pollinated by animals and insects. There are at least 120 important drugs currently in use that are derived from naturally occurring plant species. Forests and biodiversity are also important to many people for their spiritual and aesthetic values, as well as for the fact that they exist.

Forests and biodiversity are inextricably linked. According to the World Bank, “forests now cover only six percent of the planet, but they har-

bor up to 90 percent of the world's terrestrial biodiversity.” Even small fragments of forest that occur across a landscape can be vital wildlife habitat, like the forest remnants that provide travel corridors for roving families of chimpanzees in Guinea, west Africa. Coffee plantations that include native shade tree species can be an effective buffer around protected areas, even as the coffee provides valuable income to local farmers.

Unfortunately, forests and biodiversity face similar threats, including habitat



Howard Buffett

**FOREST DEPENDENT:** Once found from the Caspian Sea to China, there are now only 5,000 to 7,000 tigers left in the wild, mostly on the Indian subcontinent. Threatened by poaching, tigers have also suffered from loss of essential forest habitat.

conversion to agriculture, unsustainable extraction of timber and other forest resources, pollution, climate change, and national policies that subsidize forest conversion to other uses. To address these threats and to ensure that forests and biodiversity continue to play an important role in sustainable development, the United States Agency for International Development (USAID) supports programs around the globe that aim to improve the conservation and sustainable management of forests and biodiversity.

USAID programming reflects the link between forests and biodiversity. While not all USAID forestry activities are directly beneficial to biodiversity, and not all biodiversity activities occur in forests, the overlap between programs

that address these two issues is considerable. In more full recognition of this overlap and to increase efficiency in reporting, USAID has provided a combined picture of USAID's fiscal year (FY) 2005 Tropical Forest and Biodiversity activities in this report.

The following three sections highlight three examples that illustrate how USAID activities can address both biodiversity and forestry concerns: (1) Forest Ecosystems and Conflict; (2) Tsunami Relief and Reconstruction; and (3) Forest Conservation in the Congo.

### Forest Ecosystems and Conflict

USAID provides assistance to local populations in conflict and post-conflict situations, many of which occur

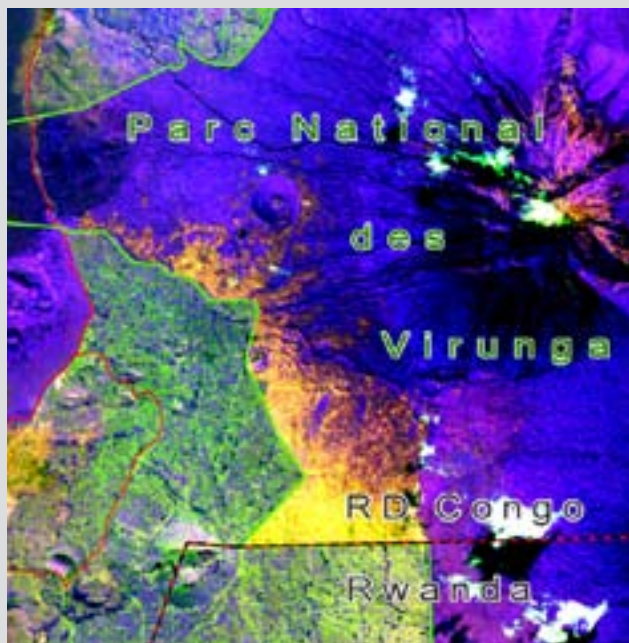
over natural resources or are financed to some degree by these resources. In addition to causing or sustaining conflicts, natural resources themselves are threatened by conflict, which often leads to deforestation and poaching. USAID's approach to forest ecosystems and conflict addresses both the forestry-related need of producing sustainable timber, and the biodiversity-related need of protecting wildlife habitat and preventing the rampant hunting that can occur during times of conflict.

There is often a direct connection between logging and both low-level and violent conflict. Forest resources are easy to harvest and sell, and are often used by militias, rebel groups, and government forces to finance warfare. More commonly, timber and

Before May 19, 2004



After July 3, 2004



UCL-Geomatics (Belgium) and WWF Albertine Rift Ecoregion Programme

**DEFORESTATION IN VIRUNGA NATIONAL PARK:** These two satellite images show the rapid deforestation of 15 square kilometers inside the park after the incursion of 6,000 military personnel from Rwanda. In the images, primary forest is blue/purple and deforestation is bright yellow. Alerted by these satellite images, international conservation NGOs and the diplomatic community were able to stop deforestation in early July. Recognizing potential harm from military personnel to forests and wildlife such as the endangered mountain gorilla, USAID helps resettle former combatants in the DRC far enough away from the park to limit their impact on the park's biodiversity.



**DISAPPEARING FOREST:** Cut and burned, this tropical deforestation follows the line of a firebreak and a road near Xingu Indigenous Park.

### Deforestation and Conflict in the Amazon

The Amazon Basin is the largest tropical forest in the world and houses more than one-third of all of the world's species. However, Amazonian indigenous groups have struggled for legal rights to their traditional territories and many loggers and farmers seek to exploit the forest, first extracting timber with any value and then converting it to agricultural land. At times, land grabbers who feed illegal logging activities intimidate and commit violence against native peoples.

USAID's environment programs throughout the Basin work to address these issues. For example, in Brazil USAID is working to reduce deforestation, conserve biodiversity, support sustainable economic opportunities for local populations, and prevent local resource conflict by contributing to science-based debate on the part of local civil society on regional development projects. For example, USAID's support to the Green Highways consortium led to local advocacy and involvement in decisions about the future of federal highway BR-163, helping to mitigate the potential for conflicts over land ownership and use due to large numbers of outsiders entering into indigenous territories via the highway.



**PARTICIPATORY PROCESS:** Indigenous peoples are involved in discussions on the future of the BR-163 road, helping reduce future conflicts.

other forest products are the objects of competition among governments, opposition forces, commercial interests, and forest-dependent communities. Timber that is legally or illegally harvested to finance or sustain conflict, or the timber over which people fight, is often called "conflict timber."

Forests are also a key factor in post-conflict situations. While forest exploitation is often viewed as a quick and easy way to jump-start the economy of post-conflict countries, encouraging logging in remote, unstable areas where land tenure is unclear may actually exacerbate tensions and thereby promote future conflict. Unfortunately, even though the use of forest resources is often a driver of conflict, clarifying rights over those resources has historically been left out of peace negotiations.

For example, during the war in Cambodia, timber sales revenues financed armed conflict. In the subsequent peace process, community forest rights were not addressed. Over the past decade, 1.7 million of Cambodia's forest-dependent poor have been affected by intimidation, violence, and loss of access to forests and land. USAID is working in Cambodia to involve communities in natural resources management and to promote land rights, good governance, and the rule of law. In FY 2005, USAID helped raise awareness of conservation issues and resolve forest conflicts. The project helped conserve more than one million hectares of the Southern and Coastal Cardamom Mountains, which harbor one of Asia's last seven remaining elephant corridors, 14 globally endangered and rare mammals, and half of Cambodia's bird species.

Addressing conflict and timber can sometimes require international cooperation. Under the regime of Charles

Taylor in Liberia, timber was used to finance arms acquisition and support a repressive regime, with the consequence of large-scale deforestation and habitat loss. International sanctions on Liberian timber contributed to the collapse of the regime. Now, the Liberia Forest Initiative (LFI), a multi-donor and multi-implementer coordination mechanism, seeks to make management of the forest sector participatory, transparent, accountable, equitable, and legal. In FY 2005, USAID and the State Department jointly supported a number of LFI activities, including the development of a new system for competitive bidding to harvest timber and the restoration of community rights to manage and reap benefits from forest resources. As part of LFI, USAID and the State department also supported the development of a management plan for Sapo National Park, an internationally recognized conservation site that houses endangered species such as elephants, chimpanzees, and pygmy hippos.

In addition to helping lead LFI, the Agency supports the President's Initiative Against Illegal Logging (PIAIL), which helps developing nations combat illegal logging through improved governance such as increased community involvement in sustainable forest and wildlife programs, and improved technology for monitoring forest activity and compliance with laws. USAID also helped bring together members of the international defense, development, and diplomatic communities to address the links among security, development, and forest conflict and to design actions to resolve such conflict.

## Tsunami Relief and Reconstruction

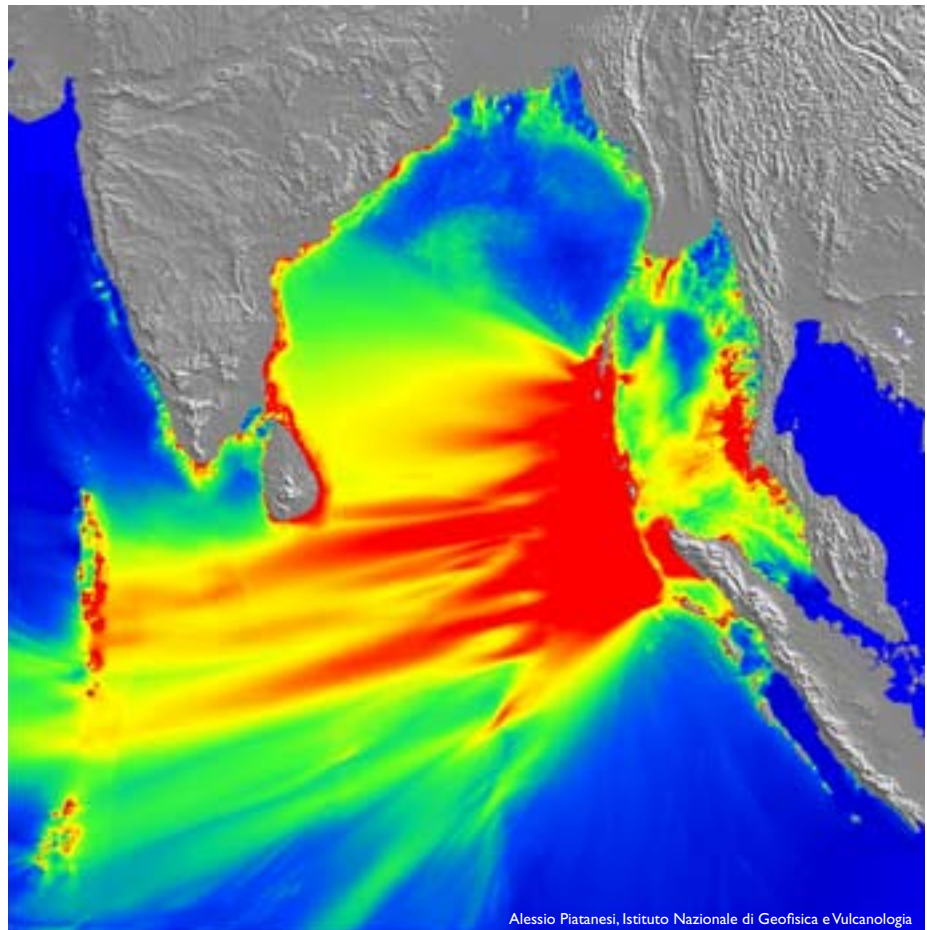
In addition to responding to disasters caused by people, such as conflict and war, USAID also helps after major

natural disasters. After the Indian Ocean Tsunami of December 26, 2004, USAID's relief, recovery, and reconstruction response included immediate interventions such as mangrove replanting, and long-term environmental improvements through better coastal management.

The tsunami caused widespread devastation, killing more than 280,000 people and disrupting the lives of hundreds of thousands more. Coastal tourism, fisheries, and the mariculture and agricultural sectors were seriously impacted, and housing and public infrastructure were destroyed. The area's natural infrastructure, including mangrove forest, wetland, and coral reef ecosystems, was also damaged.

In some places, the amount of damage and the loss of life were dramatically reduced because mangrove forests slowed the wave of water, caught floating debris, and kept people from washing out to sea. The tsunami raised awareness that natural coastal structures like mangroves, coral reefs, and dunes can reduce beach erosion and create a buffer against storm surges. USAID's tsunami reconstruction strategies seek to protect and strengthen these coastal ecosystems as part of comprehensive hazard mitigation plans.

USAID worked with the global community to conduct environmental assessments and prepare and implement guidelines to ensure that relief activities did not cause further environmen-



**PATH OF A TSUNAMI:** This map shows the tsunami wave height, with red indicating heights of two to ten meters. The highest waves hit Indonesia, Thailand, Sri Lanka, India, and the Maldives.



Suzanne Bilharz, USAID



Suzanne Bilharz, USAID

### **Sustainable Timber for Tsunami Reconstruction in Aceh, Indonesia: A Public-Private Alliance**

In Indonesia, USAID supported the Timber for Aceh Alliance to facilitate the use of sustainably harvested and legal wood products to reconstruct homes, schools, businesses, and government buildings. These efforts will reduce the pressure for illegal logging in the Sumatran forest—home to orangutans, tigers, and a vast array of other species. Alliance partners American Forests and Paper Association, Conservation International, and World Wildlife Fund (WWF) received donated lumber material from four U.S. companies to begin the pilot stage of the project. Catholic Relief Services handled the transportation, storage, and distribution of the lumber upon its delivery in Indonesia.

The alliance was instrumental in raising awareness of the need for relief organizations to utilize sustainable wood for reconstruction during disaster relief efforts. For example, the International Federation of Red Cross and Red Crescent Societies purchased 32,000 cubic meters of certified timber for reconstruction in Aceh. As hoped, the example is spreading. After the October 2005 earthquake in Pakistan, WWF received inquiries regarding legal wood, and WWF guidelines for green reconstruction have been widely requested.



Suzanne Bilharz, USAID



Suzanne Bilharz, USAID



Craig Shuman, Reef Check

**CORAL UPLIFT:** At Aceh, Indonesia, parts of the coastline—including beds of corals—were permanently raised above the waterline by the earthquake that caused the tsunami. Corals were also damaged by tossed debris in the tsunami wave.

tal harm. Suggested practices included properly locating relief camps and garbage dumps to protect both people and nature, encouraging people to stay with friends and relatives rather than going to Internally Displaced Persons camps, and securing legal and sustainable sources of timber and cooking fuel so that nearby forests would not be degraded.

Some activities targeted the immediate rehabilitation of coastal ecosystems. Mangrove forests are an important part of these ecosystems, serving as a natural barrier to storm surges, a nutrient-rich environment for an abundance of aquatic life, and a source of thatch for roofs and fuel for cooking. In Thailand and Indonesia, USAID helped replant damaged mangrove forests. For example, in Thailand, villagers were trained to harvest mangrove seedlings, prepare growth material, and establish new plants. Through a USAID cash-for-work initiative, more than 100 villagers, most of whom were women, were employed to seed, plant, and care for 40,000 mangrove seedlings.

After completing immediate relief efforts, USAID initiated longer-term development programs. For example, in Indonesia this assistance included a coastal environmental assessment, watershed management planning, programs to further rehabilitate mangroves and other land ecosystems, and projects to reduce household water pollution that threatens coral reefs. USAID also worked to help restore sustainable livelihoods like aquaculture and wild fisheries.

In Thailand, USAID initiated recovery efforts through the Sustainable Coastal Livelihoods Program on the Andaman Coast in southern Ranong Province. In a cluster of five villages, the program demonstrated how an integrated approach to village and regional economic development can lead to sustainable and diversified coastal livelihoods. The program focused on reforming small-scale fisheries management, developing low-impact aquaculture, and promoting culturally appropriate ecotourism that will conserve coral reef ecosystems and

fisheries. Through the use of town hall meetings and working groups, community members came together to identify priority community needs and activities that will lead to a sustainable, biodiversity-friendly coastal economy.

### **Regional Forest Conservation in the Congo: The CARPE program**

USAID's strategy of bringing together stakeholders at multiple levels to jointly address biodiversity and forestry conservation is exemplified by its regional and landscape level approach. For example, USAID investment in the conservation of the forests of the Congo Basin, which form the second-largest contiguous moist tropical forest in the world, was enhanced in 2002 with the announcement of the Congo Basin Forest Partnership (CBFP). This regional initiative recognizes that effective protection of cross-boundary forest resources requires large-scale, coordinated efforts across governments, NGO's, communities, and private sector companies.



The main U.S. program contributing to the CBFP is USAID's Central African Regional Program for the Environment (CARPE). Launched in 1995, CARPE engages stakeholders across the region in evaluating and addressing threats to the forests of the Congo Basin and in developing opportunities for sustainable forest management. The program focuses on 11 key landscapes in the six Central African countries of Cameroon, Central African Republic, the Democratic Republic of the Congo (DRC), Equatorial Guinea, Gabon, and the Republic of Congo.

One of CARPE's recent successes was the launch of the Sangha Tri-National Trust Fund, which CARPE helped

design. The charitable trust supports the operations of three highly significant and contiguous protected areas in Cameroon, the Central Africa Republic and the Republic of Congo.

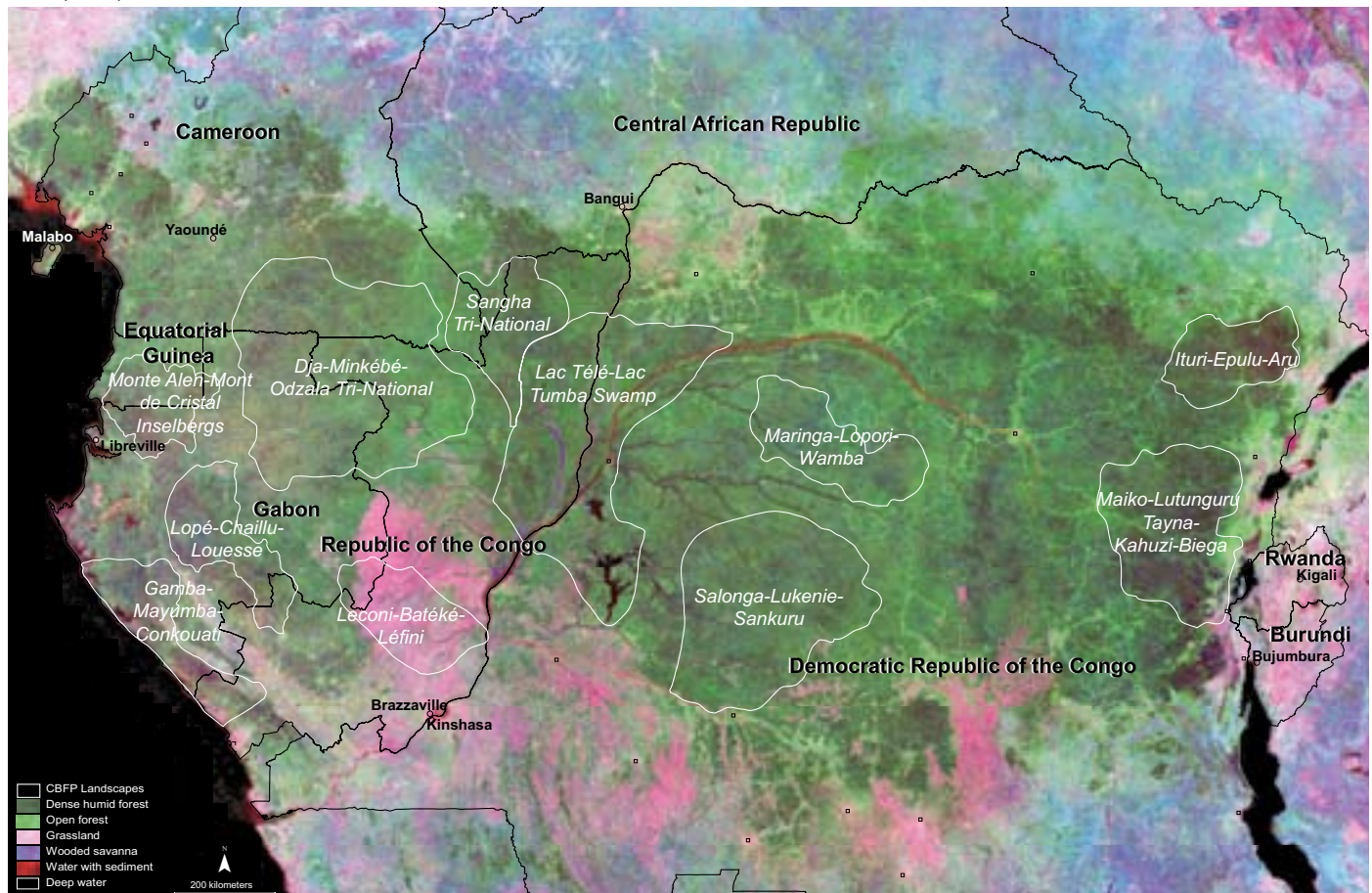
**CARPE helped create the Sangha Tri-National Trust Fund to support management of contiguous protected areas in Cameroon, the Central Africa Republic and the Republic of Congo. The fund has already attracted donor pledges of \$5.5 million.**

Registered in the United Kingdom, it is overseen by a board represent-

ing member states and international organizations and is the first fund of its kind in the region. Several donors have already pledged to endow the Trust with \$5.5 million.

Also in FY 2005, the Government of Cameroon declared a moratorium on granting logging concessions in 900,000 hectares of the Ngoïla-Mintom forest, saving an animal migration corridor between the World Heritage site of Dja National Park in Cameroon, the National Parks of Boumba-Bek and Nki, also in Cameroon, and protected areas in Gabon and Congo Brazzaville. This action, supported by CARPE, its partners, and other donors, will protect one of the last

University of Maryland/NASA



**CONGO BASIN:** This image of the Congo Basin Forest shows dense forest in dark green and degraded forest or agricultural areas in light green. Grassland appears in pink and wooded savanna in blue/violet. USAID is working at the landscape level, across the political boundaries of Central Africa, to help reduce the rate of forest degradation and biodiversity loss in the Congo Basin.



Bruce G. Marcot, USFS

**CONGO BUTTRESSES:** Found throughout the Congo region, this mammoth *Cleistopholis* tree is home to myriad insects, mammals and epiphytic plants. USAID’s CARPE program seeks to make sure some of these giants remain and that the wildlife living on and around them is protected.

large intact forest blocks in Cameroon, providing migration routes for elephants, gorillas, and chimpanzees, and life-sustaining forest resources for Baka pygmy communities.

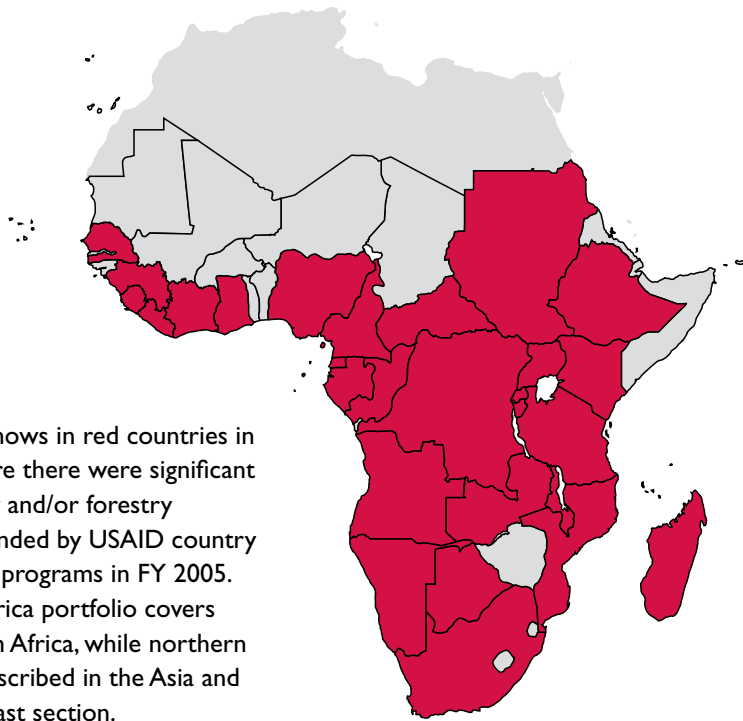
Equatorial Guinea also made progress in forest conservation. A formal commitment by the Government of Equatorial Guinea was made with CARPE partner Conservation International to issue a decree transforming at least 500,000 hectares of logging conces-

sions into a National Forest. This will increase the area under protection in the country to 37% of its territory, making it the country with the highest percentage of protected area in the world.

Finally, the Democratic Republic of Congo’s National Park Service and Ministry of Environment gave legal recognition for two adjacent community-based reserves in the Maiko Tayna Kahuzi Biega Landscape—the Tayna

Nature Reserve and the Kisimba-Ikobo Nature Reserve. This crucial conservation step, supported by CARPE, USAID gorilla conservation programs, and Conservation International, protects a globally important and unique biodiversity site that contains endangered species like Grauer’s gorillas, eastern chimpanzees, forest elephants, and okapi. For more information on CARPE see pages 12–13.

# AFRICA



This map shows in red countries in Africa where there were significant biodiversity and/or forestry activities funded by USAID country or regional programs in FY 2005. USAID's Africa portfolio covers sub-Saharan Africa, while northern Africa is described in the Asia and the Near East section.

50,000 known plant species, 1,000 mammal species, and 1,500 bird species. Representing 17 percent of the world's total forests, Africa's approximately 650 million hectares of forest include dry tropical, moist tropical, and subtropical forests; woodlands; and mangroves.

Africa's forests and other ecosystems are central to the livelihoods of rural Africans, an estimated 70 percent of whom depend on natural resources for food, fuel, medicine, construction materials, and income-generating activities. However, ongoing conflicts and weak governments in many parts of the continent have led to illegal and unsustainable forest and wildlife harvesting. Forest loss in Africa was estimated at four million hectares annually from 2000–2005. USAID dedicated a great deal of resources toward addressing these issues in FY 2005. This section highlights the approaches and achievements of USAID regional and bilateral programs in the region.

The African continent is home to the world's greatest concentrations of large mammals, the world's second-largest tropical rainforest, and

important desert, lake, wetland, and coral reef ecosystems. These diverse habitats support an impressive array of flora and fauna, including more than



Bruce G. Marcot, USFS

**UBANGI RIVER:** Canoes wait for their owners to paddle across the Ubangi River, a major tributary of the Congo River. USAID's support for the Congo Basin Forest Partnership is building consensus for conservation of the many watersheds feeding the Congo River.



**HOPE FOR THE FUTURE:** Although this young mountain gorilla is exploring tree branches alone, gorillas generally spend most of their days on the forest floor in small family groups. USAID supports the U.S. Fish and Wildlife Service Great Apes Conservation Program to protect this, and other highly endangered ape species, and the forest in which they live.

## Africa Regional Program

### Office of Sustainable Development

USAID Bureau for Africa's Office of Sustainable Development (AFR/SD) works to strengthen critical links among biodiversity conservation, natural resources management, improved livelihoods and economic growth, and good governance throughout Africa. The AFR/SD Office's Economic Growth, Environment and Agriculture Division builds local capacity, strengthens African institutions, and supports African networks of policy analysts, policy makers, and business people in order to promote policy-relevant research. It also applies the Internet and related technologies to promote accelerated, sustainable, and equitable growth.

The AFR/SD Office supports the congressionally mandated allocation to the

U.S. Department of the Interior, Fish and Wildlife Service for the Great Apes Conservation Program. Four grants have been recently approved: (1) monitoring the post-conflict recovery of gorillas and chimpanzees in the DRC's Parc National de Kahuzi Biega, implemented by the Wildlife Conservation Society (WCS); (2) conserving great apes flagship species in the DRC's Odzala Landscape, implemented by World Wildlife Fund (WWF)-U.S.; (3) implementing urgent measures for the surveillance and protection of great apes in northern Congo in response to recent Ebola outbreaks, implemented by the WCS Field Veterinary Program; and (4) building capacity in Gabon for ape ecological research, implemented by WCS.

The Sustainable Tree Crops Program Alliance promotes shade crop biodiversity methods in West Africa that improve the quality and availability of cacao beans for the international

chocolate industry. The cultivation systems involve food crops on the ground under cocoa trees, taller fruit trees over the cocoa trees, and even taller shade trees that supply local lumber. Farms using these practices have been the most economically productive in West Africa and second only to rainforest producers in their preservation of biodiversity. A conference organized by the Smithsonian concluded that cocoa farms could function simultaneously as conservation tools and as economic engines—with productivity gains of 30-50 percent.

AFR/SD supplemented and co-financed biodiversity- and forest conservation-related programs such as FRAME (an online community for natural resource knowledge sharing), research by the Consultative Group on International Agricultural Research (CGIAR) system, and land tenure research. These latter programs were implemented by the USAID Bureau

for Economic Growth, Agriculture and Trade's (EGAT) Land Resources Management Team, Forestry Team, and Environment and Science Policy Office, and are more fully discussed elsewhere in this report.

Other AFR/SD-supported efforts are similarly ambitious and broad in their scope. For example, in FY 2005 USAID worked with host governments and other development partners throughout sub-Saharan Africa to improve laws and practices that govern land tenure and property rights, providing a motivation for communities to value and protect critical habitat. In addition, USAID helped African governments establish and implement environmental laws and expand their capacity to conserve their national biodiversity in the face of economic development pressures.

Assistance provided to Missions has helped governments devolve authority, increase natural resources management-based income generation, and

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**USAID supports the promotion of shade grown cocoa, the most economically productive farming system in Western Africa and second only to natural forest cocoa production in the preservation of biodiversity.**

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reduce environmental degradation. With a focus on community-based natural resource management (CB-NRM), forest management, global climate change, and environmental information management, activities are implemented through collaboration with local communities, nongovernmental organizations (NGOs), and governments.

## USAID/Southern Africa

### Improved Management of the Okavango River Basin

USAID/Southern Africa supports efforts to increase regional cooperation in the management of shared natural resources across 10 southern African nations. In FY 2005, a new USAID/Southern Africa Strategic Objective, "Improved Management of Shared River Basins," focused on environmentally sound planning and development of the Okavango Basin in Southern Africa.

The Okavango River flows through Angola and Namibia before spreading out into a 15,000 square kilometers seasonal delta in Botswana. The Okavango Delta and riparian areas are complex yet fragile ecosystems resulting from fluctuating flood regimes and sediment transfer. Shifting channels and islands create mini-ecosystems that uniquely adapted species depend upon during different stages of their growth cycles. The lower reaches of the Okavango River and Delta represent one of the most pristine freshwater systems of its size in the world. Biodiversity assessments have identified threats as: increases in water use, changes to water quality, changes in land use in upper catchments, and a lack of information on biodiversity. USAID is addressing these threats by helping the regional river basin commission, relevant national institutions, and communities to develop, reach consensus on, and implement appropriate management plans.

USAID, in coordination with other donors, is strengthening the Permanent Okavango River Basin Water Commission (OKACOM), and corresponding water, natural resource, tourism, and agriculture institutions of the

three countries (Angola, Namibia, and Botswana) that share the Okavango River Basin. OKACOM was established in 1994 to promote cooperation and coordination in the use and development of the water resources shared by these three countries. In the first year of this program USAID developed productive partnerships with other donors, NGOs, and government agencies, leading to joint implementation plans and better coordination of resource allocation among donors. OKACOM will help the three countries consult and conduct scientific inquiry prior to making decisions that will affect biodiversity and ecological services in the basin. For example, in 2005 baseline data on biodiversity issues and opportunities were collected, and discussions to address these threats were initiated in Angola and Namibia.

USAID is also supporting the implementation of the National Biodiversity Strategic Action Plan (NBSAP) of Angola in the Okavango River Basin, which will identify biologically significant areas for conservation and improved management, improve biodiversity inventory systems for parks and protected areas, and demonstrate sound environmental practices that address threats to biologically significant areas. In FY 2005, USAID supported the Angolan NBSAP's stakeholder workshop and discussions on the Okavango Basin.

In addition to national initiatives, USAID supports community-based water and natural resource management enterprises that are compatible with sound river basin management objectives. In the past year, USAID assisted NGO and community groups to improve planning and project implementation skills through on-the-job training in Participatory Rural Appraisals in nine Angolan communities.

## Central African Regional Program for the Environment/Congo Basin Forest Partnership

### Improved Management of Large-Scale Forested Landscapes throughout Central Africa

Central Africa contains the second-largest area of contiguous moist tropical forest in the world. These forests form the catchment basin of the Congo River, a watershed of local, regional, and global significance. More than 60 million people live in the region, and these people depend on their

rich forests and other natural resources for their livelihoods and economic development.

The conservation of Central Africa's forests was placed at the highest level of U.S. policy interest in the region in 2002, when the U.S. announced the Congo Basin Forest Partnership (CBFP), an international partnership of governments, NGOs, and the private sector. The U.S. goal for the partnership is to promote economic development, poverty alleviation, improved governance, and natural resource conservation. The CBFP will do this through support for a network of national parks and protected areas,

well-managed forestry concessions, and assistance to communities who depend upon the conservation of the outstanding forest and wildlife resources of 11 key landscapes in six Central African countries—Cameroon, Central African Republic, Democratic Republic of the Congo (DRC), Equatorial Guinea, Gabon, and the Republic of Congo.

USAID's Central African Regional Program for the Environment (CARPE) is a 20-year regional initiative, and is the principal U.S. program designed to support the CBFP. CARPE supports the 11 high-priority large landscapes, which cover some 65



Bruce G. Marcot, USFS

**SUNSET:** The end of a long day brings a peaceful beauty to this river in the Congo Basin. USAID's CARPE project seeks to resolve conflict, control animal poaching, implement sustainable forest management, and improve long-term protected area management in the second largest contiguous moist tropical forest in the world.

million hectares. It also works in three additional neighboring countries (Burundi, Rwanda, and Sao Tome) and is broader in scope than the CBFP, addressing national and regional issues of natural resource governance and policy development and implementation. Together, CARPE and the CBFP work to reduce the rate of forest degradation and biodiversity loss through increased local, national, and regional natural resource management capacity.

CARPE is structured around three sets of activities, with the majority of resources focused on creating and executing land use management plans in protected areas, forestry concessions, and community forests. To date, CARPE has improved the conservation practices of nearly 28 million hectares of biologically significant tropical forest throughout Central Africa, including 16 million hectares of national parks and protected areas, 7.5 million hectares of commercial forestry conces-

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**CARPE has improved the conservation of nearly 28 million hectares of biologically significant tropical forest throughout Central Africa.**

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sions, and five million hectares of community forests and reserves.

For example, with CARPE support, communities in the Lac Télé Community Reserve in the Republic of Congo created natural resource management committees. These committees mapped development, buffer, and protected areas, and mounted community patrols in protected areas. People in the communities commented that their ability to make local resource use decisions allowed them to return to the customs of their ancestors, regulate use by non-locals, and



Mike Colby, USAID

**TRANSBOUNDARY CONSERVATION IN EASTERN AFRICA:** This Augur Buzzard is a raptor found throughout the highlands of East Africa, including in the Mara River Basin of Kenya and Tanzania where USAID is promoting watershed protection and biodiversity conservation across political lines.

resolve conflicts between families and between villages.

In the policy arena, the Central African Heads of State signed a treaty in February 2005 to coordinate protection and management of the regional tropical forest resources. This immediately resulted in a presidential decree to regulate logging concessions in the DRC and an agreement among Cameroon, Gabon, and the Republic of Congo to implement landscape and wildlife management plans for the Dja-Minkebe-Odzala Tri-National

Landscape. With technical support and assistance from CARPE partners, the Gabonese government developed a legal framework for its network of 13 new national parks. In the Republic of Congo, the government is working toward creating a new Congo Wildlife Service to manage the country's network of protected areas. A Forestry Atlas in Cameroon produced with CARPE support tracks all logging concession activity on the internet according to concession contracts. Similar initiatives are advancing quickly in the Republic of Congo and Gabon.

## USAID/East Africa

### Transboundary Water Resource Management to Protect Biodiversity

USAID/East Africa supports and enhances USAID Mission programs, while managing an innovative program of regional activities. In FY 2005, USAID/East Africa began assessing and planning for a new water resource management program in FY 2006 that seeks to reduce and mitigate threats to biodiversity in Kenya and Tanzania. Maintaining minimum water flow is essential for the maintenance of some species.

The program, “Transboundary Water for Biodiversity in the Mara River Basin,” focuses on the Mara-Serengeti ecoregion, specifically the Mara River Basin, which includes the Maasai Mara National Reserve in Kenya and the Serengeti National Park in Tanzania. This program is being developed with the Global Water for Sustainability (GLOWS) consortium and other regional partners, such as the East African Community and the Lake Victoria Basin Commission.

The program facilitates improved understanding of the water needs of this biodiverse ecoregion and works to harmonize river basin management plans and policies to provide a sufficient quantity of clean water to service multi-sector needs, particularly biodiversity. Specific activities include:

- Promoting a transboundary agreement between Kenya and Tanzania, under the authority of the East African Community, to ensure water flows to sustain the biodiversity of the Mara-Serengeti Ecoregion;
- Developing a Biodiversity Action Plan for the Mara River Basin;



**MONKEY SANCTUARY:** The biodiverse forests along the borders of Western Ghana and Eastern Ivory Coast provide habitat for monkeys and other rare species. USAID/West Africa is improving forest management by helping communities set up sustainable forest enterprises and assisting local governments to better monitor resource flows.

- Quantifying the flow characteristics of the Mara River required to sustain biodiversity and ecosystem processes in the Mara-Serengeti Ecoregion; and
- Conducting bi-national and regional consultations leading to a regional strategic environmental assessment.

The project also includes activities to promote a stakeholder dialogue on integrated water resources management and biodiversity across the basin, and to promote community-based organizations as vehicles for community-scale participation in larger basin processes.

## USAID/West Africa

### Ghana/Ivory Coast Natural Resources Transboundary Initiative

USAID/West Africa addresses development challenges at a regional level. While West Africa possesses a rich resource base and enormous development potential, weak institutions, poor management, corruption, and conflict remain significant challenges.

USAID/West Africa serves 19 nations, of which only six have USAID bilateral Missions.

The Western Region of Ghana and the Aboisso Prefecture of Ivory Coast comprise a transboundary area that possesses a range of valuable natural resources that have the potential, if sustainably managed, to increase productivity and spur significant economic growth, good governance, and regional stability. This area is the most heavily forested part of Ghana and Ivory Coast, and its forests, wetlands, rivers, and marine areas are among the most biodiverse in the world.

The long-term conservation of these forests, along with the forests' ability to contribute to the livelihoods of the region's inhabitants, is under threat by illegal logging and conflict. Much of the logging in both countries is illegal and represents a significant loss in revenues for local communities and governments. In Ivory Coast, civil war and political instability have led to the rapid liquidation of natural resources throughout the country, especially forest resources. Traditional tenure sys-



tems, based on a sharecropping model, are a source of frustration and conflict for many local residents and are a deterrent to small and medium enterprise development and economic growth.

In FY 2005, USAID/West Africa initiated a two-year pilot project in this region to improve the management and sustainable productivity of transboundary natural resources, and to promote a more equitable distribution of benefits and regional stability through the following objectives:

- Improved forest management through community-based enterprise development initiatives and active participation in management responsibilities;
- Increased local government and civil society capacity through conflict prevention training, enterprise activities, and management of natural resources;
- Systematic monitoring of the flow and value of natural resources in the transboundary area.

These objectives are anchored in the overarching project goal of increasing communication and information flow across and within borders to promote transparency and enhance the sustainable productivity of the region's resources.

## **Burundi**

### **Reforestation and Sustainable Agriculture for Habitat Conservation**

Burundi is a densely populated, resource-poor country that has faced severe political instability in the past 12 years. A growing population is putting increasing pressure on limited

land resources. Significant deforestation has left less than six percent of Burundi forested, none of which is classified as primary forest. Soil erosion has resulted from overgrazing and the expansion of agriculture into marginal lands. However, with a new constitution in place and a new government recently elected, a transition period presents new opportunities to address conservation issues.

USAID is designing a new integrated biodiversity program that will be launched in FY 2006. In particular, USAID will work with the new government to support a reform agenda and to foster increased stability not only in Burundi, but throughout the Great Lakes region. The strategy will help diversify economic livelihood options and reduce conflict vulnerability through attention to effective management of the services that ecosystems provide to humans, such as the production of clean and reliable sources of water, the sequestration of carbon dioxide, and the conservation of biodiversity.

The program will be conducted in the context of USAID's overarching strategy to reinforce conflict mitigation capacity and promote inclusive governance. Activities that address land and natural resource management will link to these sectors, addressing threats to biodiversity and sources of fragility. This work will simultaneously improve biodiversity conservation and the livelihoods of rural communities in and around biologically significant areas.

## **The Democratic Republic of the Congo**

### **Protecting Biodiversity Amid Conflict**

USAID's biodiversity conservation activities in the DRC complement

and contribute to multiple strategic objectives. For example, USAID is helping protect biodiversity by improving livelihoods near three national parks and a wildlife reserve through the Cassava Mosaic Virus project. The project's objective is to triple manioc yields and therefore rural incomes by introducing a disease-resistant variety of the crop, especially in areas adjacent to the biodiverse complex Lac Tumba, Virunga National Park, Kahuzi-Biega National Park, Garamba National Park, and the Bonobo Primate Reserve (Salonga landscape). The resistant variety, coupled with improved management practices, increased habitat in the buffer zones around the protected areas and reduced the demand for hunting and gathering wild species inside the reserves.

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### **In the Democratic Republic of the Congo, more than 2,000 ex-combatants were reintegrated into society in locations sufficiently distant from Virunga National Park to prevent poaching and deforestation.**

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In the Market Approaches to Livelihood Improvement (MALI) project, economic and social pressure on the biosphere is reduced through improving the livelihoods of residents, improving the management of tax revenues used to protect biodiversity, and reducing the occupation and destruction of protected areas by persons displaced by the ongoing armed conflict.

Overexploitation of fishing resources is causing the near-disappearance of certain species of fish in areas of the Congo River and its tributaries. The Congo Livelihood Improvement and Food Security Project (CLIFS) works with local communities to design



Bruce Marcot, USFS

**BIODIVERSE FORESTS:** The forests of Central Africa are economically and ecologically valuable. USAID is helping to protect biological resources in Upemba National Park in the Democratic Republic of Congo by improving livelihoods in buffer zones and reducing the occupation of protected areas by persons displaced by armed conflict.

and implement programs to achieve sustainable resource use and maintain biodiversity. Interventions include moratoria on fishing to allow fish populations to reproduce, and regulating fishing net mesh to allow the egress of immature catch. CLIFS also continues to expand work initiated in 2004, helping communities in heavily forested areas with the sustainable use of non-timber forest resources, particularly edible roots, fruits, and plants with medicinal value. USAID provides local communities with sustainable harvesting methods, such as always leaving a minimal population of plants to naturally reproduce and maintain the species. Approximately 100,000 people have benefited from interventions under CLIFS.

A portion of the Mission's total planned funding for disarmament, demobilization, and reintegration (DDR) is tied directly to improving biodiversity by relocating armed militia and their displaced victims from national parks and bioreserves, where they prey upon native species and destroy natural habitat. The eastern part of the DRC is one of the most biodiverse places in the world. It contains Kahuzi-Biega National Park in South Kivu Province, Virunga National Park and the Ruwenzori mountains in North Kivu Province, and the Epulu Okapi Reserve and Garamba National Park in the Ituri district of Oriental Province. The Ituri district and North and South Kivu are also the most troublesome areas with respect to the peace process and demilitarization. In 2005, more than 2,000 ex-combatants were reintegrated into society in locations sufficiently distant from Virunga National Park to prevent poaching and deforestation.

## Ethiopia

### Restoring Degraded Watersheds and Indigenous Plant Species

Food security continues to be a concern in Ethiopia, and is therefore a focus of USAID efforts in this country. One contributing factor to food security is the fragility of the natural resource base. Land degradation from soil erosion, over-harvesting, deforestation, and cultivation of steep, fragile lands has resulted in the loss of biodiversity, productivity, stability, and resiliency. USAID is responding to this challenge by planting millions of tree seedlings across the country, and rehabilitating and developing areas for watershed and rangeland management. By restoring a healthy, productive, and diverse landscape, USAID is helping meet the poor's basic needs by diversifying their livelihood options while protecting and improving natural assets.

In the Amhara National Regional State of Ethiopia, USAID is working to restore ecologically and economically important indigenous plant species in degraded watersheds through integrated community-based watershed management. Watershed degradation is a common problem in the Amhara region. Erosion is mainly caused by heavy runoff from degraded hillsides. Loss of indigenous plant species—which help regulate natural processes and control excessive runoff—is a major concern. USAID's Amhara Micro-enterprise Development, Agricultural Research, Extension and Watershed Management (AMAREW) project supports watershed management at pilot sites in the region. AMAREW addresses some of the region's food security challenges by supporting participatory, community-driven development. Conservation work includes closing areas to agriculture and

grazing, rehabilitating gullies, planting on hillsides, and sowing forage species such as Sesbania, Leucena, and pigeon pea.

Community watershed management organizations are managing 200 hectares of degraded hillsides. Under this system, the entire watershed community identifies an area to be closed and managed. Enclosures and other soil and water conservation interventions have curtailed excessive run-off from surrounding hillsides and increased water recharge capacity in food-insecure areas. For example, the Yeku stream flow has now been extended up to four months.

Conservation work has been carried out in Yeku and Lenche Dima watersheds. Farmers in the area have observed new emerging shrubs and grass species that were not visible in the past. Farmers have also witnessed that more birds and a few wild animals are being attracted to the closure areas as grass and tree growth provide additional food and habitat for them. This project is having an impact beyond the project site, with USAID partners

contributing project best practices to the formulation of the Government of Ethiopia's National Watershed Management guidelines.

## Ghana

### Energy-Saving Stoves and Community-Based Ecotourism Project

Approximately 80 percent of total energy consumption in Ghana is based on fuel wood, and a growing population with higher energy demands has resulted in rapid depletion of the country's forests. Not only does deforestation threaten the long-term supply of energy, it also affects Ghana's ecotourism opportunities, a potential source of jobs and income for many people. USAID's work in Ghana seeks to lower fuel wood consumption and strengthen the tourism sector, creating economic incentives for better conservation of natural areas.

With FY 2004 funds, USAID continued its work supporting forest conservation in Ghana through the promotion of energy-efficient stoves.

By the end of the project in December 2004, nearly 50,000 new stoves were in use, which reduced the annual demand for charcoal. This reduction in demand will translate to the conservation of nearly 2,000 hectares of forest every year, which will reduce carbon dioxide emissions by 38,000 tons. Reduced charcoal consumption also saves people money—households and businesses that use the energy-efficient stoves are estimated to have saved a total of \$1,461,844 each year since adopting them.

In FY 2005, USAID supported the Community-Based Ecotourism Project (CBEP) II in Ghana, whose main activities will be implemented in FY 2006 and FY 2007. The project seeks to develop the ecotourism sector while simultaneously safeguarding the ecological and cultural resources of the project's destinations.

Phase I of CBEP improved facilities, marketing, and staff management skills at 14 key destinations. However, Ghana still lacks the local expertise needed to bring ecotourism to the next level and make it competitive on

**RESTORING FRAGILE LANDSCAPES IN ETHIOPIA:**  
In Ethiopia, grazing and cultivation of already fragile lands has led to soil erosion and degraded watersheds, as seen in the photo below. USAID's rehabilitation of watersheds and rangelands has encouraged the return of native species, as seen on the right.





USAID/Ghana

**ECOTOURISM IN GHANA:** Tourists explore Satiunga swamp, one of 30 sites in Ghana where USAID is connecting private international firms with local ecotourism entrepreneurs to help them operate more profitably and sustainably, providing an incentive for biodiversity conservation.

the international market. To do so, Ghana must protect the resources on which ecotourism depends. CBEP II will help address this need by building local capacity in natural resource management, biodiversity conservation, and cultural protection at 30 destinations across Ghana.

The success of the program's second phase will depend in part on public-private partnerships that will be created based on long-term relationships between private corporations and specific sites. USAID's Global Development Alliance (GDA) Secretariat contributed \$200,000 for this phase of the project. To date, the project has signed an agreement with Cadbury's-Schweppes to establish a long-term relationship with a new project site in the heart of the cocoa-growing area of the Eastern Region of Ghana. Other partnerships are in discussion with Wienco and the Dutch Chamber of Commerce. Discussions will begin

shortly with the American Chamber of Commerce as well to partner community tourism initiatives with corporate bodies.

## Guinea

### Forest Co-Management for Improved Livelihoods and Conservation

Guinea's remaining natural forests, though fragmented and vulnerable, are often biologically diverse, containing distinctive flora and fauna. For example, Guinea's Pic de Fon forest in the Simandou Range hosts several threatened species, including the Nimba otter shrew, West African chimpanzee, and the Diana monkey.

Managing the more than 100 remaining "classified" natural forests in Guinea has been the responsibility of the Government of Guinea, specifically the National Directorate of

Waters and Forests. However, due to limited government resources, many of these classified forests received little active management in the past and have become degraded.

In response to this challenge, USAID works with the government and villagers to protect Guinean forests through co-management by the national government and community groups. The project builds the capacity of rural communities and organizations to sustainably manage their own natural resources.

By the end of FY 2005, USAID helped put more than 124,000 hectares of forests and tree plantations under sustainable management plans, a six percent increase over FY 2004. Forest management plans contain detailed descriptions of plant and animal species and describe the management practices to be implemented by the local population relating to fire man-

agement, water source protection, and the conservation and management of wildlife habitat. USAID continues to promote co-management within the central government, working to make this practice a permanent management option. In FY 2005, the principle of co-management was written into the forestry code, although it has yet to be passed through the legislative or executive branches of the Government of Guinea for approval.

USAID also works to improve the management of forests outside the classified forest system by supporting community forestry. In FY 2005, 25 three-year community forest management plans were finalized and officially recognized by the National Directorate of Waters and Forests.

During FY 2005, progress was also made in the preservation of chimpanzees in many of Guinea's forests. Completed classified forest management plans now include detailed instructions on how to adequately protect and enhance chimpanzee habitat. Hunters were trained and organized to survey populations and prevent the hunting of chimps. Numerous public relations activities were undertaken to publicize the importance of chimps, such as translation of the film "Brothers of the Forest" into three local languages. Local knowledge of chimpanzee locations, migratory patterns, and population densities was improved. In addition, USAID added a new two-year activity to the chimpanzee conservation portfolio. The activity's goal is to educate Guineans about the importance of biodiversity, including the well-being and survival of chimpanzees in the forest, and about ways to preserve chimpanzee habitat by reducing conflicts between villagers and this keystone species.

## Kenya

### Improved Natural Resource Management

Kenya's forests cover approximately six percent of the country's total land area, yet are an essential resource for the livelihoods of most Kenyans. For example, wood provides more than 97 percent of rural household energy needs. Forests cloak the upper catchments of Kenya's five "water towers"—mountain ranges that capture, store, and release rainwater to the nation's major rivers. These rivers provide water for irrigation, agriculture, industrial and domestic consumption, and hydroelectric power that furnishes 83 percent of the country's electricity. Forests are reservoirs of biodiversity, providing wildlife habitat, a wide range of forest products like honey and medicinal plants, and a host of ecological services such as carbon sequestration, and erosion control.

USAID's Forest and Range Rehabilitation and Environmental Management Support Program works along two mutually supporting tracks: (1) community-based initiatives that minimize unsustainable use of natural

use, establishing tree nurseries, training communities in range planning and rehabilitation, conducting forest inventories, and training forest guards in fire management.

In FY 2005, USAID helped communities and landowners put an additional 14,881 hectares of land under improved forest management and tree cover. This includes 36 hectares under farm forestry with indigenous tree species; 14,536 hectares under a pilot collaborative forest management arrangement at the Arabuko Sokoke Forest, a large remnant of forest rich in endemic bird species and threatened mammals; and 109 hectares of wild-fire-ravaged lands in the Mt. Kenya National Reserve, an important water catchment and home to the threatened mountain bongo (a forest antelope). The communities and individual landowners generated \$68,194 from non-timber forest businesses, including butterfly farming, herbal medicine production, the sale of tree seedlings and honey, and associated employment opportunities.

USAID also helped the Kenyan Forest Department and the Kenya Wildlife Service (KWS) develop a national

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### **The Kenya Land Conservation Trust was incorporated so that it can use land purchases, easements, and leases to encourage conservation on private lands.**

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resources outside protected areas; and (2) support to the public sector to improve the management of selected protected areas. The program's goals are to reverse forest and rangeland degradation, expand the use of sustainable forest-based enterprises, and empower constituencies to implement the Environmental Management and Coordination Act. Program activities include planning natural resource

manual on fire management, create a joint KWS-Forest Department Fire Management Plan for NW Mount Kenya, and train 25 government officers in wildfire management.

In FY 2005, USAID continued to increase the area under land use practices that favor profitable and sustainable biodiversity conservation. Communities and landowners par-



Mary Rowen, USAID

**KENYAN RANGELAND CONSERVATION:** Rangelands comprise nearly three-quarters of Kenya's land area, supporting wildlife like the critically endangered Grevy's Zebra, and nomadic pastoralists, such as the famed Maasai and Samburu peoples. Through community conservation areas, USAID promotes land management practices and ecotourism to preserve wildlife and the pastoralist lifestyle.

icipating in the program set aside a combined area of 52,879 hectares for wildlife conservation. On community conservation areas outside protected areas, the program enhanced the organizational capacity of community-based organizations. This resulted in improved management of 770,000 hectares; \$652,000 in revenue from nature-based enterprises in the form of salaries, wages, and dividends; and 1,200 new jobs. USAID pioneered efforts to enlarge and strengthen community security networks based on radio communication in the vast, biodiverse but conflict-prone northern rangelands that are home to endangered and rare species such as Grevy's Zebra, wild dogs, and isolated populations of cheetah and oryx. These northern rangelands are focal points of traditional pastoralism and have high wildlife concentrations near water sources during the dry season.

In the public sector, USAID supported consultations and technical assistance in preparation of the new Forests Bill. Passed by Parliament and accepted by the President, it is now the Forests Act of 2005. In addition, a new Forest Policy was approved by Parliament in 2005. This new forestry law applies "to all forests and woodlands on state, local authority and private land," and therefore embraces a far larger number of stakeholders compared to the narrow constituency of the previous law.

With support from USAID, the government of Kenya granted the incorporation of the Kenya Land Conservation Trust, a landmark national institution that will employ land purchases, easements, and leases to enable land to be privately held for conservation. These additional lands supplement Kenya's traditional government parks and reserves, some of which are too small to be viable on their own.

USAID is also helping the Ministry of Tourism and Wildlife revise wildlife policy and address issues raised in the recent failure to pass The Wildlife Act Amendment Bill of 2004. An alternative bill resulting from broad stakeholder consultation is being developed for discussion in Parliament.

## Liberia

### The Liberia Forest Initiative

Liberia's forests play a vital role in the nation's economy, generating up to 60 percent of the country's foreign exchange earnings and employing around 7,000 people as recently as 2002. These forests constitute the largest remaining blocks of the Upper Guinean Forest Ecosystem, a threatened global hotspot for biodiversity that is home to many rare and endangered flora and fauna. Under the regime of Charles Taylor, forests in Li-

beria were not managed sustainably or transparently, and revenues generated through commercial logging were used to fund armed conflict in the region. The recent elections and governmental changes, and current United Nations sanctions on timber export from Liberia, provide the Government of Liberia and its partners a rare opportunity to reform forestry practices throughout the nation.

As part of a larger U.S. Government aid package, USAID and the U.S. State Department are working with a consortium of U.S. federal agencies such as the United States Forest Service (USFS), industry representatives, international organizations, and NGOs to support forest sector reform in Liberia. The work coordinated by this consortium is known as the Liberia Forest Initiative (LFI). Priority activities include reviewing existing concession agreements, implementing transparent accounting systems for timber extraction and revenue collection activities, assessing the state and extent of Liberia's forests, and developing community-based forestry and protected area management activities.

LFI's most significant achievement in FY 2005 was the completion of the Forest Concession Review. Legitimate commercial timber operations in Liberia are essentially shut down for three reasons: (1) UN sanctions; (2) lingering instability in parts of the country; and (3) the diminished capacity of Liberia's Forest Service (FDA) and other government institutions. To restart commercial forestry operations, the Government of Liberia is establishing an effective system for managing timber concessions and revenues. The first step was to review more than 70 existing concessions, many of which had been issued or carried out under dubious conditions.

The Forest Concession Review Committee determined that no concession holder complied with the minimum requirements for operating under the rule of law in Liberia. Invalid concession procurement, non-payment of taxes, support to militia, and involvement in the arms-for-timber trade were cited in the report as some of the non-compliance issues. The committee recommended that the Government of Liberia cancel all concessions and suspend granting new concessions until forest management reform is implemented.

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**In Liberia, USAID and the US Department of State supported a transparent review of forest concessions to help eliminate corruption, reduce conflict, and rebuild the confidence of the global market.**

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Other forestry sector achievements in FY 2005 included a report developed by USAID and its partners recommending key reform needs and activities for the FDA, the development of a new forest utilization contract, and a new system for competitive bidding. The forest utilization contract is being refined and will eventually be incorporated into Liberian forestry regulations.

The LFI is also assisting Liberia to adopt community forestry, wherein communities gain rights to manage and reap benefits from forest resources. The LFI initiated forest planning processes to allocate allowable uses based on the three prevailing needs: conservation, commercial forestry, and community forestry.

Through the LFI, USAID is also supporting the development of a manage-

ment plan for Sapo National Park. This park is an internationally recognized conservation site containing endangered species such as elephants, chimpanzees, and pygmy hippos. In FY 2005, technical assistance was provided to review and update the Sapo National Park management plan, establish a management plan template, develop a program of activities for implementing the plan, and train FDA staff in developing future management plans. Other conservation-related technical assistance includes developing a wildlife management and enforcement strategy, recommendations for wildlife policy, improving the organizational structure to handle wildlife issues, building capacity, meeting logistical needs, and monitoring tasks.

In 2006, USAID and the Department of State are also supporting biodiversity conservation in Sapo National Park by improving basic economic activity and the livelihoods of 5,000 beneficiaries residing around the park. Program activities will include: (1)



Oliver Pierson, USFS

**A NEW BEGINNING FOR LIBERIA:** Using the United States as an example, a park planner from the USFS shows Liberia's forest and park professionals how they can prepare a management plan for Sapo National Park. After the collapse of the dictatorial regime of Charles Taylor, USAID is helping rebuild a professional civil service system in Liberia.

strengthening the institutional capacity of local NGOs and community-based organizations to be able to engage local and national authorities on issues relating to natural resource management and biodiversity; and (2) promoting community forestry and conservation practices.

## Madagascar

### Conserving Biologically Diverse Forest Ecosystems

Madagascar is an incredibly rich biological diversity resource. More than 80 percent of its flora and fauna are found nowhere else in the world—a hectare of forest lost in Madagascar has a greater negative impact on global biodiversity than one lost anywhere else on Earth. Despite its unparalleled biodiversity, most of Madagascar's natural forests have not been designated for conservation, leaving them vulnerable to threats such as slash-and-burn practices. Recognizing this threat, in 2003 the President of Madagascar committed to tripling the size of the country's protected area network. In January 2005, he defined his overall vision for the country as "Madagascar, Naturally" to emphasize the importance of natural resources management for sustainable development.

USAID's Environment/Rural Development program in Madagascar embraces this challenging vision by aligning its goals with Madagascar's priorities to reduce poverty by improving sustainable natural resource management, ensuring environmentally sensitive development, and conserving the country's unique biodiversity. Significant progress was made in moving forward with the president's commitment to triple protected areas and reform the forestry service.

One major success supported by USAID was the creation of the Madagascar Protected Areas System (SAPM). The FY 2005 target of one million hectares was exceeded with the creation of 13 protected areas: Daraina, Makira, Menabe Central, Lake Alaotra, Mantadia-Zahamena, Mahavavy-Kinkony, Ambatotsirongorongo, Nord-Ifotaka, Ankodida, St. Luce, Mandena, Anjozorobe, and Amoron'Onilahy.

USAID supported the development of a framework to guide the creation of new protected areas in Madagascar that complements and builds on existing national parks and reserves. The conservation goal is to include all habitat types in the SAPM to ensure the long-term survival of biodiversity. Achieving this goal requires prioritizing forest areas for conservation, understanding World Conservation Union (IUCN) protected area categories and governance types in the context of Madagascar, and developing a legal framework to support these

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**"A national campaign should be launched to promote the vision "Madagascar, Naturally" to the people of Madagascar at the regional and communal levels. It should also be launched abroad, and we should strive to make our country known."**

**— President Marc Ravalomanana, September 2005**

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new protected areas. Madagascar will now move from having three fairly strict categories of protected areas, to having all six IUCN categories, including multiple-use protected areas. Governance of protected areas will now incorporate communities, the private sector, and decentralized government representatives in various forms of management across the country. These changes represent a major shift in how conservation work is done and how protected areas are understood in Madagascar.

To ensure the long-term viability of the expanded Protected Areas System, USAID assisted in developing sustainable financing mechanisms. The Agency provided support for the establishment of the Protected Areas and Biodiversity Trust Fund with an initial capital investment of \$4 million from three founding donors—the Government of Madagascar, World Wide Fund for Nature, and Conservation International (CI). USAID is supporting an effort to obtain a Carbon Emission Purchase Agreement for \$3.2 million with the World Bank's BioCarbon Fund (BCF), and is exploring other financial instruments such as green taxes.

In FY 2005, USAID emphasized improving the effectiveness of protected area management. Thematic plans for protected areas management were consolidated into comprehensive management plans for each site, with feasible, effective monitoring systems. Final business and management plans will provide a financial and technical sum-

mary of each protected area's planned activities. Managers of the National Park Service (ANGAP) received business plan training, and support and training were provided to ANGAP and the forest service on monitoring and evaluation in protected areas based on international best practices.

One of the key elements to addressing better management of Madagascar's forest resources is an effective, transparent, and viable forest service. USAID is working in close collabora-





Mohamad Sy-ar

**“MADAGASCAR, NATURALLY”:** Madagascar, like this brown chameleon, is changing its color. Long recognized as home to some of the world’s most unique biodiversity, the country designated 13 new protected areas in FY 2005 as part of a comprehensive protected area system. USAID has helped set up a protected area prioritization process and supported the involvement of civil society in decision making.

tion with the USDA Forest Service in several key areas to strengthen and restructure the Malagasy Forest Service (DGEF). Significant change is already occurring. For instance, a far-reaching strategy for institutional reforms has been developed; a competitive forest permit bidding system has been implemented; and forest zoning to balance conservation and production needs has been initiated.

## Malawi

### Promoting Sustainable Economic Growth and Protecting Resources

More than 85 percent of the people of Malawi rely directly on rural incomes for their livelihood. USAID’s Community Partnerships for Sustainable Resource Management (COMPASS II) project promotes CBNRM initiatives that enhance household revenue and provide incentives for sustainable

resource use. USAID is helping to conserve Malawi’s forests and biodiversity through CBNRM, agroforestry, implementation of an improved policy framework, and the promotion of small-scale commercialization of natural resource-based enterprises that can increase household incomes, while providing financial and economic incentives for the conservation of forests and water catchment areas.

USAID is addressing issues of open access to forests, constraints in policy implementation, unclear resource tenure, and low institutional capacity. The programs support a wide range of forestry activities, including development of national standards and guidelines for forest management, training and technical assistance to district forest officials on community mapping and land use planning, participatory resource assessment, management planning, and devolution of authority to sign forest management agreements

between communities and governments.

In Malawi, USAID focuses on community-based management systems for critical ecosystems identified through a “development pathways” process that places specific emphasis on areas of high endemism, such as Lake Malawi, Mt. Mulanje, Nyika Plateau, and the Misuku Hills. An integrated spatial planning approach helps local government units identify specific areas with opportunities for conservation enterprises and monitor their progress toward mitigating threats to biodiversity.

Efforts are underway to develop a certification program for products made from endemic Mulanje cedar, so that fellers, sawyers, haulers, carvers, and traders will all rely on a sustainable supply of trees. Certified program management costs—including assisted natural regeneration—will be met by channeling a portion of the sales price



Patrick Smith, USAID

**SPRING IN MALAWI:** Unique wildflowers blooming after a seasonal grass fire on the plateau plains of Nyika National Park in northern Malawi attract the attention of a park ranger. USAID helped set up a system of gate revenue sharing between the park and local communities so that these communities would have incentives to conserve the park and control poaching.

back to the forest managers and to the Mulanje Mountain Conservation Trust. Similar market-based incentives for biodiversity conservation are being designed for the cichlids of Lake Malawi—with the highest rates of freshwater aquatic endemism in the world—and the Afro-montane plants of Nyika Plateau.

One of the keys to local participation in biodiversity conservation is local management authority and responsibility. In FY 2005, USAID initiated more than 100 community management plans that are expected to become agreements between governments and communities. This includes more than 60 forest management plans on both customary lands and forest reserves, at least 30 freshwater aquatic management plans around Lakes Malawi and Chilwa, and co-management planning around eight of Malawi's nine national parks and wildlife reserves.

In FY 2005, more than 140,000 trees were planted in 72 villages, and 47

Village Natural Resources Management Committees and nine Group Village Natural Resource Management Associations were formed in 62 villages. Twenty Village Forest Areas were demarcated. By the end of FY 2005, total revenues earned increased from \$55,431 in FY 2004 to \$200,567 in FY 2005, and the number of communities adopting CBNRM practices grew from 642 in FY 2004 to 714 in FY 2005, an 11 percent increase. The number of households participating in CBNRM activities also increased from 33,498 to 46,255 during FY 2005. The number of community members trained increased from 1,867 in FY 2004 to 5,755 in FY 2005, more than half of whom were women.

FY 2005 was also the first year for the new GDA between USAID and Washington State University to support community-based management of the Lake Malawi Chia Lagoon Watershed. This 1,000 square kilometer watershed has been degraded from deforestation and soil erosion, resulting in declining fish stocks and biodiversity loss. Poor

land use practices such as cultivation on steep slopes and stream banks, and uncontrolled cutting of trees, are causing the productivity of the fishery and surrounding gardens to decrease. The lagoon is also becoming a breeding ground for mosquitoes, tsetse flies, and snails, hence an increased number of people suffer from malaria, respiratory ailments, sleeping sickness, dysentery, and other diseases. The project is working with surrounding communities to improve the sustainable management and economic use of water, soils, forests, fisheries, and wildlife; and to diversify their income base through small scale irrigation, bee-keeping, agro-processing, tree nurseries and agroforestry, and soil conservation. So far, 64 co-management agreements in five villages have been developed to protect the village forest areas in the Chia Lagoon catchment.

## Mali

### Decentralizing Natural Resources Management

In Mali, USAID is promoting reforestation efforts through its sustainable agricultural production program. With USAID support, local governments and community organizations are identifying key democracy and governance issues, such as improved natural resources management, and developing strategic plans to address those issues. Municipal authorities and community organizations, or communes, negotiate and sign formal agreements that include commune-level land management plans. These plans detail practices such as soil conservation techniques and good management of forest woodlots for wood and charcoal. The land management techniques also benefit biodiversity conservation by protecting specific tree species and their habitat.

In FY 2005, 20 communes developed land use management plans under the direction of the USAID program. Empowered communities collaborated with forestry agents from the Ministries of the Environment and Agriculture to determine community-level priorities, and create community-based structures to manage implementation and enforcement processes. These land use plans include watershed management to conserve topsoil and to help protect indigenous plant species.

## Mozambique

### Supporting National Parks and Alternative Livelihoods

USAID is working to conserve and protect forests, coastal areas, and threatened wild species in Mozambique by supporting sustainable forest management, alternative livelihoods, collection of wild natural products, and promotion of the cultivation of wild crop species, community-managed conservation areas, and ecotourism. Specifically, USAID's biodiversity activities seek to conserve the terrestrial ecosystems near Limpopo National Park and Lake Niassa, aquatic ecosystems of the Quirimbas National Reserve and Lake Niassa, and tropi-

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#### **USAID support for propagation trials of African Potato, a wild plant native to Mozambique used to treat HIV/AIDS, will reduce over-collection of wild-growing plants and damage to woodlands.**

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cal forests in the central and northern parts of Mozambique. Activities include the creation of new conservation areas and of buffer zones around existing conservation areas.

USAID and the African Wildlife Foundation Limpopo Heartland conservation program are supporting

the protection of terrestrial ecosystems in and around existing national parks in southern Mozambique. The project is supporting the establishment of the Cubo community nature reserve in the area adjacent to Kruger National Park (South Africa) and Limpopo National Park that will result in the protection of more than 50,000 hectares of savannah and dry woodland. It will add to the protection of a large wetland area by supporting communities and the Government of Mozambique in the redevelopment and management of Banhine National Park.

USAID supports a large tourism component through a number of public-private alliances. These tourism activities are one of the most effective mechanisms for protecting biodiversity and conserving tropical forests, and they enhance local economic development. The tourism program also includes the creation of the Pemba Bay Conservancy, which will help protect and manage the development within and around Pemba Bay. These activities will address threats to biodiversity such as illegal logging and hunting, lack of area management in terrestrial ecosystems, and illegal fishing and unplanned development in aquatic ecosystems.

USAID also promotes biodiversity conservation through the promotion



Suzanne Poland, USAID

**NEW BUSINESS:** Offering indigenous tree seedlings for woodlots and nitrogen-fixing species for agroforestry, this former extension agent on a USAID project in Morrumbala, Mozambique, is taking development to a new level. He started his own nursery business to provide seedlings to farmers, NGOs, and the government.

of alternative livelihoods for farmers who were previously involved in slash-and-burn agriculture or other environmentally destructive practices. Working with the local Ministry of Agriculture in Alto Molocue, USAID partner World Vision is trying to propagate African Potato, a wild plant native to South Africa that is being over-collected from the wild because of its ability to alleviate some of the symptoms of HIV/AIDS. Domesticated production should reduce and prevent damage to natural habitat in the woodlands and forests of Zambezia Province.

In the same region, USAID partners World Vision and Food for the Hungry International promoted alternatives to slash-and-burn farming, such

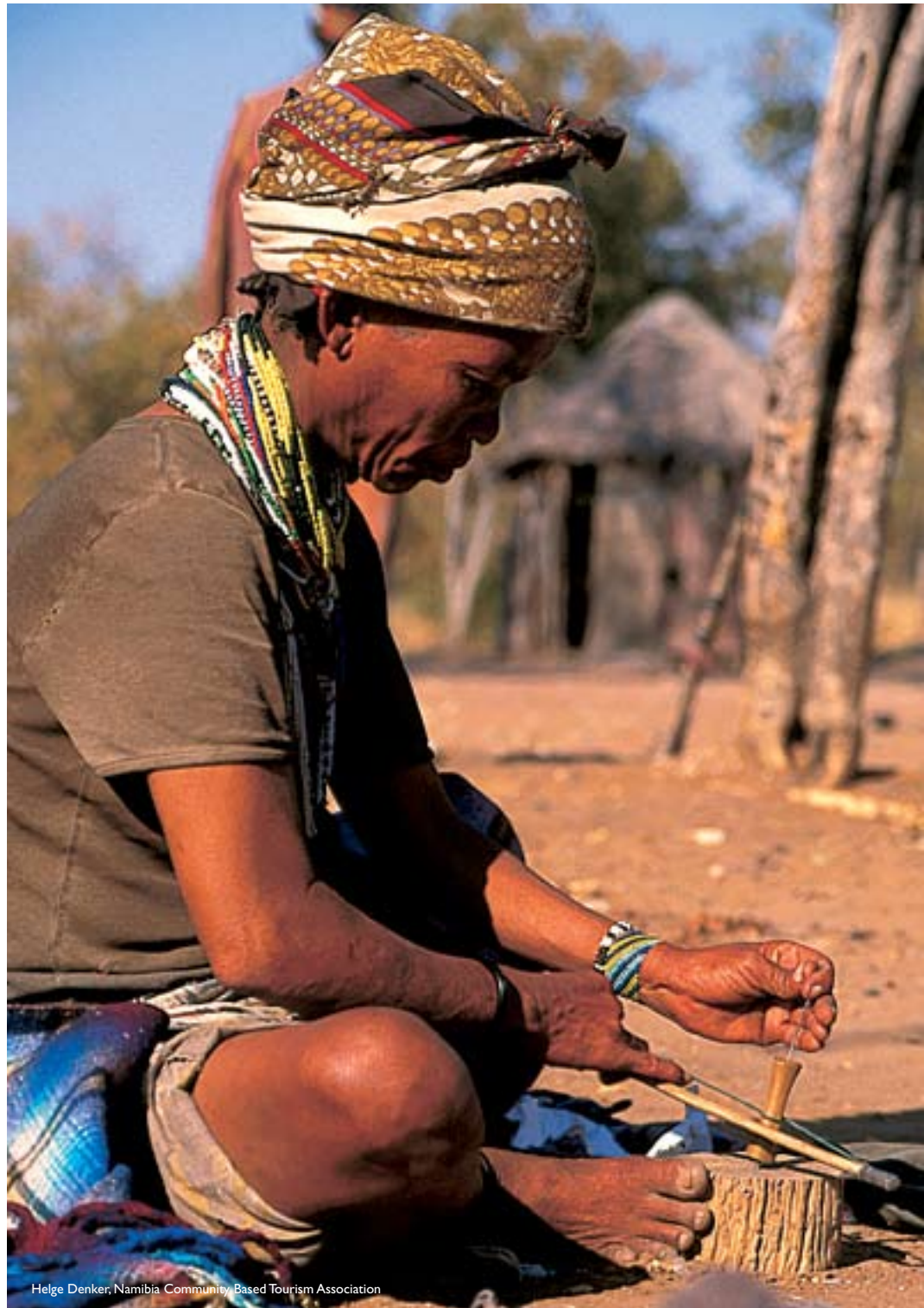
as beekeeping within forest areas, and trained local fire brigades to prevent fires caused by slash-and-burn agriculture. The program also helped villagers find non-lethal ways to deal with wildlife such as monkeys, thus alleviating human-wildlife conflict.

## Namibia

### Promoting Communal Conservancies for Improved Livelihoods and Conservation

USAID supports a Community-Based Natural Resources Management (CBNRM) program in Namibia that is helping communities throughout the country sustainably manage their natural resource assets. The program, which builds on USAID investments in the environment over the past 12 years, focuses on the establishment of conservancies in rural, communal areas of Namibia. Conservancies are formal, registered organizations that have been given the legal rights to use and benefit from natural resources within their specific geographic areas. Program support includes strengthening the national CBNRM framework and institutional capacity; increasing economic growth within conservancies; improving governance within conservancies; and enhancing the recovery and sustainability of natural resources.

Beginning in FY 2005, USAID's "Living in a Finite Environment (LIFE) Plus" program expanded the focus of community conservancies beyond wildlife management to include the increased communal management of and benefit from broader types of natural resources, including veldt products, rangelands, historical and cultural resources, and water resources. The program continues to address priority conservation threats



Helge Denker, Namibia Community Based Tourism Association

**SUPPORTING INDIGENOUS PEOPLES:** A San woman makes ostrich shell jewelry in Namibia. USAID is supporting the work of World Wildlife Fund in Namibia to enable the San, one of the world's oldest peoples, to sustainably manage and benefit from their natural resources as they transition from a hunter-gatherer society.

such as loss of primary habitat for key species; mitigation of human-animal conflict, including conflict with species such as the black rhino, elephant

and cheetah; and the overuse and over-production of natural resources for commercial use. Specific program activities include the introduction

or translocation of wild game, the protection of water sources for wild game, and the promotion of integrated conservancy management plans, tourism, enterprise development, and legislative reform.

With assistance from USAID, WWF continues to help the conservancy movement grow in Namibia. The number of registered communal area conservancies increased from 31 to 42 during FY 2005. The 42 registered conservancies now cover approximately 10.5 million hectares of land, up from 7.8 million in FY 2004, and equivalent to about 12.8 percent of Namibia's land mass. Thirty-one conservancies have developed and are implementing management plans, which integrate various aspects of con-

2004 and 2005 at rates of between 10 and 30 percent. Many of the species are now approaching ecological carrying capacity.

The CBNRM program in Namibia is based on the premise that wildlife and other natural resources are the assets of and provide for livelihoods for rural communal conservancy members. Effective wildlife management within communal conservancies is allowing members to benefit financially. With the increased capacity to manage their assets sustainably, a number of conservancies have developed more progressive game harvest strategies, allowing economic and food security to increase substantially. Higher wildlife populations allow for higher hunting quotas for conservancies, and translate into

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**In Namibia, 42 registered conservancies cover approximately 10.5 million hectares of land. In FY 2005 they generated an estimated \$2.65 million and helped many wildlife species recover to their natural population levels.**

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servancy management such as finances, governance, and resource management, enabling these conservancies to improve management processes and to better monitor progress. Five conservancies are now implementing integrated natural resource management plans (incorporating the management of wildlife and other natural resources, e.g., fish, rangeland, veldt products, small scale mining).

The conservancies are clearly proving their effectiveness. This work has resulted in increases in the range and number of several key species such as elephant and rhino, and the maintenance of broad-leafed woodland savanna in northeastern Namibia. The 2005 game count in northwestern Namibia showed that almost all of the 15 species monitored increased between

more income and other direct benefits to conservancy members. It is estimated that game utilization benefits generated during 2005 will be almost double 2004 benefits.

Livelihood benefits accrue directly from increased wildlife numbers, diversification of business and income-generation activities, and sustainable use practices for natural resources and products. A total of 119,075 people, or 6.6 percent of the total population of Namibia, are living within the 42 registered conservancies. Eight conservancies are self-financing (i.e., covering all operational and staff costs), and another six are expected to achieve this status early in FY 2006. Total community income is projected to reach \$2.65 million in FY 2005.

## Nigeria

### Sustainable Agriculture and Natural Resources Management

USAID's biodiversity and forestry program in Nigeria seeks to conserve one of the largest and most intact remnants of tropical forest in West Africa. This forest harbors one-third of Africa's primate species, including the drill (a forest-dwelling baboon), chimpanzee, and a critically endangered endemic subspecies of gorilla. With one-fifth of Africa's burgeoning human population residing in Nigeria, the program offers a unique and urgent opportunity to address the critical governance and livelihood issues that are transforming Africa's landscapes.

USAID's Sustainable Practices in Agriculture for Critical Environments (SPACE) activity integrates these livelihood and conservation objectives through three approaches:

- Community Based Natural Resource Management—SPACE helps people at the community level establish effective decision-making processes and controls that result in sustainable management of natural resources, especially forest land.
- Sustainable Agriculture and Non-Timber Forest Products—In those communities where effective governance is being developed, SPACE helps cooperating producers and gatherers develop their capacity to produce, process, and market more consistently, competitively, and sustainably, beginning with local and national markets.
- Protected Area Management—As opportunities arise, SPACE engages governments, stakeholders, and other decision makers at multiple



Ramzy Kanaan,ARD

**GORILLA HABITAT IN NIGERIA:** Endangered gorillas, drills, and chimpanzees thrive in the dense jungles of the Cross River area, as seen looking from Afi Mountain Wildlife Sanctuary towards Mbe Mountain. USAID brought local communities, nonprofits, and government officials together to reach consensus for the protection and management of 85 square miles of pristine rainforest.

levels to improve policies and laws affecting forest management and biodiversity conservation, building on the experience and trust developed through community-level efforts.

In FY 2005, in Cross River State of Eastern Nigeria, USAID revitalized policy dialogue on the major biodiversity and natural resource management issues affecting the lowland rainforest by establishing an inter-institutional working group that brings federal and state agencies and conservation NGOs together. The group analyzed natural resources management conflict issues and set

into motion the passage of revised forestry legislation that had languished for the past three years—the law will provide legal recognition of community land use plans.

USAID's program helped establish multi-stakeholder consensus to provide formal, legal protection of 85 square kilometers of habitat for the endangered Cross River gorilla and drill. The habitat was established through a community-led initiative that brought together nine communities, local and state governments, and local and international conservation NGOs to support a community-managed protected area.

The Sustainable Tree Crop Program, a GDA with the Mars Corporation, carried out six sessions of the Farmer Field School (FFS) program in eight communities; these sessions trained 215 community members who farm an area of 673 hectares. The farmers signed Memoranda of Understanding in which they agreed not to clear forest land for agriculture and not to employ child labor on their farms. The training sessions focused on pest and disease management, rational pesticide use, social issues (child labor and HIV/AIDS), and selection of appropriate non-timber forest products for inclusion in cocoa agro-forests.

USAID also initiated local participatory processes and community governance structures that are strengthening sustainable natural resources management in seven pilot communities.

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**“I never thought my life could be as good as it has turned out this year. Only because I adopted the practices I learnt in the FFS, my whole life has changed. . . . I do not need to enlarge my farm beyond what I can manage well. . . . [We] should keep our remaining ‘Black Bush’ [primary forest] for our children.”**

**— Levinus Osang, Farmer Field School participant in Nigeria**

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These communities have come together to conduct resource mapping to assess present land and resource uses, a first step in preparing community resource management plans. Key groups—including women, youth, and land-poor community members—in all seven pilot communities have completed community-level inventories, identified key natural resources management issues, agreed on future land use objectives and zones, and begun to negotiate more confidently with outside interests. As a result of this work, communities have agreed to limit the expansion of agriculture into primary forest.

## Rwanda

### Profitable Ecotourism through Improved Biodiversity Conservation

The USAID Mission in Rwanda is developing a new program, “Profitable Ecotourism through Improved Biodiversity Conservation,” that will focus on Nyungwe National Park forest and its surrounding buffer areas in southwestern Rwanda. The program’s goal is to accelerate rural economic

growth while improving biodiversity conservation.

Nyungwe Forest is an approximately 1,000-square-kilometer tropical

montane forest and is contiguous with the 378-square-kilometer Kibira National Park in Burundi.

Combined, these two protected areas form the largest block of tropical montane forest in East Africa. USAID selected this area as a target of its programming

because of its endemic species as well as its important watershed function within the Albertine Rift. Nyungwe harbors 13 primate species and contains a variety of habitats, including montane forest, bamboo, grasslands, swamps, and bogs. Nyungwe Forest acts as the water catchment for nearly 70 percent of Rwanda, and its streams feed into the Congo and Nile Basins.

USAID is committed to helping communities living around Rwanda’s national parks become better stewards of their biodiversity, while at the same time ensuring improved livelihoods and the ability to derive benefits from these natural assets. These communities have traditionally benefited from a variety of forest and resource-based products such as honey, bamboo, natural ropes, medicinal plants, water, and wood fuel. Unfortunately, population pressures combined with unsustainable natural resource use practices and poor management, including fires generated by honey collectors, have led to significant resource degradation and biodiversity loss within these areas.

USAID’s biodiversity program will conduct income-generating conserva-

tion activities centered on ecotourism. Building on the Government of Rwanda’s commitment to expand its tourism industry dramatically, USAID will work with industry, civil society, government, and NGO partners to develop and implement a sustainable model for tourism growth that enhances biodiversity protection, diverts economic activities away from unsustainable practices, and produces real benefits for Rwandese living near Nyungwe National Park.

## Senegal

### Improving Natural Resource Management Policy and Practice

USAID’s natural resources management program in Senegal is known locally as “Wula Nafaa” (“benefits from the bush”). It seeks to improve lives and protect resources in Senegal by promoting potential synergies among natural resource management, economic development, and good governance—USAID’s “Nature, Wealth and Power” approach. This approach simultaneously supports activities that lead to increased productivity of the resources base and to biodiversity conservation (nature), bring significant economic growth to local communities and national accounts (wealth), and ensure transparent decision making and fair and equitable distribution of benefits (power).

Wula Nafaa supports the cultivation and processing of non-traditional agricultural products like cashews, sesame, fonio (a native grain), hibiscus, and mango via sustainable community management of the natural forests from which many of these products are harvested. It also supports the sustainable use and marketing of natural products like baobab fruit, bamboo,

and shea butter. Southeastern Senegal was chosen as the project site because it is one of the last forested areas in the country. The area is under threat from agricultural encroachment, an unsustainable charcoal production system, poorly regulated hunting, and increased mining activities. It is also under threat because traditional forestry practices and institutions have excluded local communities.

The Wula Nafaa program puts local governments at the forefront of efforts to improve sustainable forest management and conserve biodiversity. The focus is on ending open access to resources and toward locally controlled management of natural forests through the development of legally recognized management plans. In this context, USAID has initiated activities to develop sustainable, legally recognized natural resource management plans. In 2005, 147,361 hectares were placed under legally approved plans.

In Senegal, local governments develop conventions that provide a legal basis

for land use planning and determine how, when, and by whom resources can be used. To date, USAID has assisted seven local governments to develop conventions covering an area of 1,793,000 hectares. For example, USAID worked with local governments to reduce the impact of uncontrolled cattle grazing in natural areas. These conventions, negotiated among community stakeholders, stipulate how grazing will be managed and where it can occur. As a result, a legal, locally controlled and managed process exists to limit grazing in forested areas, and to prohibit it in some forest zones.

In addition to improving sustainable management of natural forests, USAID focuses on increasing revenues from natural forest products and non-traditional agricultural products in communities living around the forests. The markets for fonio, karaya gum (a pharmaceutical ingredient),

baobab, madd and jujube (local fruits) were strengthened, and revenues for 717 enterprises in the Tambacounda and Kolda regions reached \$250,000 in 2005, an increase of 20 percent over FY 2004. Product prices rose by 10 percent to 80 percent. Revenues were also increased through a variety of program activities such as training to improve the negotiating skills of entrepreneurs, improving grading, encouraging marketing cooperatives,

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**In Senegal, 717 enterprises based on native crops, fruits, and saps experienced a 185 percent increase in revenues. Farmers' sale prices increased by 10 percent to 80 percent.**

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and creating value-added processes. The total revenue from new or existing enterprises targeted in FY 2005 was about \$310,000, compared to \$135,797 in FY 2004.

USAID assistance also focuses on the removal of policy barriers that prevent local governments from sustainably managing their resources. For example, the Wula Nafaa program developed a series of briefing papers on how hunting is managed in Senegal, suggesting changes that would lead to better wildlife management. This led to a ministerial decree that will immediately help ensure local government involvement in the development and monitoring of hunting concession annual plans, and a commitment to study and revise how hunting concessions are managed during FY 2006.

## Sierra Leone

### Environmentally Sound Small-Scale Artisanal Mining

The small-scale, artisanal mining sector of Sierra Leone became highly visible as a result of the civil war that plagued



Oliver Pierson, USFS

**JOINT DECISIONS:** Discussing how to manage their shared forest and grazing lands, this Senegalese community and its local government decided to limit uncontrolled cattle grazing in natural areas to allow tree regeneration. USAID helped seven local governments establish similar local conventions, bringing improved management to more than 1,793,000 hectares.



the country throughout the 1990s. Soon after the war began, rebels seized many of the diamond areas and used proceeds from smuggled diamonds to prosecute the war. After peace was achieved and since 2003, USAID has sought to normalize the diamond trade by funding the Peace Diamond Alliance, which works to promote transparent, fair, and safe local markets in the diamond sector; maximize benefits to local miners, diggers, and their communities; track diamonds from earth to export; combat corruption;

or production. In most forested areas of the south and east of the country, artisanal mining of diamonds, and to a lesser extent, gold, results in the exploitation of wildlife from an increased demand for bush meat to feed the workers. The operations of many of the mining companies in the past were not subject to environmental controls, and remnants of tailings piles, waste rock, and altered hydrogeology continue to stress the natural habitat. Deforestation, heavy metal pollution, siltation, and displacement of human

ties are centered, USAID will program FY 2005 biodiversity funds to reduce environmental impacts of artisanal mining; activities will be implemented in FY 2006. The program will develop and implement improved practices that do not contaminate soil and water resources; develop site rehabilitation and reclamation plans; mitigate or avoid wildlife loss through the bush meat trade; and protect existing tropical forests.

## South Africa

### Conserving Coastlines through Ecotourism

In FY 2005, USAID developed a pilot ecotourism project in South Africa that will contribute to the conservation of a small but biologically important coastal ecosystem. The project seeks to protect the Macassar Dunes, which lie in a high-priority conservation area adjacent to a densely populated township outside of Cape Town. The area is currently threatened by intensive human impacts. By aligning conservation efforts with socioeconomic development programs and urban renewal initiatives, USAID will help protect the area by ensuring that the surrounding community sees it as an asset.

The project's main objective is to promote sustainable ecotourism in the Macassar Dunes in a way that conserves biodiversity, rehabilitates degraded land, and provides jobs for the local community. The project will maximize the use of the existing infrastructure at an old resort and concentrate on building environmentally friendly ecotourism infrastructure such as trails, boardwalks, and accommodations. Training will be provided on how to clear exotic and invasive vegetation, rehabilitate degraded areas, mitigate impacts of



Edward Benya and Abdulai Jalloh, USAID

**CLEANING UP DIAMOND MINING:** Artisanal diamond miners in Koidu, Kono, Sierra Leone, cut a swathe of destruction in the search for beauty. USAID is supporting improved practices that reduce soil and water contamination, lower rates of wildlife loss from hunting for the bush meat trade, and protect existing tropical forests from deforestation caused by the influx of miners.

and improve local surveillance and mine monitoring.

Diamonds are one of many minerals present in Sierra Leone. Iron ore, rutile, bauxite, gold, granite, and platinum are also under active exploration

population are also major factors that may be impairing the biological diversity of the country.

In the diamond production areas of Kono and the Tongo Field Area where many Peace Diamond Alliance activi-



Barry Low, Coastec

**MACASSAR DUNES, SOUTH AFRICA:** A treasure-trove of coastal dune biodiversity lies next to Cape Town in South Africa. Threatened by rampant off-road vehicle use, USAID is supporting the removal of invasive species and the creation of ecotourism facilities that allow non-destructive environmental education and enjoyment.

construction, and provide infrastructure maintenance.

## Sudan

### Rebuilding Conservation Capacity

Little is known about remaining biodiversity resources in war-torn Sudan. Even as Southern Sudan begins to undertake reconstruction following the signing of the Comprehensive Peace Agreement in January 2005, there is little information available about what remains. Southern Sudanese research groups have begun to quantify forest and wildlife resources, finding that hunting of wildlife for game meat in and around national parks is out of control, and high-value timber resources like teak and African mahog-

any have been unsustainably exported during the war. Fish resources in the Sudd, the world's largest wetlands, are not known.

The lack of data is matched by a lack of functional institutions to solve the problem. USAID's analysis of this situation is that the first conservation priority lies in establishing the institutional building blocks—especially in government and in associations—that typically take the lead in environmental policy making and analysis. The second priority is bringing Southern Sudanese up to date on the conservation skills that have developed during the 21 years that they have been at war and isolated from the rest of the world.

The challenges are many. The peace agreement has sparked a return into

Southern Sudan of displaced families; some return with new skills and assets gained while refugees, but many are returning home with next to nothing. This will likely put new pressures on forests, wildlife, and fish resources. At the same time, conflicts among tribal militias continue, making some areas, especially national parks, too dangerous for assistance programs. The corruption, extortion, and violence that characterized the wartime economy will continue for several years as the new regional Government of Southern Sudan (GOSS), as well as state and county governments, gradually start operations.

In response to these challenges, USAID's Sudan Field Office launched the Sudan Transitional Environment Program (STEP) in 2005. STEP seeks to develop an initial base of skills and

institutional capacity for the environmental analyses and planning necessary for Southern Sudan to conserve its natural resources while initiating economic and social development programs. STEP builds on several years of USAID-funded research and training of Southern Sudanese in natural resources management and environmental assessment, implemented by the U.S. Department of Agriculture or directly by USAID.

Since Southern Sudan is almost entirely rural and has large areas of limited population and diverse ecological regions—some of which have been threatened by the long civil war—STEP will focus on building capacity and raising awareness about conservation. STEP activities include helping GOSS establish an environmental institutional framework, providing training on and raising awareness of environmental issues, and planning for future environmental and resource conservation programs. This will include significant attention to managing national parks and reserves.

USAID also provided support to the Wildlife and Forestry Training Centers in FY 2005. These new Southern Sudanese institutions are delivering specialized training in wildlife management, environmental impact assessment, forestry technicians training, and timber processing; and agribusiness courses designed to help residents in and around parks and vital forests to encourage sustainable management of nearby natural resources. The training centers offer their courses to the private sector, NGO, or GOSS participants, depending on demand. Substantial training is expected over the next several years for new GOSS staff in the Forestry Department and the Ministry of Environment, Wildlife Conservation and Tourism.

## Tanzania

### Improved Conservation of Coastal Resources and Wildlife

Tanzania is endowed with some of the world's most biologically rich habitats. This natural resource base is a mainstay of the Tanzanian economy and a critical resource for the livelihoods of the more than 80 percent of Tanzania's population that is rural. USAID is helping Tanzania conserve its unique biodiversity by strengthening capacity for managing protected areas; supporting community based natural resources management (CBNRM); providing

Manyara ecosystem, the Ugalla ecosystem, and the coastal ecosystem.

Tanzania's 14 national parks are dependent on revenues generated from four of the country's national parks—Serengeti, Lake Manyara, Tarangire, and Kilimanjaro. USAID investments in park management and infrastructure at Tarangire and Lake Manyara helped increase tourist visits in these two parks by 40 percent and revenues by 50 percent—to approximately \$4.8 million—in FY 2005. The improved financial sustainability of the park system promotes the overall sustainability of biodiversity in Tanzania. USAID



**OLD TUSKER:** Showing the scars of a tough life, this elephant faces a brighter future in Tanzania. Communities across Tanzania are establishing Wildlife Management Areas where habitat is preserved, wildlife is protected from poaching, and tourists can bring much-needed income to local residents.

poor rural communities dependent on natural resources with alternative income-earning opportunities; and influencing natural resource policy and legal reform. Activities are focused on three target areas: the Tarangire-Lake

also provides assistance to improve park management and ecological monitoring processes by supporting park management plans and providing training and equipment.

USAID's support for community-based conservation programs encourages communities to conserve wildlife habitats by showing them how they can benefit from the sustainable use of wildlife resources. The program is helping communities establish locally managed Wildlife Management Areas (WMAs) in 16 pilot locations. Local control of wildlife management programs empowers these communities to negotiate more equitable sharing of benefits with private investors. In FY 2005, land use plans were completed for 12 of the 16 pilot WMAs. For example, in the areas surrounding Tarangire and Lake Manyara National Parks, communities completed land use plans for an additional 201,000 hectares. In the Ugalla ecosystem in the west-central part of the country, an additional 78,000 hectares were allocated for wildlife management. The cumulative area of land under conservation management as a result of these actions has grown to 2.8 million hectares since the beginning of the program in 1997.

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**More than 25,000 women on Tanzania's coast have been introduced to income-generating opportunities like seaweed farming, coastal tourism, and beekeeping.**

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Economic liberalization and policy changes have provided unprecedented opportunities for communities to participate in managing and benefiting from natural resources. USAID is broadening the economic base of poor coastal communities, with a focus on women and youth, by introducing and expanding alternative, environmentally sustainable enterprises such as seaweed farming, coastal tourism, and beekeeping. More than 25,000 women have been introduced to alternative income-generating opportunities on the coast.

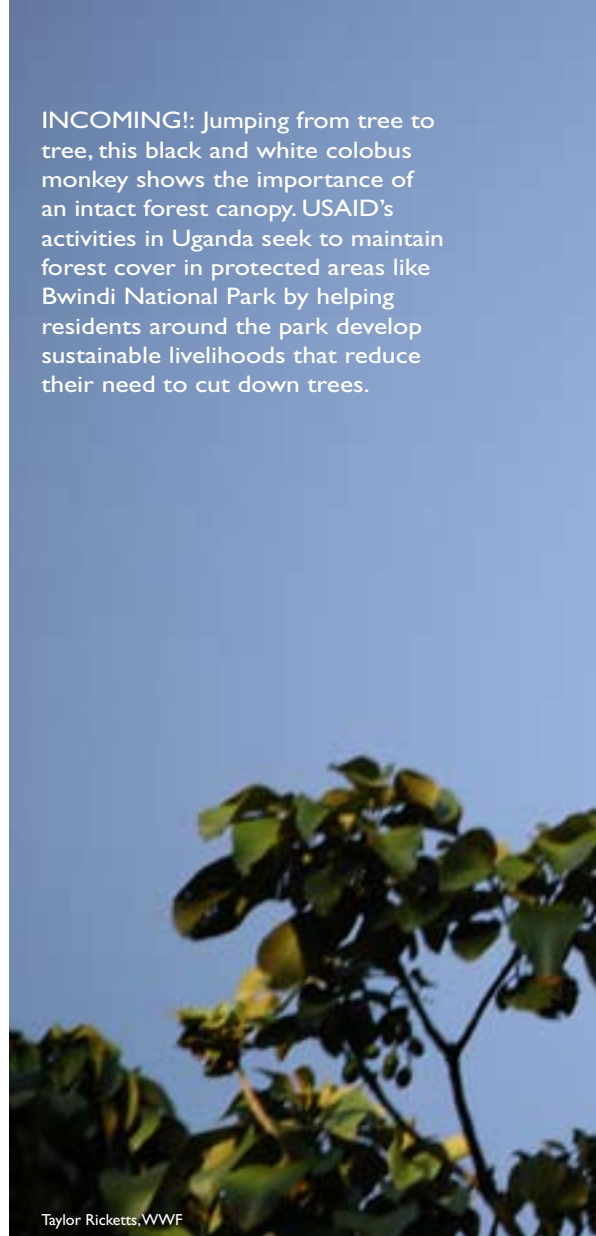
This program links to other USAID/Tanzania strategic objectives, particularly integrating HIV/AIDS, family planning, and reproductive health into community awareness and training programs. More than 2,000 women have participated in such trainings.

In inland areas, the combined contribution of conservation business ventures and small and medium enterprises to local communities in FY 2005 amounted to \$1.86 million. This was distributed among 8,000 households, representing an increase of income of \$232 per household, a significant gain in a country in which annual per capita income is well under a dollar a day. More than half the population living adjacent to or in targeted inland landscapes are women, and the majority of the 10,000 people who have received training in livelihood skills in this area have been women.

USAID helped frame the process for developing Tanzania's Environmental Management Act, which became effective in July 2005. The Act articulates Tanzania's natural resources management policy and the framework for decentralized implementation. Local leadership in managing public resources is encouraged. The new law requires mandatory Environmental Impact Assessments prior to undertaking development projects, and systemizes user fees and product charges for natural resources in the public domain. This work has set the stage for a substantial shift in emphasis from policy reform to policy implementation.

Integrated Coastal Management (ICM) was piloted in three coastal districts and, as a result of its impacts on development planning, a national ICM strategy and governance framework is now in effect. The government's commitment to this course is

**INCOMING!:** Jumping from tree to tree, this black and white colobus monkey shows the importance of an intact forest canopy. USAID's activities in Uganda seek to maintain forest cover in protected areas like Bwindi National Park by helping residents around the park develop sustainable livelihoods that reduce their need to cut down trees.



Taylor Ricketts, WWF

evidenced by the ICM unit that has been established within the National Environmental Management Council (NEMC) to oversee implementation of the ICM strategy nationwide.

USAID completed an evaluation of its conservation and natural resources management program in 2005, and as a result will focus even more on community-based conservation. The new program will implement an integrated approach to improve the quality of life in Tanzania by conserving biodiversity through the expansion of social and economic benefits to a diverse range of stakeholders in the three targeted landscapes.



## Uganda

### Conservation of Critical Habitats and Species in a Landscape Context

USAID/Uganda's environment program is focused on the Albertine Rift, one of the most biodiverse and environmentally threatened areas on Earth. Western Uganda lies within the heart of the Greater Virunga Landscape along the northern border of the Albertine Rift. This landscape contains more vertebrate species than any other landscape of contiguous protected area in Africa. In addition to serving as home to one-half of the world's

population of the critically endangered mountain gorilla, these forests harbor a vast array of important species and provide environmental services like water and traditional medicines to surrounding human communities.

In mid-2005 USAID modified its environmental program in Uganda to take a threat-based approach to biodiversity conservation. The program uses an integrated approach that links natural resource management planning and CBNRM with ecologically friendly income-generating opportunities, such as ecologically sustainable coffee production near protected areas, cropping systems that reduce the damage to wetlands and forests,

and ecotourism.

In FY 2005, approximately 50,000 hectares of biologically important habitats were maintained in the Albertine Rift ecoregion. These included breeding areas, lake shorelines, wetlands, mountain gorilla parks, and collaborative forest management multiple-use zones. Specifically, as a result of community, private sector, and government partnerships, Uganda's mountain gorillas and their afro-montane forest habitat were better protected.

FY 2005 monitoring results have confirmed that the population of mountain gorillas is the highest recorded since the 1960s, and no reported unnatural mortalities of gorillas occurred during the year. The forested habitats (367 km<sup>2</sup>) of Bwindi and Mgahinga gorilla parks, and the population of the highly endangered wetland species, Grauer's Rush Warbler, remained constant over the course of the year. During the last 12 months, Uganda Wildlife Authority took in \$2,130,000 in park revenues, a 13.2 percent increase over the previous year. The FY 2005 revenue for Buhoma Community Campground, located at the Bwindi gorilla park, was \$65,934, a 12.2 percent increase over FY 2004

In addition, as a result of the USAID and National Forest Authority community sensitization program that describes the benefits of Collaborative

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**FY 2005 monitoring results have confirmed that the population of mountain gorillas in Uganda is the highest recorded since the 1960s.**

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Forest Management, 107 households voluntarily evacuated from a previously encroached 136-hectare section



Elephant Pepper Development Trust/WCS

**LIVING WITH WILDLIFE:** Did you know that elephants hate chilis? These farmers in Zambia are growing chilis as a cash crop, and as a low-cost solution to keep elephants out of their fields. USAID supports the Elephant Pepper Development Trust to train farmers to produce chili paste that can be sold for profit. Farmers have also learned that elephants stay away from chili-smearred ropes and cloths strung around fields and are kept at bay by smoke from burning cow dung mixed with chilis.

of the Kalinzu Forest Reserve. Some 5,000 households benefited from USAID interventions to promote sustainable natural resource use, and USAID activities also led to the creation of 809 jobs, of which 93 percent are on-farm, with the formation of 233 new economic enterprises.

## Zambia

### Production, Finance and Technology (PROFIT) and Market Access, Trade and Enabling Policies (MATEP) Programs

In Zambia, USAID is using FY 2005 funds to help to conserve biodiversity by enhancing the sustainable use of natural resources. USAID's program

will increase access to markets and financial and business development services, enabling growth and sustainable natural resource management; activities will be implemented in FY 2006.

The program will upgrade the technical skills of farmers and producers by training them in sustainable farming practices, such as conservation farming, and irrigation techniques that promote minimum land disturbance, reduce hazardous chemical use, and discourage indiscriminate burning of farm residues. The increased productivity should result in less habitat destruction because

farmers will not need to clear forests for new agricultural fields.

Through the activities of African Parks in Liuwa National Park, communities will participate in natural resources management and share the responsibilities and benefits of managing protected areas in the Western Province. This activity will help restore and maintain the natural resources of Liuwa Plain, with particular emphasis on the ecological functioning of migratory systems, threatened bird species, and predator-prey interactions. In addition to the economic benefits from wildlife conservation-based tourism, sustainable non-timber forest products management and harvesting will be promoted to ensure the community's sense of stewardship over natural resources. For example, introduction of improved bee hives will eliminate the use of tree bark for hives maintained by community members, reduce the killing of bees normally occurring in wild honey collection, and generate more honey for sale.

USAID's policy support activities will ensure that policy and regulatory constraints to competitiveness, including CBNRM policies and regulations, are addressed to foster stewardship and sustainable use of natural resources and access to regional and global markets. The program will also work with the Ministry of Tourism, Environment

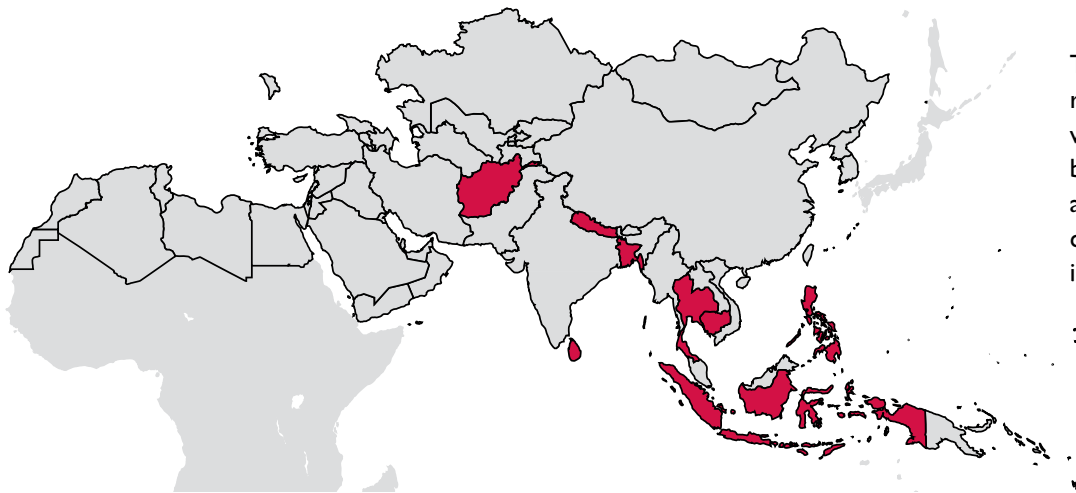
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**Introduction of improved bee hives will eliminate the use of tree bark for hives, reduce the killing of bees normally occurring in wild honey collection, and generate more honey for sale.**

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and Natural Resources on resource rationalization and sustainable use.

# ASIA AND THE NEAR EAST



This map shows countries in red in Asia and the Near East where there were significant biodiversity and/or forestry activities funded by USAID country or regional programs in FY 2005.

The Asia and the Near East (ANE) region is perhaps the most biologically diverse region on Earth. Home to the world's highest mountain system, a vast rainforest complex, and two-thirds of the world's coral reefs, an estimated 80 percent of the world's endangered species live in the region.

Unfortunately, the region has lost 95 percent of its forests and 70 to 90 percent of its original wildlife habitats. Increasing pressures are being placed on natural resources through corruption, population growth, urbanization, and natural disasters. In addition, weak or inappropriate environmental

policies have impeded efforts to improve natural resource governance and management. This section describes how USAID programs addressed these issues through its regional and bilateral programs in FY 2005.



The Nature Conservancy

CORAL BAY: Indonesia, Philippines, Malaysia, and Papua New Guinea form the coral triangle, which has the highest coral diversity in the world. Underwater seascapes are complemented by forests of equal biodiversity, that are home to primates, birds, and a myriad of butterflies.

## ANE REGIONAL PROGRAMS

### ANE Support Team and Programs

An emerging threat to biodiversity in Asia and the Near East is the growing number of conflicts over the region's biologically significant forest resources. To address this challenge, in FY 2005 ANE worked with Missions in Sri Lanka, Nepal, the Philippines, and Cambodia to reduce forest conflict, mainly by conducting in-depth analyses and developing program options to conserve biodiversity under threat of



CJ Elron, USAID

**TROPICAL FOREST:** Forest resources can lead to competition and conflict among forest-dependent communities and have also been used to finance large-scale conflict. USAID is working to address these issues by involving local communities in natural resources management and promoting land rights, good governance, and the rule of law.

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**USAID is working to reduce forest conflict throughout the Asia and Near East region. For example, forest communities in Cambodia are gaining forest-use rights and reducing conflict with illegal loggers and encroachers.**

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forest conflict. ARD, Inc. has been the implementing partner in these efforts.

In Cambodia, for example, ANE supported nongovernmental organizations (NGOs) working with forest communities to gain their forest use rights and reduce conflict with illegal loggers and encroachers. In Sri Lanka, USAID and partners carried out an assessment of watershed-level resource conflicts in the context of that nation's overall armed conflict. In Nepal, USAID partners assessed the relationship between natural resource conflict and state fragility. In addition, alliances to reduce forest conflict in Asia were begun in FY 2005 to support and scale-up Mission efforts by leveraging the resources of new partners.

USAID is forming partnerships with private sector, development, defense, and diplomatic organizations through action forums to align efforts; these alliances are expected to enhance community participation in conflict resolution activities and increase pressure on governments to respect existing regulations and human rights. USAID is communicating lessons learned and successes to USAID staff and partners.

ANE regional programs continued to reduce poverty while conserving biodiversity. For example, an analysis conducted by Winrock International, a USAID partner, identified the opportunities and constraints of generating income through conserving biodiversity in rural communities. The analysis included case studies of the dry forests of Vietnam and Cambodia, and provided recommendations

on how to overcome constraints in promoting smallholder resources on a larger scale while safeguarding the biodiversity upon which they depend. Results were presented at International Agribusiness Marketing Association workshop in Chicago in June 2005 and to the development assistance community in Washington, D.C. The analysis has helped Missions design and implement biodiversity activities in both countries.

### Regional Development Mission For Asia

#### Conserving Biodiversity and Addressing Conflicts

Many of the world's most diverse and endangered ecosystems reside in Southeast Asia. In the Greater Mekong Subregion, for example, rates of biodiversity loss are faster than anywhere else in the world. Among the main threats to biodiversity and the environment is the construction of dams and waterways, which can also have significant transboundary impacts on river-based livelihoods and contribute to regional conflict. The region is also a global hotspot for poaching and the illegal trafficking and consumption of wildlife parts and products.

USAID's Regional Development Mission for Asia (RDM/A) is responding to these threats through a program initiated in FY 2005, the ECO-Asia Biodiversity Program; program activities will begin in FY 2006. The program's overall objective is to improve the sustainable management of natural resources and the conservation





Hannah Fairbank, USAID

**NINE DRAGONS RIVER:** Home to the Giant Mekong Catfish, the world's largest freshwater fish, the Mekong River and its tributaries provide sustenance and support to millions of people as these waterways make their way through China, Myanmar, Thailand, Laos, Cambodia, and Vietnam. USAID supports the Mekong River Commission as it seeks regional consensus on addressing threats to the future of the river ecosystem, such as water use and dam construction.

of biodiversity in Southeast Asia and in the Greater Mekong Subregion. Under this program, RDM/A is launching three new initiatives.

First, the Asia Regional Biodiversity Conservation Program (ARBCP) will implement a pilot biodiversity corridor in the Dong Nai Watershed and select surrounding areas identified under the Biodiversity Corridors Initiative, which was initiated by the Asian Development Bank. The ARBCP will also develop a system that will provide payments for environmental services, develop a public-private partnership program with Mars, Inc. to increase rural incomes through the promotion of cacao-based agroforestry systems, and increase market access for local businesses and products.

Second, the Environmental Governance and Transboundary Conflict Management Program (EGTCMP)

will increase the capacity of the Mekong River Commission and its member countries to manage and resolve transboundary conflicts over natural resources. EGTCMP will also partner with the Mekong River Commission to develop and adopt policies and practices that encourage collaborative engagement and prevent conflicts.

Third, the Asian Wildlife Law Enforcement Network (ASEAN-WEN) will help Asian countries form and implement a new regional wildlife law enforcement network. USAID is currently coordinating with the Royal Thai Government and all other ASEAN countries and ministries to formally approve the ASEAN-WEN framework in support of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES); China, Japan and Korea will be involved as ASEAN observer countries and wildlife consumer

countries. At the national level, each ASEAN-WEN member country is expected to establish a task force that will bring national agencies together to be trained in combating the illegal wildlife trade. At the regional level, ASEAN-WEN will enable governments to more effectively address illegal inter-country wildlife trade through intelligence sharing and border monitoring efforts.

After the Indian Ocean Tsunami of December 2004, USAID supported environmental recovery and sustainable livelihoods in Thailand and Indonesia. In Thailand, USAID used cash-for-work programs to help replant mangrove forests. USAID's long-term work in Thailand centered on the new Sustainable Coastal Livelihoods Program on the Andaman Coast in southern Ranong Province. In a cluster of five villages, the program demonstrated how an integrated approach to

village and regional economic development can lead to sustainable and diversified coastal livelihoods. The program focused on reforming small-scale fisheries management, developing low-impact aquaculture, and promoting culturally appropriate ecotourism that will conserve coral reef ecosystems and fisheries. For more detail on USAID's post-tsunami environmental work, see the Indonesia country description and the introductory section.

## Afghanistan

### Conservation of Biologically Important Areas

Afghanistan's terrain supports a wide variety of terrestrial and aquatic ecoregions, including the biologically significant areas of the Wakhan Corridor, the Hazarajat Plateau, and the Eastern Forest complex. The country's natural resources are not only biologically important, but also are critical economically to the Afghan people. Unfortunately, these resources have suffered from civil conflict, over-exploitation, and drought since the late 1970s. To sustainably reconstruct and develop Afghanistan, these resources must be protected and conserved.

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#### **Reforestation of native pistachio woodlands and conifer forests by the Afghanistan Conservation Corps generated approximately 150,000 person-days of work, benefiting more than 7,500 families.**

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In FY 2005, USAID continued programs in biodiversity and reforestation that were initiated and funded in FY 2004. USAID worked with the Government of Afghanistan through its Afghanistan Conservation Corps (ACC), a national employment program. ACC employs community labor to accomplish its conservation goals, and through its work encour-



Bruce W Bunting, WWF

**THE ENDANGERED SNOW LEOPARD:** Due to hunting for pelts, it is estimated that between 4,000 and 7,000 snow leopards remain in the mountains of central and southern Asia. To conserve this and other species, USAID is working to protect the critical wildlife habitat of the Wakhan Corridor in northern Afghanistan.

ages sound community forestry and natural resource management practices. ACC is helping reforest nearly 200 hectares of pistachio woodlands and is restoring nearly 100 hectares of conifer forests in the eastern part of the country. In addition, ACC is providing cash-for-work opportunities to vulnerable people through reforestation activities. In all, ACC has provided an approximate 150,000 person-days of work benefiting more than 7,500 families.

nurseries; and (3) promote water and soil conservation. ACC's conservation activities also extend to women and youth. Women in major urban centers around the country have been trained in agroforestry and forestry techniques as well as the conservation of horticultural diversity through the beautification of public spaces. These activities have benefited women by providing technical capacity and employment, and have increased general public awareness of sustainable land use practices.

In FY 2005, USAID began a three-year, \$6 million biodiversity conservation project that will be implemented in the second quarter of FY 2006.

The project will focus on three areas with significant biological and economic values: the Wakhan Corridor in Badakshan Province, the Hazarajat Plateau in central Afghanistan, and the Eastern Forest complex along the Afghanistan-Pakistan border. The Wakhan Corridor has some of the last relatively pristine wildlife habitats left in Afghanistan that also harbor unique

species, including the endangered snow leopard and the Marco Polo sheep. The Hazajarat Plateau has some of the most important protected areas in Afghanistan. The Eastern Forests complex has the last remaining conifer forests in the country, which are critical for both biodiversity conservation and economic development.

## Bangladesh

### Improved Management of Open Water and Tropical Forest Resources

USAID's environment program in Bangladesh concentrates on protecting the country's remaining critical wet-

lands, tropical forests, and biodiversity through increased community participation in natural resource management. By having a central role in the planning and implementation process, the poor become active partners in conservation. Alternative livelihood opportunities will also be provided to them to take pressure off of the country's rapidly disappearing natural resources. USAID also facilitates public policy reform and institutional capacity building in parallel with its field-level activities.

Currently, two field activities are being implemented under the program: (1) Co-management of Tropical Forest Resources in Bangladesh

(Nishorgo Support Project), which concentrates on the conservation of protected tropical forest areas; and (2) Management of Aquatic Ecosystems through Community Husbandry (MACH II), which focuses on wetland conservation.

In FY 2005, the second year of the Nishorgo Support Project, five Co-management Councils and Committees were established at different pilot protected areas. The councils set new standards for transparency and openness, and allowed a local voice in management decisions. The protected areas cover an estimated 15,000 hectares, of which nearly 10,000 comprise a core conservation area. USAID has



**WETLAND VISION:** Girls compete in Bangladesh to paint how they think their community's freshwater wetlands should be properly managed. USAID is helping protect these resources through environmental awareness-raising, empowerment of local government, and development of community management committees.

developed Management Plans for the northern sites, all of which allow a degree of local benefit and participation never before included in forest management plans in Bangladesh. The plans have been presented to the Forest

petroleum gas, kerosene, and solar energy as well as planting fast-growing trees for fuel wood harvest. USAID has also fostered a partnership with the new United Nations Development Programme-Global Environment Fa-

numbers by increasing the assets and livelihood options of the poor. Aggressive alternative supplemental income-generating efforts, which are geared at making up for lost income due to self-imposed and self-regulated

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**Improved wetland conservation in USAID-supported areas of Bangladesh increased freshwater fish production by 150 percent in FY 2005 to approximately 10,000 tons of fish, worth more than \$10 million.**

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Department and are now ready to be forwarded to the Ministry of Environment and Forests for official vetting and approval.

USAID also directly contributed to the President's Initiative Against Illegal Logging (PIAIL) by encouraging patrolling of protected areas by both community members and Forest Department staff. These joint patrols have drastically reduced illegal tree felling and enhanced the status of Forest Department staff participating in the patrols, providing an incentive for them to perform their jobs well.

USAID is conducting a series of training programs for junior- to mid-level forest officers on protected area co-management. Moreover, in FY 2005, USAID sponsored a visit from a group of senior foresters and 25 local stakeholders to learn from co-management experiences in West Bengal, India. Those who attended the program have now become vocal spokespersons for the protected area co-management approach.

Fuel wood extraction is a major threat to forests in Bangladesh. In 2005, USAID developed a partnership with German Technical Assistance that explored opportunities for alternative energy use in households near various protected areas. Future activities will include training women in the use of more efficient stoves, biogas, liquid

cility (UNDP/GEF) Project for Brickfields Energy Use Conversion. Brickfields refer to small-scale industries that produce bricks from mud and clay. They are often highly destructive to the environment. The UNDP/GEF Project is planning a follow-up activity with brickfield owners that will provide incentives for them to relocate their brickfields away from protected area borders, which will further efforts to protect biodiverse habitat.

In addition to conserving forests, USAID also worked to protect wetland biodiversity and natural resources through MACH II. Open water fisheries have declined steadily over the last 20 years, and per capita fish consumption among the poorest of society has declined 38 percent since 1995. To arrest or reverse this trend, the USAID environment program worked for years to promote the sound management of wetland resources to provide food for the poor. More than 500,000 people now benefit from increased fish production and improved nutrition. Between FY 2000 and FY 2005, fish production increased an average of 64 percent per year, reversing a rapidly declining trend. During FY 2005, fish production rose even more—by 150 percent. This represents an increase of approximately 10,000 tons of fish, which is worth more than \$10 million.

USAID also focused on reducing the pressure on fish biodiversity and

fishing restrictions, have resulted in the formation of 249 community credit groups with more than 5,000 family participants. Together, the members of these credit groups have accessed almost US \$1.2 million—in micro-loans to generate alternative incomes. They also have accumulated personal savings in excess of \$100,000. These activities, combined with training and other services, enable the poorest families to increase their income by 66 percent while reducing pressure on wetland ecosystems.

## **Cambodia**

### **Sustainable Management of Natural Resources and Biodiversity**

While many of Cambodia's forests have been decimated in recent years through logging and conversion to agriculture, forest remnants continue to serve as critical biodiversity corridors and also as refuges for many animal and plant species. Cambodian forests are not only globally significant biologically, they are also critical to local communities—they provide food, medicine, fuel wood, non-timber forest products, and cash income and represent important cultural and spiritual resources.

USAID and its partner, WildAid, have focused on conserving more than one million hectares of the



Keo Sopheak, WWF

**CAMBODIAN TURTLE:** Like this turtle, many of the unique species that reside in Asian countries are found in and depend on tropical forests. USAID is working to protect tropical forests and the biodiversity within them by improving governance, enhancing natural resources management, and reducing the illegal wildlife trade.

Southern and Coastal Cardamoms in Southwest Cambodia, some of the largest mainland tracts of forest in Southeast Asia. The Cardamoms harbor one of Asia's last seven remaining elephant corridors, 14 globally endangered and rare mammals, and half of Cambodia's bird species. With WildAid's help, 16 different landscapes in the area are now being patrolled regularly, and illegal activities have been considerably reduced. USAID and WildAid activities focus specifically on: (1) providing direct protection to threatened Cambodian wildlife and habitat; (2) training enforcement agencies in effective strategies to stop the illegal wildlife trade and to strengthen protected areas; (3) educating the Cambodian public about the need to reduce the consumption, poaching, and trade of protected wildlife; and (4) promoting community agricultural development to stop encroachment into forests and protected areas.

In FY 2005, USAID supported The Wildlife Rapid Rescue Team (WRRT), created by the Forestry Administration and WildAid. The WRRT is dedicated to fighting the illegal wildlife trade throughout the country, in part through stopping illegal shipments of wildlife and wildlife products. By the end of 2003, the combined approach of WRRT and the Asian Conservation Awareness Program reduced wildlife consumption in Phnom Penh by 95 percent. In FY 2005, WRRT operated in 15 different cities, rescued more than 7,000 live animals, seized nearly 2,000 kilograms of wildlife meat and carcasses, and apprehended nearly 300 wildlife traders.

As part of its effort to raise awareness about conservation issues, USAID supported the The Kouprey Express, an environmental education bus that travels the country to educate communities located near national parks and other protected areas. In 2005,

the Kouprey Express delivered half-day education programs to more than 6,000 rural school children and held 48 community night shows attended by more than 30,000 people.

To reduce pressure on forests and the biodiversity within them, USAID also supported the development of alternative livelihoods through WildAid's Community Agriculture Development Project (CADP). The CADP is helping 400 families develop sustainable agriculture through technical assistance, inputs (seeds, fruit tree saplings, fast-growing firewood, and small livestock), and a mini-credit program. Through the sale of produce, spices, and handicrafts in local and national markets, the CADP is providing long-term income alternatives to illegal logging and wildlife poaching.

USAID has also continued its work through the Community Forestry Alliance of Cambodia (CFAC), which is implemented by Community Forestry International. CFAC is a public-private partnership that enhances community forest management by improving and implementing national policies and field programs. CFAC currently assists more than 9,000 families. One group supported by CFAC, the Ratanakiri Natural Resource Management Network (RNRMN), operates in four districts and approximately 30 communes. RNRMN has trained residents in more than 100 villages in basic land and forest rights. CFAC also provided guidance to the National Community Forestry Program in developing extension materials about national community forestry laws. Through these efforts, CFAC published and distributed 5,000 copies of a Khmer Language version of, "Community Forestry in Cambodia: Questions and Answers."

## Indonesia

### Improve Sustainable Management of Natural Resources and Biodiversity

Habitat loss is the primary threat to Indonesia's terrestrial biological diversity and threatens the vital ecosystem services that sustain human health and livelihoods. To address this threat, USAID began implementing a new Environmental Services Program (ESP) in FY 2005, which focuses on the interdependence of human health and the environment. Activities focus on sustainable land use practices, including watershed management and biodiversity conservation, that help stabilize and improve the supply of water to urban and peri-urban popula-

tion centers. USAID emphasizes the protection and rehabilitation of critical ecological processes and functions in forested areas of high biodiversity conservation value.

During the first nine months of implementation, ESP focused on site selection and began the collaborative planning and mapping process with various communities. FY 2005 achievements include a conservation awareness training at Farmer Field School, a Pride in Conservation Workshop in Gunung Gede Pangrango National Park, and the development of a policy and Ministerial decree in support of collaborative management of protected areas (partners for the latter include the Ministry of Forestry, The Nature Conser-

vancy (TNC), World Wildlife Fund (WWF), the Wildlife Conservation Society (WCS), Birdlife Indonesia, Wetlands International, Conservation International (CI), and Flora and Fauna International).

ESP is also providing technical assistance to local governments and relevant agencies, including the Ministries of Forestry, Planning, and Environment, to strengthen their ability to develop and implement watershed management plans. The program promotes agroforestry in areas where watersheds are badly degraded due to deforestation. It also supports the resolution of community land tenure and access conflicts that provide disincentives for reforestation and agroforestry investments. During the first year



Prijanto Santoso, USAID

**MANGROVE PROTECTION:** When the tsunami of December 2004 hit Indonesia, some coastal areas were protected by mangrove forests that slowed down the water and caught debris. USAID helped replant mangroves with cash-for-work activities.

## Orangutan Conservation in Indonesia

In FY 2005, USAID continued to support efforts to protect endangered orangutans and their habitat through community and local government participation. For example, USAID and The Nature Conservancy (TNC) facilitated short courses for district officials in land use and conservation planning, conflict resolution methods, and the use of Geographic Information Systems (GIS). In forest-dependent villages, USAID and TNC provided direct benefits to six communities through a health and clean water program, created alternative livelihood opportunities by establishing a rattan cooperative, and carried out village mapping and community land use planning to identify culturally or ecologically important areas to be conserved. In return, these communities have signed Community Conservation Agreements that commit them to keep their village areas free of illegal logging and to not hunt orangutans. World Education, a USAID partner, also continued its efforts to reduce pressure on globally significant orangutan populations in Tanjung Puting National Park. It focused on protecting orangutan habitat through an integrated conservation and development approach that emphasized community livelihood development, especially through agriculture. The project has increased guard posts and patrols, which has improved the protection of approximately 120,000 hectares of the park.



Orangutan Foundation International

**ORANGUTAN HANGING OUT:** Orangutans are found only on the islands of Sumatra and Borneo in Southeast Asia and are entirely dependent on forests for survival. USAID protects endangered orangutans and their habitat through programs that emphasize community and local government participation in forest and protected area management.

of implementation, ESP leveraged \$42,000 of Ministry of Forestry funds to support eight multi-stakeholder watershed planning and management forums. The forums mobilized local governments, community organizations, and the private sector to advocate for forest conservation and higher-quality services.

USAID also worked to address the critical issue of illegal logging. An estimated 80 percent of logging in Indonesia is illegal, with more than two million hectares of forest being lost or degraded each year at the rate of 300 soccer fields per hour. To address this threat, USAID, WWF, and TNC joined with corporate and civil society

partners to promote forest certification and combat illegal logging.

Building on their work from the previous year, WWF and TNC maintained their focus in existing project areas and sought to improve the quality of forest management and deepen the impact of their activities in more than 970,000 hectares. WWF and local partners enabled two teak-growing communities in Java to obtain forest management certificates from the Indonesian Eco-labeling Institute. These are the first community forests ever to be certified in Indonesia. WWF also successfully influenced two giant pulp and paper companies, APP and APRIL, to delineate High Conservation Value Forests

in their concessions in Riau, resulting in more than 150,000 hectares of forests being protected rather than cleared or exploited.

FY 2005 also witnessed the Tsunami tragedy. To promote the use of sustainably harvested and legal wood products during reconstruction, USAID supported The Timber for Aceh Alliance, which comprises the American Forests and Paper Association, CI, and WWF. It received donated lumber materials from four U.S. companies. Catholic Relief Services (CRS) is handling the transportation, storage, and distribution of the lumber upon its delivery in Indonesia. The alliance has been instrumental in raising

awareness of the need for public and private relief organizations to utilize sustainable wood for reconstruction during disaster relief efforts. Given the vast quantities of forest products these organizations use, such efforts may have far-reaching effects.

## Nepal

### Natural Resources Governance and Biodiversity Conservation

Nepal's forests cover approximately 30 percent of the country, providing household fuels, food, medicine, and construction materials for communities. In addition to being critical to local economies and livelihoods, Nepalese forests harbor incredibly species-rich biological communities that are under constant threat from deforestation, conversion to agriculture, and armed conflict.

USAID's program in Nepal focuses on two major issues: (1) enhancing natural resource governance through participatory management approaches; and (2) promoting sustainable forest management through the production and marketing of certified non-timber forest products (NTFPs).

In FY 2005, USAID worked with more than 700 community forestry user groups in five different districts of the country. The Agency raised awareness of good governance in forestry user groups to strengthen their technical, organizational, managerial, and advocacy capacity. As a result, the groups have improved the management of nearly 17,000 hectares of forest. This year, the groups generated more than \$1 million in revenue from forest products, 65 percent of which was reinvested in community development activities. In addition, groups with greater financial resources im-



**ABUNDANT WATER IN NEPAL:** This waterfall emerges from a protected community forest. USAID support for villages in Nepal to gain management control over nearby forests has resulted in rapidly regrown hillside forests, plentiful water, and income from forest products like timber, mushrooms, and spices.

proved the livelihoods of poorer households through various mechanisms. For example, 327 user groups provided loans and grants to poor households to initiate income-generating activities and to support children's education.

USAID's work in Nepal has increased the representation of women, the poor, and other disadvantaged groups in the executive committees of forestry groups, key decision-making bodies. For example, the number of women in the executive committees of community forestry user groups increased to 44 percent this year from 38 percent in

FY 2002. In addition, groups prepared 478 operational plans that incorporated the needs of women and the poor.

USAID also improved protected area management by working with buffer zone user groups in two national parks—Royal Bardia National Park in the tropical Terai region, and Shey-Phoksundo National Park in the high mountain region of Dolpa. In FY 2005, the program raised awareness of good governance practices among buffer zone user groups, eco-clubs, students, and mothers' groups. As a result, these groups have brought



2,000 hectares of buffer zone forest under improved management. This year, the groups sustainably harvested more than 800 metric tons of forest products. Buffer zone management plans and anti-poaching activities have also resulted in reduced human and livestock pressure in the park.

Tourism revenues have continued to provide incentives for locals to conserve biological diversity in national parks. Despite a deteriorating security situation, the incredible wildlife in Royal Bardia and Shey-Phoksundo National Parks has remained a draw for many tourists. In FY 2005, more than \$22,000 was generated from entry fees, 50 percent of which was reinvested in the buffer zone communities. The money was used to support development activities in areas such as non-formal education, school scholarships, small-scale infrastructure, and alternative energy sources.

Certification of NTFPs also made great strides in FY 2005 through USAID's Global Development Alliance (GDA). More than 14,000 hectares of community forests received the Forest Stewardship Council's (FSC) forest management certification for the production of 24 NTFPs. This is the first NTFP certification in Asia and only the fifth in the world. In addition, eight forest-based enterprises received FSC Chain of Custody certification. The alliance also facilitated organic product certification for crude herbs and essential oil products from

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**In Nepal, forest products from 17,000 hectares of community-managed forests generated more than \$1 million in revenue, 65 percent of which was reinvested in community development activities.**

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more than 20,000 hectares of community forest. Gross sales of NTFP products totaled \$0.8 million in FY 2005—an increase of 45 percent over FY 2004.

## Philippines

### Improved Natural Resources Governance

The rich biodiversity of the Philippines is threatened by numerous human activities, including illegal and destructive fishing, severe over-fishing, and pollution; these threats also put food security and productivity at risk. The Philippines has the highest deforestation rate in Southeast Asia, much of it from illegal logging. In response, USAID, in partnership with the Department of Environment and Natural Resources (DENR) and the Bureau of Fisheries and Aquatic Resources, seeks to improve environmental governance and strengthen the management of biological resources in Mindanao and other conflict-affected areas.

In FY 2005, USAID helped coastal municipalities, the DENR, and local communities improve the management of more than 500 hectares of marine sanctuaries and 73,300 hectares of coastal-marine areas through ordinances, management plans, financial support, law enforcement, and the delineation of municipal waters. In USAID's Fisheries Improved for Sustainable Harvest (FISH) Project, indicators were selected and baselines were established for monitoring fish stocks in four economically significant marine ecosystems over a seven-year period.

This year, USAID also rolled out a cross-sectoral initiative in 10 densely populated coastal villages through FISH's Population-Health-Environment program. The program helped

establish 65 private sector-led commodity distribution centers, which are supported by nearly 200 health counselors. In 2005, male participation in reproductive health activities increased, perhaps in part because fishermen realize that the declining fishery will support fewer children. Also in FY 2005, eight USAID local government partners improved their solid waste management, diverting 15 percent of wastes to recycling and composting and away from high-biodiversity coastal-marine areas, rivers, and lakes. USAID leveraged \$113,000 in local government resources to establish improved sanitation for 5,700 people in two cities, promoting low-cost approaches to household-level sanitation in order to prevent direct contamination of high-biodiversity priority river and coastal-marine ecosystems.

At the national level, USAID helped the Bureau of Fisheries and Aquatic Resources draft the first-ever "Philippine Comprehensive National Fishery Industry Development Plan," and the "National Plan of Action to Combat Illegal, Unreported and Unregulated Fishing," both of which are required by the 1998 Fisheries Code. Once approved, the plans will provide a cohesive national framework for tackling fisheries management and enforcement issues. USAID also facilitated the adoption of an administrative order by DENR that promotes alternative dispute resolution as a tool to resolve natural resource conflicts.

In the forestry sector, USAID assisted DENR and key local governments in assessing the tenure status of 227 landholders on 554,245 hectares of forested lands. This is the key first step in correcting the perception that forest resources are open for business to anyone at any time. Through a grant to the Center for International



Barbara Best, USAID

**FILIPINO FISHERMAN:** A fisherman demonstrates a weighted net for capturing live fish, a method much preferable to cyanide, which kills surrounding corals and other fish. USAID supports training in how to use these nets. The training is necessary because cyanide has been used in the Philippines since the 1960s, and many fishers do not know how to capture fish without it.

and Environmental Law, USAID also helped more than 100 communities improve their resource management through community consultation, conflict mediation, environmental law enforcement, and research.

In FY 2005, USAID utilized FY 2004 funds to complete its alliance with Masterfoods and the Philippine Cacao Foundation. The alliance helped train more than 5,000 farmers (1,800 of whom are women) in cocoa produc-

tion and nursery establishment. In all, the alliance produced more than 650,000 cacao seedlings from 70 nursery sites and distributed these seedlings to trained farmers. Through the program, impoverished upland farmers in Mindanao, Luzon, and Palawan found an alternative livelihood that is compatible with forest conservation.

In Muslim Mindanao, USAID helped the DENR of the Autonomous Region in Muslim Mindanao formulate and issue the Implementing Rules and Regulations for the 2004 Regional Sustainable Forest Management Act. The Act integrates Islamic principles into sustainable forest management and provides a regionally appropriate framework for improved environmental governance. Efforts are underway to formulate a pioneering Fatwah (Islamic decree) on the conservation and management of coastal-marine resources in Muslim communities like Tawi-tawi. A Fatwah may help communities shift from destructive to more sustainable use of natural resources in areas where traditional enforcement risks exacerbating feelings of disenfranchisement among Muslim communities.

# EUROPE AND EURASIA

USAID funded biodiversity and/or forestry activities in five countries in Europe and Eurasia in FY 2005.



The Europe and Eurasian region contains a wide variety of ecosystems ranging from boreal forests and tundra to Mediterranean forests and shrubland. The region is home to one-quarter of the world's forests, supports

the world's largest populations of bear and rare tigers, and serves as a crossroads for large populations of migratory bird species shared with Africa, Asia, and North America. The forests have been important economic assets for

millennia, providing timber, fuel, game, and medicinal plants to rural communities and national economies.

The transition by countries in the region from communism to democratic free market economic systems led to weakened forest management agencies, lack of the rule of law, and unclear and conflicting policies. Privatization bred forest fragmentation and lack of forest management. There have been substantial increases in illegal harvesting and the trade of timber and wildlife, deforestation to meet local energy needs, and illegal construction in parks and other biologically sensitive areas. In FY 2005, USAID addressed these issues through the bilateral programs described in this section.



Dave Gibson, Chemonics

**PRIMARY FOREST:** Luxuriant bracken fern grow in a primary forest in the Russian Far East. USAID has worked with Russia to protect primary forests from the threat of illegal logging by strengthening regional forest law enforcement and promoting the certification of sustainably managed forests.

## Albania

### Sustainable Management of Native Herbs and Spices

Although smaller in size than many American states, Albania is a country that is rich in biological diversity and natural resources. Among its unique biological assets are a wide array of herbs and spices, including raspberry

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#### **USAID and USFS helped establish a program to assess the status of rare medicinal and aromatic species in Albania and to improve management of their habitats.**

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and blackberry leaf, bilberry, nettle, rosehips, chamomile, thyme, oregano, sage, bearberry, and licorice, and 400 species of flowering plants; approximately 250 of these species have medicinal, spice, or aromatic value. While these resources were underexploited during communist rule, the liberation of Albania has brought with it many new threats to forests and biodiversity, including over-harvesting of non-timber forest products (NTFPs), illegal forest exploitation, and agricultural expansion into forested areas.

In FY 2005, through its interagency agreement with the USDA Forest Service (USFS), USAID supported efforts to build capacity amongst government officials, private entrepreneurs, and farmers in the sustainable management of native herbs and spices. Specifically, USAID and USFS provided technical assistance to help establish a methodology for a pilot inventory and monitoring program. The program will assess the status of rare medicinal and aromatic species in Albania and promote improved decision making related to the management of their habitats. Providing such

assistance will ensure that this valuable economic resource persists for future generations.

## Bulgaria

### Protected Area Management

National parks in Bulgaria harbor more than 75 percent of the country's old-growth forests and more than

50 percent of its forests overall.

These forested areas provide shelter for a rich array of species, including the brown bear,

European wolf, unique freshwater fish species, economically important herbs and fungi, and many resident and migratory bird species. Forests are also critical to the nation's water supply,

approximately 85 percent of which originates in forested areas.

In FY 2005, USAID provided support to the Protected Areas Fund (PAF), which was established in FY 2004 to address the critical issue of financial shortfalls for adequate conservation and protected areas management. The PAF was established as an endowment within the National Trust EcoFund, an independent Bulgarian institution with years of experience managing environmental grants and an excellent record of performance with other international donors. Mission support for the PAF's establishment follows on 10 years of successful USAID assistance to protected area management and conservation in Bulgaria. FY 2005 funds are supporting the organization's start-up costs.



Nejko Nejkov



Bojan Krastev

**CENTRAL BALKAN NATIONAL PARK:** The landscape of this temperate Bulgarian park is stunning in any season. USAID is helping to protect parks like this through a program that awards small grants to local NGOs to help promote ecotourism and environmental protection.

## Cyprus

### Forest Restoration

The Mediterranean forests of Cyprus harbor a wealth of biological diversity. This is due in part to the island's wide variety of microclimates and topography, which allow many species to thrive. For example, the island's forests harbor more than 1,900 species and subspecies of plants. While one-third of the island is under forest cover, centuries of human activities have greatly altered the landscape. Little remains of the true Mediterranean forest type that was once found on Cyprus, and previously forested lands have been degraded to shrublands and even desert.

Using FY 2004 funds, USAID is assisting efforts in Cyprus to restore some of these degraded lands through an innovative program that takes advantage of the beneficial effect that certain microorganisms can have on plant growth. While many previous restoration efforts have failed, presumably because of the poor quality of the

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**Through an innovative program, USAID is helping restore degraded lands in Cyprus back to native Mediterranean forests.**

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soil into which trees are introduced, this new project will introduce trees along with mycorrhizae—microorganisms that live within plant roots. These microbes are incredibly adept at mining soils for nutrients, which they share with plants in exchange for energy. By providing newly planted trees with much-needed nutrients, this strategy may lead to the successful restoration of degraded lands back to forests. Through this program, which is part of the Bi-Communal Development Program (for conflict mitigation



Erik Streed, USAID

**VASHLOVANI NATIONAL PARK:** This national park, which is located in eastern Georgia, was established in 1935 to preserve its unique arid, shallow forests. USAID has improved the management and sustainability of protected forest areas in Georgia by helping to train park staff and develop park management plans, interpretation programs, and concessions.

between Turks and Greeks), USAID hopes to repair some of the long-term damage that unsustainable human activities have wrought on this distinct ecosystem.

## Georgia

### Protected Area Management

Georgia is rich in biological diversity and harbors approximately 2,700,000 hectares of forest. For example, 23 percent of the plants and 10 percent of the vertebrates found in the Caucasus Mixed Forests are endemic to the region. During the Soviet era, most of the forests in the country were preserved for conservation or recreation. However, with Georgian independence came many new threats to forests and biodiversity, including illegal or over-harvesting of fuel wood and timber.

Using FY 2004 funds, USAID continues to support a program with the U.S. Department of the Interior to improve the management and sustainability of protected forest areas

in Georgia. Specifically, USAID is helping the Government of Georgia by: (1) assisting in the development of a protected areas training center; (2) providing technical assistance with regard to establishing park management plans, interpretation programs, and concession plans for four major protected areas (Vashlovani, Tusheti, Logodekhi, and Batsara/Babaneuri/Ito); and (3) training park personnel in protected area administration and management. All of these actions will serve to protect the unique biological and cultural heritage that Georgia's protected areas are meant to conserve.

## Russia

### Sustainable Forest Management

Approximately 22 percent of the world's forests lie within the borders of Russia, the vast majority of which occur in the Russian Far East and Siberia. These forests provide critical carbon sinks, critical habitat for endangered species, and economic growth opportunities. Unfortunately, this important natural

resource is facing threats from forest fires, pest outbreaks, illegal logging, and over exploitation of forest resources.

FY 2005 marked the last year for implementing the primary technical components of USAID's highly successful Forestry Resources and Technologies Project (FOREST), a five-year, \$20 million initiative. FOREST sought to protect Russia's economically valuable forests and improve livelihoods by promoting biomass energy production, fire prevention, pest monitoring, and sustainable forest management practices.

Wood processing inevitably leads to the production of waste products, which become an environmental hazard and a liability for the production company. However, it is possible to put these waste products to work through the production of biomass fuels; the current high costs of energy and the growing energy demand in Russia have sparked interest in the growth of this part of the forest sector. In FY 2005, USAID worked with 19 partner companies to meet its target of 50-megawatt thermal biomass capac-

ity. USAID provided technical assistance in the design, construction, and operation of biomass burners and dry kilns. The agency also trained 750 specialists in biomass energy production, which will encourage more widespread use of wood waste products for energy purposes and may make initial USAID efforts in this sector sustainable in the long term.

USAID also continued raising fire prevention awareness in FY 2005 by developing and implementing an interdisciplinary fire prevention curriculum that is in use in more than 1,000 schools. USAID also produced a handbook entitled, "Working with Communities in Preventing Forest Fires," which was approved by the Federal Forest Agency of the Russian Federation in 2005. The handbook will help ensure the sustainability of long-term fire prevention educational programs.

Russian wildfire prevention experts were also trained in the United States. Employees from the Federal Forest Service, the Russian Federal Ministry for Emergency Situations media sources, and directors of national parks were among the participants of the training tour. Participants discussed the interaction between government and nongovernmental organizations (NGOs) and the fire prevention techniques used by the USDA Forest Service, the Virginia Department of Forestry, and the Office of Wildland Fire Coordination of the U.S. Department of the Interior.

The Siberian moth is the most destructive forest insect pest of Russia's Taiga forests. Periodic outbreaks of this species have caused massive damage and economic loss. For example, in the mid-1990s, one outbreak affected more than one million hectares of forest at a cost of approximately \$280

million. USAID dramatically improved Russia's ability to detect and predict these pest outbreaks through the introduction and adaptation of a system used by the U.S. Department of Agriculture.

The pest monitoring system employs modern technologies such as pheromone traps, Global Positioning System (GPS), computer modeling, and cartography to monitor population changes of problematic species in their preferred habitats. Early warnings of outbreaks and their precise locations have enabled specialists to respond rapidly with appropriate targeted treatment. This has resulted in substantial cost savings, reduced unnecessary use of pesticides over vast areas, and curbed uncontrolled outbreaks. The system has been adopted and is being used by Russia's Centers of Forest Protection and production forests in seven regions of Russia, covering one-third of Russia's forests.

As the FOREST's primary technical areas came to an end, USAID responded to a new request by the Government of Russia to address the critical themes of illegal logging and the use of voluntary certified markets that offer price premiums to foresters that adopt sustainable practices. FOREST worked directly with Russia's Ministry of Natural Resources and Federal Forest Agency to address illegal logging through the regional Forestry Law Enforcement and Governance (FLEG) Initiative. USAID also initiated a model voluntary certification program, entitled Verification of Legal Timber (VLT); this certification will be used as a potential model for future programs in the Russian Federation. To implement this program, FOREST designed and implemented training for government agencies, NGOs, and companies.



**FORESTS RECOVER FROM FIRE:** New forest sprouts eight years after a catastrophic fire in the Russian Far East. Programs supported by USAID have worked to reduce forest fires by educating the public about fire hazards and training Russian forest service and park staff in fire prevention techniques.

# LATIN AMERICA AND THE CARIBBEAN

USAID missions and regional programs funded biodiversity and forestry conservation programs in more than 15 countries throughout Latin America and the Caribbean in FY 2005.



support an impressive array of biodiversity. For example, Latin America contains 40 percent of all the species found in tropical forests throughout the world. In addition, 40 percent of the plant life in the Caribbean is found nowhere else on Earth.

Unfortunately, the region's biodiversity is under increasing threat from habitat destruction—the rate of deforestation here is one of the highest in the world, and two-thirds of the region's coral reefs are at risk. This loss of habitat threatens the region's biodiversity as well as the people who depend on natural resources for their livelihoods. This section describes how USAID programs addressed these issues through its LAC regional and bilateral programs in FY 2005.

The Latin America and the Caribbean (LAC) region is home to the world's largest rainforest, many of

the world's largest wetlands, and the second-largest barrier reef ecosystem. These globally important habitats



Eric Stoner, USAID

**TRAINING BRAZILIAN FORESTERS:** Hand-hewing of tropical timber is demonstrated at the USAID-sponsored Instituto Floresta Tropical field camp as part of training forestry practitioners in sustainable forest management.

## LAC Regional Programs

### LAC Regional Sustainable Development Staff

In FY 2005, LAC regional program staff continued to provide technical and administrative support to field staff throughout the region. Specifically, LAC staff helped USAID Missions assess biodiversity conservation priorities, design biodiversity and forestry programs, conduct program assessments, and facilitate assistance from other Washington, D.C.-based USAID and U.S. Government (USG) personnel. LAC staff also advised on the allocation of biodiversity and forestry funds among LAC Missions and served as representatives in interagency efforts to improve forest management



Howard Buffett

**THREE-TOED SLOTH:** Unlike the one in this photograph, most sloths observed in the wild are found upside down, clinging to tree branches with their long, curved claws. Parks in Peril has been working since 1990 to improve the management of the protected forest areas on which sloths, and other more energetic species, depend.

and biodiversity conservation. The LAC Bureau supports two flagship regional programs: Parks in Peril (PiP) and the Amazon Basin Conservation Initiative (ABCI).

#### Parks in Peril

The Parks in Peril (PiP) has worked since 1990 to enhance the protection of 45 critically threatened national parks throughout Latin America (Bolivia; Brazil; Colombia; Costa Rica; Dominican Republic; Ecuador; Grenada; Guatemala; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; St. Vincent and the Grenadines). These parks include a variety of ecosystem types, including tropical forests, coral reefs, and savannas.

In FY 2005, PiP supported efforts to link forest and biodiversity conservation to the clean and consistent production of water. For example, PiP was instrumental in strengthening or initiating payments for environmental services in Ecuador, Bolivia, Jamaica, and Guatemala. In these programs, landowners are compensated for each hectare of forest maintained on their land because of the services that standing forests provide, such as water purification, carbon sequestration, or scenic beauty. One such program is Ecuador's Quito Water Fund (FONAG), which has invested nearly \$1 million in 14 projects in five watersheds to date. Another example is in Guatemala, where five communities in Sierra de las Minas will each receive \$13,000 annually for five years for reforesting 253 hectares. The beneficiaries of the project are primarily women.

PiP also supported the development of livelihood strategies that reduce impacts on forests and biodiversity. For example, in Bolivia's Carrasco park, an innovative native tree species seed

collection program supported by PiP has expanded to four communities. A seed bank funded by the private Forestry Centre Foundation (CETEFOR) guarantees purchase of their seeds and provides a viable conservation alternative to illegal timber extraction from the park.

In Colombia, PiP supported a new "property tax exemption for conservation" program in the town of Encino. Through the program, landowners receive a 25–35 percent reduction in property taxes if they maintain more than five hectares of forest on their property. Ninety-four landowners who maintain 3,396 hectares of forest have applied for the exemption. The program is being used as a potential model by other municipalities that want to provide incentives for biodiversity conservation.

#### Amazon Basin Conservation Initiative

During FY 2005, USAID continued to design a new regional conservation strategy in the Amazon Basin. The ABCI represents an innovative and strategic investment by USAID to address conservation threats and opportunities on a regional scale in this unique and globally important resource. The program responds to high levels of Congressional interest in the Amazon and complements the strong and long-standing conservation programs of LAC's bilateral Missions. An inclusive, participatory process with partners, regional governments, other donors, and U.S. Government agencies is currently shaping ABCI's development and implementation. While still in its planning stages, ABCI will include efforts to promote sustainable forest management and reduce illegal logging. For example, a priority threat ABCI will address is habitat conversion or degradation stemming from unsustainable logging.



Similarly, a key opportunity the initiative will seize is sustainable management of forest resources. ABCI will be primarily implemented from FY 2006 through 2010.

## Caribbean Regional Program

### Improved Environmental Management of Public and Private Entities

The Caribbean Regional Program focuses on conserving the region's terrestrial and marine resources in Antigua, Barbuda, Dominica, Grenada, St. Kitts, St. Lucia, and St. Vincent.

In FY 2005, USAID continued to support efforts to strengthen protected area management. For example, with its partner, The Nature Conservancy (TNC), USAID advanced the development of a Caribbean ecoregional assessment. The assessment allowed the concurrent analysis of large-scale biological and socioeconomic data, conservation area maps, and ecological conditions in a Geographic Information System (GIS) database. The data are being distributed via partnerships with regional data management organizations. In addition, USAID has also facilitated Memoranda of Understanding with Caribbean governments, which will facilitate the establishment of national protected areas in these countries.

USAID also helped train nongovernmental organizations (NGOs) in environmental monitoring and conservation. For example, USAID and partners trained key stakeholders how to effectively monitor the health of coral reefs. In Grenada, USAID conducted institutional capacity reviews and trained four NGOs in conservation management.



Steven Swierenga

**FLOWERING BROMELIAD:** To access better sunlight and disperse their seeds in the wind, many tropical bromeliads grow on a tree's trunk or branches. USAID is working through its regional and bilateral programs to improve the management of protected areas in Latin America and the Caribbean so that these and other beautiful plant species are around for future generations to enjoy.

USAID supported risk reduction programs to reduce the vulnerability of ecosystems and protected areas to the effects of natural disasters in the Small Island Developing States of the Organization of Eastern Caribbean States. Future work with FY 2005 funds will include developing a legal, policy, and

regulatory framework for land use and development planning. Improving the management of protected areas, particularly tropical forests, may help reduce their vulnerability to these disasters as well as protect the unique biodiversity of the region.

## Regional Environmental Program for Central America

### PROARCA: Improved Environmental Management in the Mesoamerican Biological Corridor

USAID's Central America Regional Environment Program, known by its Spanish acronym PROARCA, seeks to improve environmental management in the Mesoamerican Biological Corridor (MBC). The program helps to reduce threats to critical ecosystems, increase market access for environmentally sound products and services, improve protected area management, harmonize regional environmental laws, and implement international environmental agreements. PROARCA activities also support the environmental program outlined in the presidential accords between Central America and the United States (CONCAUSA).

Forest fires, both natural and man-made, remain one of the most pressing threats to tropical forests and biodiversity around the world. To address this issue, PROARCA supported the development of a Regional Strategy for Forest Fires, which will improve fire prevention and management throughout the MBC. This strategy was approved in a landmark decision by the regional environment ministers. In Panama, training provided by the U.S. Department of the Interior entitled "Economic Valuation of Damage to Natural Resources Caused by Wildfires" helped persuade the Panamanian Environment Ministry to provide funds for further staff training in fire prevention and mitigation. In Guatemala, PROARCA provided telecommunication repeaters to the National Park Service, which will help park staff coordinate

their responses to fires within or near park boundaries.

PROARCA also enhanced sustainable forest management across Central America. Specifically, USAID efforts to improve protected area management with TNC and to promote the certification of forest and agricultural products with the Rainforest Alliance

produce and market sustainable wood furniture products. As a result, the community received its first order of school furniture, worth approximately \$650,000, for the Oaxaca state government. The enterprise now employs 200 local residents, 35 percent of whom are women, and has financed the expansion of the town's water system and an ecotourism development project.

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**USAID helped a small Mexican community produce and market sustainable wood furniture products. This project employed 200 people, 35 percent of whom were women, and helped finance the town's water system and an ecotourism development.**

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(RA) helped bring more than 1.6 million hectares of forest under improved management. In Guatemala and Honduras, Gibson Guitars has worked with RA to purchase sustainably harvested mahogany at premium prices. RA also helped build the technical capacity of a small Mexican community to

Protected areas in Central America, such as national parks and nature reserves, often lack the resources, technical capacity, and cooperation needed to effectively conserve the region's species-rich forests and other ecosystems. In response to these issues, PROARCA has supported the development of a



Mike Colby, USAID

**BRITTLE STAR:** This brittle star resting on a coral in Belize's Mesoamerican Reef is benefiting from a USAID program to reduce agricultural water pollution, improve management of marine protected areas, and promote responsible tourism.

conservation plan with the Central American Commission for Environment and Development (CCAD). The plan harmonizes the approaches and priorities for addressing the global Convention on Biological Diversity across the region.

In addition to framing this regional approach, PROARCA also contributed to improving the management of Central American protected areas. In Costa Rica and Nicaragua, co-management policies were implemented in partnership with TNC. In Honduras, PROARCA helped develop a national policy for Private Nature Reserves. In addition, a PROARCA-funded document, “Guidelines for the Management of Border Protected Areas in Critical Watersheds of the Mesoamerican Biological Corridor,” is being used to improve the management of several transboundary sites in the region, including some supported through the World Bank. PROARCA has also supported local community participation in the preparation of management plans through its small grants program with the Tropical Agricultural Center for Research and Education (CATIE). Three national parks—Estero Padre Ramos in El Salvador, Payne’s Creek in Belize, and Bocas del Toro in Panama—will be better managed as a result.

PROARCA has helped address threats to marine areas, including those harboring critical coral reef ecosystems. For example, PROARCA worked with the International Coral Reef Alliance (ICRAN) to produce a CD that contains GIS data, reports, and maps of the critical threats to the Mesoamerican Reef in Belize, all of which will help focus intervention efforts in this globally important coastal marine area.



Ricardo Roca Steverlynck, USAID

**WOOD FURNITURE PRODUCTION:** A man constructs furniture for export to the U.S. in a wood processing center in Bolivia. USAID has helped Bolivia become a global leader in the management of tropical forests. Approximately 2.2 million hectares of forest have been independently and voluntarily certified as well managed, a number that has doubled in only three years.

## Bolivia

### Sustainably Managing Natural Resources

Bolivia ranks among the top 10 countries in the world in terms of species richness and ecological diversity, and its 50 million hectares of forest make it the sixth most forested country in the tropics. It has developed an extensive network of 22 national protected areas, as well as a decentralized system of departmental, municipal, and private conservation areas. Some of Bolivia’s poorest and most marginalized people live in or near these protected areas, and in many cases their livelihoods are wholly dependent on forests and the natural resources they harbor.

A lack of economic opportunities for many Bolivians has led to social conflict and increased incursions into protected areas for activities such as illegal hunting, logging, and cultivation of coca and other crops. To mitigate conflict and protect Bolivia’s glob-

ally significant biodiversity and forest resources, USAID works to provide alternative and sustainable livelihood opportunities, improve protected area management, and promote sustainable forestry practices.

Wood exports represent seven percent of Bolivian exports and support more than 250,000 jobs. Safeguarding the nation’s tropical forest resources is critical to the country’s future as well as to preserving its biological diversity. In FY 2005, USAID continued to help Bolivia remain a global leader in the management of natural tropical forests. The country now has more than nine million of its 32 million hectares of forests under approved management plans. Of these, 2.2 million hectares have been independently and voluntarily certified as well managed, a number that has doubled in only three years. Last year, \$21 million of \$131 million in wood exports were certified. USAID’s efforts in this sector have also benefited indigenous and community groups by clarifying land tenure, developing community

forest management plans, and building links to the private sector.

USAID also continued its Sustainable Forestry Alliance with the Bolivian Forestry Chamber. In FY 2005, the Chamber opened two regional offices to increase membership and disseminate policy information. The Chamber also worked with the forestry business community and alliance members to develop a long-term action plan and create a well-functioning board of directors. All of these efforts will enhance the ability of local partners to promote sound forest management.

A lack of wood processing and distribution centers had hampered previous efforts to develop Bolivia's forest sector. USAID has addressed this issue through the Wood Supply and Processing Center Global Development Alliance (GDA) with the Tahuamanu Group (a private Bolivian company), the Amazonian Center for Sustainable Forestry, and the PUMA Foundation. The Alliance began to construct a wood collection and drying hub for wood exports, which was expected to begin operating in April 2006. This will be the first such hub in the country and will serve as an effective model for the creation of seven additional hubs.

In addition to promoting sustainable forestry practices, USAID is also improving protected area management throughout Bolivia. For example, near Madidi National Park, an indigenous group, the Tacana, was awarded the final 46,607 hectares of a 325,325-hectare claim that overlaps the park. Moreover, the program improved the ability of the Lecos, Mostetenes, and Guarani indigenous groups to manage their native lands, many of which are adjacent to or overlap nationally protected areas. While much progress has been made, conflict still threatens

many protected areas, particularly Madidi. In response, USAID is helping draft a conflict management strategy for the National Protected Areas Service (SERNAP) in consultation with stakeholder groups, including indigenous peoples and municipal leaders.

USAID has also recently begun a new landscape conservation program. The program will provide a strategic vision for conservation interventions, improve results reporting, and reduce the management burden for conservation activities. Specific emphases include: (1) being responsive to the dynamic socio-political environment of the country; (2) incorporating municipal interests and actors into conservation planning; (3) strengthening participatory local governance; and (4) enhancing biodiversity conservation in the Apolobamba-Madidi-Pilón Lajas and Amboro-Carrasco landscapes.

## Brazil

### Environmentally Sustainable Land Use

Brazil harbors the largest proportion of the Amazon Rainforest, an ecosystem that is the source of one-fifth of the Earth's flowing freshwater, harbors nearly one-third of the world's known species, and holds 70 billion tons of carbon in its biomass. Despite its importance, the Brazilian Amazon is under immense stress and faces many threats, including conversion to agriculture and unsustainable and illegal logging.

To address these threats, USAID's environment program seeks to reduce deforestation, increase environmentally sustainable economic opportunities for the rural poor, and mitigate climate change. It does this primarily by



Max Heitmann Arraes, WWF/Brazil

**BRAZILIAN EXTRACTING COPAIBA OIL:** Copaiba oil is used to produce a variety of medicines and as a base for cosmetics. It also stores and travels well, which makes it appealing to the rural, forest-dependent communities of Brazil. By helping communities sustainably extract and market forest-based products like copaiba, USAID hopes to provide economic incentives for forest conservation throughout Latin America.

advocating policy reform, promoting sustainable forestry practices, linking forest communities to markets, and improving landscape-level planning and monitoring.

In Brazil, USAID is contributing to the President's Initiative Against Illegal Logging (PIAIL) by combating deforestation, forest burning, and illicit practices in the timber sector. Preliminary data suggest that deforestation dropped 30 percent from the near-record high of 27,200 square kilometers in 2004. Much of this reduction is credited to increased enforcement of environmental laws, including the unprecedented roundup of dozens of illegal loggers in June 2005. This greater enforcement was facilitated by the efforts of USAID partners to raise awareness of the environmental and economic damage that illegal logging can cause.

partners trained 2,998 people in sound forest management techniques in FY 2005, and an additional 13,086 are now knowledgeable in fire management and environmental planning. Collectively, this improved the management of nearly 6,300,000 hectares of forest.

A lack of local expertise in biodiversity monitoring has also been a major barrier to the certification of Amazon timber company concessions. To address this, USAID partners have trained local timber company personnel, expanding monitoring efforts in certified forests to nearly 300,000 hectares. Monitoring data from 2004 suggest that logging: (1) decreases the abundance of mammal species that usually form groups (e.g., primates and peccaries); (2) does not affect solitary mammal species (e.g., deer, tapirs, and agouti); and (3) increases the abundance of bird species.

ares in Amazon and Atlantic forests in 2005. In addition, nearly 2,000 people were trained in conservation management with USAID support.

With USAID support, Brazil is taking a prominent leadership role in advancing biodiversity conservation beyond its borders. For example, the Government of Brazil has strongly supported the establishment of the permanent secretariat of the Amazon Cooperation Treaty Organization (ACTO) in Brasilia. The conservation and sustainable use of biodiversity is one of the core thematic areas of ACTO's strategic plan. An ACTO Regional Amazon Strategy on Biodiversity is currently being developed.

## Colombia

### Forestry and Sustainable Development Program

USAID's environment program in Colombia is helping to conserve the country's forests by strengthening indigenous communities' participation in forest management, improving protected area management, and promoting sustainable forestry.

USAID continued its support of indigenous community management of forests and protected areas through its partner, the Amazon Conservation Team (ACT). ACT and USAID have helped improve the livelihoods of nearly 4,000 indigenous families and improve the management of nearly 55,000 hectares of forest. USAID has also helped local people capture the economic benefits of forest resources, partly by providing guidance on the extraction, growth, and use of more than 200 local plant varieties.

In addition, USAID continued its work through the Colombia Forestry

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### **USAID and partners helped establish a moratorium on deforestation over an 80,000 km<sup>2</sup> area under imminent threat from land grabbers along the Cuiabá-Santarém highway in Brazil.**

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USAID partners also worked to disseminate important advances in forest management to key decision makers. For example, in June 2005, Brazil's House of Representatives passed new legislation defining rules for forest concessions, which should be a vast improvement over the largely unregulated logging of the past. Despite this excellent policy, IBAMA, the federal environmental agency, has not implemented the new rules by approving licenses for natural forest management operations. This may encourage the continuation of illegal activities.

USAID has also emphasized building capacity in sustainable practices and environmental monitoring. USAID

USAID has also focused on improving protected area management in Brazil. For example, in 2005, 37,000 square kilometers of protected areas were established in the highly disputed Terra do Meio. In addition, to allow for the establishment of additional protected areas, a moratorium on deforestation was imposed over an 80,000-square-kilometer area along the Cuiabá-Santarém (BR-163) highway, which was under imminent threat from land grabbers. In this and an adjacent area, a mosaic of 54,478 square kilometers in protected areas has been defined and awaits formal approval. USAID partners also implemented improved management practices for biodiversity conservation in nearly 13 million hect-



**MOUNTAINVIEW:** The hillsides of Santa Marta National Park in Colombia emerge through the morning mist. USAID promotes small-scale natural resource-based businesses and works with farmers in the region to promote sustainable forest management and the production of legal crops as a way to combat coca production.

Development Program (CFDP), a three-year, \$23 million project aimed at discouraging illicit activities by creating alternative economic opportunities. CFDP activities focus on improving national forest policy, improving production and income-generating opportunities from the forestry sector, and creating a Forestry Development Fund to assist in the development of forest management plans and with marketing. Specifically, CFDP helped Colombia develop, revise, and promote a new forestry law in a democratic and transparent manner. USAID also helped Colombia establish the Forest Warden Program, which invests in long-term, sustainable forestry activities. Finally, USAID has helped several Afro-Colombian communities to develop sustainable management plans for their natural forests.

USAID also continued to support the Colombian National Parks Unit. With FY 2004 funds, the Agency and its partners have strengthened

the presence of park staff in protected areas and trained them in improved management tools, including local community participation and environmental education.

USAID has begun a program that will promote integrated sustainable development in the buffer zones of two national parks: Alto Fragua Indi Wasi and Sierra Nevada de Santa Marta. Beneficiaries will include indigenous people, farmers, their organizations, and other private and public institutions. Specific activities will focus on: (1) educating indigenous communities in the management of buffer zone resources; (2) guiding community investments in microenterprises such as handicraft production and ecotourism; and (3) supporting efforts to address critical socioeconomic aspects related to buffer zone development, including land tenure and titling, economic livelihood, population migration, and gender issues.

## **Dominican Republic**

### **Improved Policies for Environmental Protection**

USAID supports the conservation of biodiversity and natural resources in the Dominican Republic by strengthening the institutions that create, monitor, and implement environmental policies.

Through the PiP program, USAID has been helping the Dominican Republic establish an ecoregional-based planning tool for improved protected area management. In FY 2005, USAID helped identify and collect data that will be used for ecoregional assessments that will then guide conservation investments and projects.

Through ecoregional planning, a portfolio of marine sites for conservation has been identified. One priority is to establish connectivity between coastal and marine protected areas (e.g.,

Parque del Este and Jaragua National Park). In addition, USAID completed a “Guide of Best Practices for Co-management of Protected Areas in the Dominican Republic,” which has been adopted by key stakeholders.

In FY 2005, USAID helped the Secretariat of Environment and Natural Resources finalize the Strategic Management Plan for the Dominican Biosphere Reserve. The reserve includes three national parks (Enriquillo, Baharuco, and Jaragua), four buffer zones, and three transition zones. In addition, USAID funded a Conservation Area Plan for Armando Bermudez National Park and Parque del Este National Park. When operational, these plans will help protect the rich biodiversity in the parks while also promoting sustainable economic growth in one of the least-developed areas of the country.

USAID continued its work through its Improved Policies for Environmental Protection (IPEP) Program. Through IPEP, USAID and its partners helped the Secretariat of Environment and Natural Resources complete a strategic document—the Vision of Coastal-Marine Resources planning and protection—and helped the Secretariat begin to develop a new law related to the sustainable use of those resources. These two closely related activities will protect the biodiversity of beach, estuary, and marine ecosystems. In addition, IPEP contributed to the Dominican Republic’s effort to protect biodiversity by supporting the development of a regulation that will strengthen the enforcement of environmental policies.

IPEP also made progress in conserving biodiversity through its Environmental Protection Investment Fund (FIPA). In FY 2005, FIPA launched three new ecotourism ventures in National

Reserves; USAID provided technical assistance in marketing for all three projects.

USAID improved forest management in FY 2005 by helping train staff in the Secretariat of the Environment and Natural Resources. For example, employees of the Under Secretariat of Forestry attended week-long courses in natural resources management given through IPEP. IPEP also continued to build institutional capacity in ecological interpretation, forest fire management and prevention, and forestry co-management through a nine-module training course. Participants included staff from the Secretariats of the Environment and Tourism as well as members of the private sector.

USAID has continued to work with the Government of the Dominican Republic to revise and finalize guidelines for the sustainable use of forest resources. Issues addressed include: (1) the operation of forestry industries; (2) forestry management plans; and (3) permission procedures for forest logging. The package of recommended guidelines was submitted to the Secretary of State for the Environment and Natural Resources in June 2005.

## Ecuador

### Sustainable Natural Resources Management and Biodiversity Conservation

Ecuador’s environment program focuses on improving management of protected areas and indigenous territories, increasing local participation in natural resources management, and providing sustainable financing and incomes to forest-dependent communities.

In FY 2005, USAID continued its work through the Conservation in

Managed Indigenous Lands Program. Examples of program successes include: (1) six indigenous Quichua communities from Yasuni National Park negotiated a co-management agreement with the Ministry of Environment to protect 96,000 hectares of pristine Amazonian tropical rainforest; (2) the Cofán delimited and demarcated 105 kilometers of territorial boundaries in protected areas of the Amazon Basin, which will reduce conflict and enhance the recognition of protected area boundaries; and (3) the Indigenous Awa Federation developed a management plan for 100,000 hectares of Awa territory in the last remaining patch of the Ecuadorean Chocó, one of the most biodiverse forested regions on the planet.



Dave Gibson, Chemonics

**INDIGENOUS ECUADOREAN WOMEN:** Women from the Huarani Territory in Ecuador are among many indigenous peoples who have benefited from USAID biodiversity and forestry programs. In Ecuador, USAID is working to improve the management of protected areas and indigenous territories, increase local participation in natural resources management, and provide sustainable incomes to forest-dependent communities.

USAID continued its work to improve the protection and management of the Galapagos Islands. Over the last two years, the Galapagos National Park has had 12 different directors as a result of Ecuador's political turmoil, which severely disrupted the park's administration and governance of the Marine Reserve. USAID coordinated with the U.S. Embassy and partners to: (1)

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**An Ecuadorean indigenous group, the Cofán, measured and marked 105 kilometers of territorial boundaries in protected areas of the Amazon Basin, reducing conflict and enhancing recognition of protected area boundaries.**

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restore the participatory management system; (2) support the implementation of sustainable businesses and fishing alternatives; and (3) guarantee the continuity of essential management processes, including monitoring fishing activities and applying zoning agreements.

USAID also worked with the Government of Ecuador to modify policies related to the Galapagos National Park. For example, USAID supported the drive for a more transparent selection process for the park director. It also facilitated the withdrawal of tourism regulations that greatly restricted economic opportunities for local communities. The Agency and its partners played key roles in the issuance of the Ministry of Environment's Decree that prohibits sport fishing until it is properly regulated.

PiP, which seeks to conserve two million hectares of tropical forest in the Andes, improved national park management through a variety of avenues. For example, highland communities

adjacent to Cayambe-Coca Reserve agreed to protect the area and are funding community park guards. The program catalyzed \$500,000 in complementary funding for indigenous park guards in the Cayambe-Coca and the Cofán-Bermejo Reserves.

The rural poor own much of Ecuador's remaining primary forests, and giving them the knowledge and economic incentives to sustainably manage those forests is key to stopping deforestation. Ecomadera, a GDA, is working on a number of initiatives to meet these needs. For example, landowners received 60 percent higher prices for legal wood through the program, and the Cristobol Colon community was selected as a pilot for a new Forest Stewardship Council (FSC) certification project. In addition, USAID is working with a Peace Corps volunteer who has 25 years of experience as a carpenter to develop community-made wood products for local markets. Three potential markets in the U.S.

are also being explored. The business is expected to begin turning a profit sometime in the next year.

The financial sustainability of USAID's activities is key to these activities' long-term success, and the Agency has helped provide this sustainability through various mechanisms. For example, FONAG, a private, USAID-supported endowment, invested \$425,000 of its own funds and leveraged an impressive \$690,700 in matching funds to support conservation activities. PiP also leveraged \$3 million from the Global Environment Facility (GEF) to support Ecuador's national park system.

## El Salvador

### Improved Management and Conservation of Critical Watersheds

USAID has begun a program that focuses on improving the management



Patrick Smith, USAID

**LOS VOLCANES, EL SALVADOR:** This tangled jungle on a volcanic peak lies at the top of a watershed where USAID is pursuing ecotourism opportunities. Further down, USAID works with coffee growers to improve their techniques, and with agricultural water users to limit their use of freshwater.



and conservation of critical watersheds in El Salvador. The program's activities, which will begin in FY 2006, will be designed to protect biodiversity and natural resources within two Salvadoran watersheds: Barra de Santiago/El Imposible, and Rio Grande de Sonsonate. These two watersheds contain 42 percent of El Salvador's national protected areas and a population of 634,575 people, all of whom depend on water generated from these watersheds.

Activities are geared toward the sustainable use of natural resources, including water, such that both biodiversity and local residents benefit. Objectives include: (1) improving the management of three selected conservation areas (Apaneca-Lamantepec, El Imposible/Barra de Santiago, and Los Cobanos); (2) expanding conservation areas by 30 percent; (3) increasing local awareness of the importance of biodiversity and watershed management; and (4) implementing a watershed monitoring plan.

## Guatemala

### Sustainable Natural Resources Management and Biodiversity Conservation

Guatemalan tropical forests are among the most extensive and diverse in all of Latin America. These forests are home to nearly 700 species of birds and more than 8,000 species of vascular plants. Guatemalan natural resources are critical to the tourism and forestry industries, which comprise a significant portion of the nation's economy. USAID's programs focus on preserving these important resources for future generations by improving the management of protected areas, promoting sustainable forest management, and preventing and mitigating forest fires.



© Chemonics/Ben Fraser and Laura Miller, 2004

**GUATEMALAN WOODWORKER:** A man carves a bowl from timber harvested from a certified forest concession. Timber is but one of the many economic resources that can be found in well-managed forests.

USAID/Guatemala has continued its assistance to conservation areas in the Lake Atitlan and Motagua-Polochic regions through the PiP program. In FY 2005, USAID helped update the Lake Atitlán Watershed Multiple Use Protected Area (LAWMUPA) Master Plan, a 160,000-hectare area. To develop the plan, major stakeholders conducted 14 workshops that were attended by people from the 19 municipalities overseen by the Department of Sololá. The plan was approved unanimously by the department's Development Council.

USAID also helped to have private land declared as nature reserves. The Asociación Nacional de Reservas Naturales Privadas de Guatemala (ARNPG, Guatemala's Private Natural Reserves Association) registered 11 private nature reserves that total 6,000 hectares in the Atitlan region. In the Motagua-Polochic region, USAID partners obtained 25-year-use rights to a 45-hectare property in Cabañas, which will protect the endangered beaded lizard.

The management plans for the Municipal Parks of San Juan La Laguna and San Marcos La Laguna were also devel-

oped in FY 2005 with the assistance of USAID. Through the plans, an administrative structure was established that incorporates many different stakeholders, including local government, civil society members, and tourism entrepreneurs. The plans also supplement the parks' income through Guatemala's Forest Incentives Program, PINFOR, which is run by Instituto Nacional de Bosques (INAB). PINFOR pays local landowners annually for each hectare of forest on their land. It will provide a total of \$250,000 over the next five years to four municipal parks, including the two mentioned above.

PiP also addressed threats to parks and biodiversity, including those introduced through water pollution and drought. Partners conducted a study of water resources of the Madre Vieja and Nahualate watersheds to study recorded water levels and identify point and non-point sources of water pollution. These watersheds are now well described, which will allow stakeholders to better manage them for biodiversity conservation purposes as well as for disaster mitigation.

USAID continued its important work in support of biological monitoring

and evaluation in the Mayan Biosphere Reserve through the Living Landscapes program of the Wildlife Conservation Society (WCS). This program identified the biological landscapes of endangered species, the threats to their survival, and ways to address those threats. Species benefited include the jaguar, white-lipped peccary, Central American river turtle, scarlet macaw, tapir, Morelet's crocodile, and the Yucatan spiny-tailed iguana.

USAID continues to support sustainable community forest concessions through the Community Enterprise for Forest Services (FORESCOM), which serves as a brokers for at least 10 community forestry concessions. FORESCOM was certified as a Regente Forestal by Smartwood under the authorization of the Forestry Stewardship Council. In all, FORESCOM members hold 350,525 hectares of certified forests. The organization sold approximately \$100,000 in certified timber and timber products during FY 2005, which represents a 43 percent increase over FY 2004.

Fires are an important threat to the forests of Guatemala—they can destroy key biodiversity habitats and valuable plant species, and make communities more vulnerable to landslides during tropical storm deluges. USAID, through the U.S. Department of the Interior, is helping address this threat by providing training, firefighting equipment, and assistance for fire management planning.

## Haiti

### Sustainable Agriculture and Natural Resources Management

In FY 2005, USAID's Hillside Agriculture Program (HAP) continued to support the restoration of Haiti's forest



**TREE NURSERY:** In Haiti, nearly every steep hillside is covered by agriculture. Soil erosion on these slopes has led to land degradation and serious declines in agricultural productivity. USAID is helping restore these degraded hillsides by planting fruit trees, which will slow soil erosion, improve soil fertility by increasing organic matter input to soils, and provide alternative agricultural products to farmers.

cover by focusing on three major tree crops: mango, coffee, and cocoa. A major USAID focus was increasing market opportunities for Haitian mangoes in the U.S. by enabling three mango producer groups and three exporters to be certified as organic. As a result, Haitian exporters shipped 6,000 boxes of certified organic mangoes to new U.S. buyers, and farmers received a 25 percent premium over the regular farm gate prices for the organic mangoes.

In addition, USAID's Development Assistance Program continued to assist farmers in critical and fragile agricultural areas of the country through training in improved production technologies and soil conservation practices, the production and distribution of tree seedlings, and the use of improved germplasm. For example, USAID helped plant 361,200 fruit trees on 566 hectares, which will improve agricultural income and also promote soil stability. In addition,

USAID and partners trained 10,600 farmers in soil fertility improvement through composting and mulching, and in erosion control through the use of live barriers, dry walls, gully plugs, and contour terraces. These efforts will help protect Haiti's precious natural resources into the future.

## Honduras

### Improved Management of Watersheds, Forests, and Protected Areas

The biological and economic value of Honduran forests are well known—Honduras harbors parks that protect regionally important biodiversity and vast pine forests that drive economic growth and sustain the country's water supply. Unfortunately, these forests face grave threats from illegal logging, severe droughts and associated fires, and recurrent pest outbreaks. USAID's environmental activities in Honduras

have focused on addressing these issues through the sustainable management of watersheds, forests, and protected areas.

In FY 2005, USAID continued its Integrated Watershed Resources Management (IWRM) project, which is developing 60 microwatershed plans in 12 larger watersheds throughout Honduras. Six of these management plans were completed through the IWRM project in FY 2005. Activities included developing: (1) forest management plans and alternative livelihood options in park buffer zones; (2) low-cost practices to protect water supplies; (3) improved water storage for farming; and (4) soil conservation practices. Specific buffer zone livelihoods being encouraged include agroforestry, the production of shade-grown coffee using environmentally sound practices, and the sustainable harvest of timber and non-timber



**CINNAMON HUMMINGBIRD:** A female hummingbird sits on her eggs to keep them warm, leaving periodically to feed her high metabolism with nectar from nearby flowers. In Honduras, USAID is improving the protection of the forests these birds depend on by promoting sustainable forestry practices and sound park management.

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**In Honduras, USAID helped secure the sale of carbon emissions reductions to the World Bank's BioCarbon Fund. The estimated \$3 million in sales over the life of the project will support park management and community outreach activities in the park's buffer zone.**

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forest products (NTFPs). By providing alternative livelihood opportunities, improving the water supply, and making agriculture more sustainable and productive over the long term, the program attempts to reduce pressures to expand agriculture into forested areas.

As a part of the IWRM effort, 18 terrestrial and marine protected areas that cover more than 230,000 hectares and serve as reservoirs for biodiversity are being targeted for improved management. A major focal point of this effort is the implementation of more than 20 flora and fauna inventories to identify potential keystone species and develop and implement recommendations for their conservation. Other key results of this program will be strengthened capacity of park managers, improved protected area infrastructure, and increased revenues, all of which will enhance the ability of park staff to monitor and protect wildlife.

The IWRM project also helped partners secure the sale of carbon emissions reductions to the World Bank's BioCarbon Fund; partners include the Pico Bonito National Park Foundation (FUPNAPIB) and the Ecologic Development Fund. Estimated sales over the life of the project are approximately \$3 million. Proceeds will be directed to support park management and community outreach activities in the park's buffer zone. Activities will target 13 communities comprising some 2,000 inhabitants.

The Pico Bonito National Park carbon project includes reforestation with

subsequent commercial management (1,000 hectares), agroforestry (600 hectares), reforestation with subsequent conservation (1,000 hectares), preservation of mature forests (250 hectares), and improved community forest management (100 hectares). USAID's IWRM project has provided park staff, foresters, and biologists with training in field data collection and quality control, forest biomass measurement, projections of carbon accrual for agroforestry, and agroforestry monitoring plans.

In addition, USAID has continued to support the protection of approximately 250,000 hectares of critical pine forest from fires and severe pest outbreaks by working with the USDA Forest Service (USFS) and the Honduran Government. For example, USFS provided expert assistance to evaluate a pine bark beetle outbreak in Olancho and recommended measures for direct control of the outbreak. It also provided expert assistance for emergency fire and air quality measurements of particulate matter during the severe forest fire season of 2005. This work demonstrated that Honduran air, particularly that of its capital, Tegucigalpa, is highly polluted from forest fires and other sources.

## **Jamaica**

### **Sustainable Natural Resources Management and Biodiversity Conservation**

Jamaica's terrestrial and marine ecosystems are not only incredibly beautiful



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**AERIAL ROOTS OF MANGROVE TREES:** Mangrove tree roots are often underwater, which can deprive them of much-needed oxygen. To cope with this, mangrove trees grow aerial roots that can gather oxygen from the air no matter how much water has inundated the ground beneath them. In Jamaica, USAID helps protect mangroves by reducing water pollution from uplands.

and biologically diverse, they also support the livelihoods of local communities. Tourism, the island's most important economic sector, directly depends

In FY 2005, USAID continued its efforts in biodiversity conservation through the Jamaica Protected Area Trust (JPAT), a national NGO-based

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**In FY 2005, USAID and the Government of Jamaica's Forestry Department helped plant more than 15,000 fruit trees and 20,000 timber trees in upland ecosystems. This will stabilize hillsides, reduce water pollution, and generate income.**

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on sustaining the country's forests and coral reefs over the long term. However, overexploitation of coastal resources, conversion of forests to other types of land use, and industrial and urban pollution pose grave threats to the island's natural resources. In response, USAID programs seek to enhance the protection of natural resources and biodiversity, improve land management policies and planning, and reduce upstream pollution.

trust fund that creates partnerships to protect natural areas and biodiversity in Jamaica. It works with NGOs, the Government of Jamaica, the private sector, and other stakeholders to facilitate public-private partnerships. It also helps implement debt-swap agreements, where debt is forgiven in exchange for commitments to fund biodiversity conservation programs. In FY 2005, JPAT produced a guide that demonstrates how NGOs and others can work together toward the shared

mission of establishing, restoring, and maintaining Jamaica's protected areas.

USAID's work in conservation will be enhanced in FY 2006 with the inception of the Protected Area and Land Management (PALM) project. PALM will provide technical assistance for the mainstreaming of environmental management best practices to targeted river basins and conservation sites. Initial work will focus on developing a legal, institutional, and regulatory framework for land use planning to reduce and prevent the negative environmental impacts that stem from improper land use practices. Biodiversity conservation will be addressed by improving the management of terrestrial and marine parks and protected areas.

Jamaica's Ridge to Reef Watershed Project focuses on upper watershed conservation through the introduction of sustainable agricultural practices, reforestation, and public education and awareness. In FY 2005, USAID and the Government of Jamaica's Forestry Department helped plant more than 15,000 fruit trees and more than 20,000 timber trees in upland ecosystems. These plants will not only provide slope stability and reduce the runoff of sediment and pollutants into downstream ecosystems, but also will potentially generate income for local residents.

At the policy level, USAID continued to provide technical support to the Integrated Watershed and Coastal Zone Management Branch of Jamaica's National Environment and Planning Agency (NEPA) and the Government of Jamaica's National Integrated Watershed Management Council (NI-WMC). Specifically, USAID helped the Government of Jamaica prepare a draft of an 'omnibus' Environment and Planning Act.

## Mexico

### Conservation and Sustainable Natural Resource Management in Targeted Watersheds

Mexico harbors an incredibly wide array of ecosystems, including 50 million hectares of tropical forest, all of which contribute to its status as one of the world's most biodiverse countries. The biodiversity found there is also unique—30 percent of the species found in Mexico are endemic. Through a Memorandum of Understanding with the Mexican Environment Ministry, USAID is ensuring that its assistance meets Mexico's needs. USAID's environment program focuses on improving the conservation and management of natural resources

by: (1) addressing threats to tropical forests; (2) helping local people participate in the implementation of sustainable use and conservation activities on their land; (3) developing and promoting the adoption of technologies that are economically viable and ecologically sound; and (4) improving the policy environment to support improved practices and local participation in planning and decision making. The program focuses on four watersheds that are important to both biodiversity and people: the middle Usumacinta (Chiapas), the Pacific Coast (Chiapas), the Chimalapas (Oaxaca), and the Sierra Tarahumara (Chihuahua).

Fire damages an average of 200,000 hectares of forest every year in Mexico.

USAID's Fire Management Program has continued to collaborate with the Mexican Forest Commission's (CONAFOR) fire office to train 163 professionals in effective firefighting, prevention, and mitigation techniques. Through the collaboration, a new fire training tracking system was implemented, training materials were improved, and a national fire plan was developed, all of which will help Mexico more effectively use its limited resources for fire management.

In addition, USAID's in-country NGO partner, the Mexican Conservation Fund (FMCN), facilitated the development of fire planning and training courses in Chiapas, the Chimalapas, and Campeche. The courses were organized and taught with CONAFOR's local representatives. USAID also facilitated the establishment of FMCN's endowment, \$4 million of which will be used to support projects that enhance fire management in protected areas. In 2005, more than \$200,000 was available to support various projects.

To improve the sustainable and efficient use of forest resources in Oaxaca and Durango, USAID worked with the regional GDA partner, RA. RA helped communities generate an additional \$455,000 in sales through improved processing efficiency and the development of new products. With the help of RA, communities have invested more than \$190,000 of their own resources to improve infrastructure, equipment, and training. RA has also worked with USFS to provide critical training to those who advise communities on using strategic harvesting approaches, maintaining roads, and developing products from oak and small-diameter wood and wood waste.

USAID's Rural Prosperity contract



USAID/Mexico

**MADE IN MEXICO:** A man from the Ixtlan forest community constructs a chair out of certified sustainable timber. The state of Oaxaca is purchasing the furniture for use in its primary schools.



**ECOPARK HOTEL:** This simple hotel outside the Padre Ramos Protected Area Ecopark captures tourist revenue for the local people. In Nicaragua, USAID supports co-management of protected areas by training communities in reduced impact logging, ecotourism management, and sustainable financing.

(IPRC) has identified win-win opportunities where adopting practices that protect biodiversity are also economically beneficial; such opportunities were found with certified coffee and sustainable cacao. The regional RA program certified 21 coffee farms in Mexico in 2005, increasing hectares under certification by 145 percent. The gross sales from these producers were more than \$4.5 million and involved 984 permanent and almost 6,000 temporary workers.

To improve protected area management, USAID worked through its IPRC program and Conservation International (CI) to develop an information center for local ecotourism operators in the biologically diverse tropical forests of Lacandon National Park. In the Monarch Butterfly Reserve, IPRC is helping communities develop a tourism strategy for this critically important conservation area. USAID and partners have developed protocols and databases for monitoring biodiversity levels and threats to the reserve.

## Nicaragua

### Sustainable Forest Management and Biodiversity Conservation

Nicaragua harbors tropical forest, marine, and freshwater ecosystems that not only provide shelter for biological diversity but also critical natural resources that improve people's lives. Nicaragua's five-year strategy has prioritized improving ecosystem management and contributing to competitive, market-oriented activities that are consistent with conservation goals.

In FY 2005, USAID continued to support its Co-management of Protected Areas Project (COMAP), which seeks to: (1) support the adoption of best practices in sustainable forestry; (2) provide technical assistance to indigenous communities and industries in the production, administration, and

management of forest resources and wood products; and (3) build value chains to facilitate the production and sale of sustainable wood products.

Through COMAP, the World Wildlife Fund (WWF) helped three different indigenous communities manage forested lands with sustainable practices, including reduced-impact logging, tree inventorying and mapping, directional felling, long-term management plans, and annual plans for allowable cuts. For example, the community of Las Crucetas now manages a total of 11,200 hectares of forest; six indigenous communities known as SIPBAA manage 12,000 hectares of forest; and the Layasiksa group manages 4,500 hectares of forest. Each of these communities is harvesting timber from their forests, and is developing value-added products as well. In addition, each is in the process of becoming cer-

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**In Nicaragua, forest fires in more than 23,000 hectares were reduced by 90 percent from 2004, in part through forest fire prevention and control efforts coordinated and executed by a USAID program.**

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the Panama Canal Authority (ACP), the Agricultural Development Bank (BDA), and the Ministry of Agricultural Development (MIDA).

In FY 2005, in response to the recent redrafting of environmental and conservation policies, USAID trained 75 GOP employees, including judges and attorneys, in the application of new Panamanian environmental regulations. Participants also received reference materials such as current regulations, case studies on applying the regulations, and five environmental regulations training modules.

USAID helped catalyze the adoption of a Sustainable Livestock Policy by MIDA, which includes using best practices to generate more income for producers while mitigating negative

agricultural systems, including offering long-term loans that will finance forestry activities.

Some new policies and policy reforms proposed to the GOP have significant potential to positively impact biodiversity. These are the new Protected Areas Law, the ANAM concession regulations, policies for soil conservation, concessions in protected areas, the forestry law, and sustainable cattle ranching.

USAID is implementing six different sub-grants with NGOs that fund activities in and around Soberanía and San Lorenzo National Parks, primarily targeted at ecotourism. Activities include the IPAT National Ecotourism Strategy, the George Washington University Study on recommendations

Soberanía National Park (SNP) has unique characteristics that could help it become a world-class sustainable tourism destination, making it financially self-sufficient as well as a source of revenue for Panama's central government. Developed with USAID support, SNP's strategic plan includes: (1) developing sound policies and regulations for revenue generation, prudent management, and concessions; and (2) formalizing public-private alliances to implement activities. The park will soon participate in a GOP pilot effort to return a portion of SNP's income for its own management. USAID is also supporting joint ventures with private entrepreneurs on projects such as a jungle canopy walk, which would bring concession income and employment in ecotourism to neighboring communities.

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**Loans to the ranching community from Panama's Agricultural Development Bank now require USAID-promoted cattle ranching practices that will result in natural reforestation of river and stream banks, strengthened biological corridors, and increased gallery forests in areas of high biodiversity.**

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biodiversity impacts on key protected areas such as Chagres and Soberanía National Parks. Sustainable cattle production encourages widespread land use change that will result in natural reforestation of river and stream banks, the strengthening of biological corridors, and increased gallery forests in areas of high biodiversity value.

MIDA and its financial body, the BDA, adopted the sustainable cattle ranching policy as a criterion for its loans in the PCW. This should lead to positive land use impacts across the PCW, including in protected areas and areas rich in biodiversity. The BDA also reformed its loan policy, making it a tool to support the adoption of best practices and clean production in

for Soberanía National Park, and work on environmental governance.

Through an alliance with TNC, USAID continued to provide resources for PiP to improve the protection and management of Chagres National Park. USAID and TNC developed a new Master Plan for the park. Under PiP, 56 farms have received technical assistance to develop their farm management plans, and their owners have been trained on sustainable cattle and agriculture activities. The Chagres Fund and the Darien Fund are now fully operational. These were established earlier with two debt-for-nature swaps under the Tropical Forest Conservation Act (TFCA). TNC has also contributed funding to the Chagres Fund.

Following efforts initiated two years ago, USAID has continued its work with The Peregrine Fund (TPF) to refine methods for the propagation, release, and monitoring of Harpy Eagle populations. TPF promotes ecologically sound behaviors and practices of communities toward raptors and their habitats.

## Paraguay

### Sustainable Management of Globally Important Ecoregions

Three globally important ecoregions are found in Paraguay—the Atlantic tropical rainforests, the Chaco forests, and the Pantanal wetlands. USAID's environment program is focused on improving their conservation and management. Since these ecosystems cross political boundaries, USAID's Paraguay activities are coordinated regionally with Argentina, Bolivia, and Brazil.



In FY 2005, USAID focused on improving protected area management in the Upper Parana Atlantic Forest (UPAF). The Agency worked with a private company and Fundacion Moises Bertoni to create and manage Tapyta Nature Reserve, which covers 4,700 hectares of forest. Tapyta is not only an important conservation area itself, but will serve as a critical link between two larger national parks—Caazapá National Park (16,000 hectares) and San Rafael (70,000 hectares).

USAID helped update the management plan of the Cerro Cora National Park in the UPAF, which will help park managers and staff more effectively address current needs and threats. In Caazapá National Park, USAID worked to restore administrative buildings, repair cars and motorcycles used for park patrols, and train

park guards to effectively respond to forest fires.

In the Chaco Forest, more than seven million hectares were officially recognized as the Chaco Biosphere Reserve by the Man and Biosphere-UNESCO Committee. The committee defines Biosphere Reserves as areas of terrestrial and coastal ecosystems that promote solutions that reconcile the conservation of biodiversity with its sustainable use. The designation will help protect the Chaco Forest's biodiversity as well as the territory and culture of indigenous people.

USAID also worked to reduce deforestation across the country. For example, with support from USAID partner WWF, the "Zero Deforestation Law" was passed by Paraguay's Congress to halt all deforestation activities in the eastern side of the country for two

years. WWF estimates that deforestation rates fell by about 85 percent in the Atlantic forests, in part due to this new law.

In addition, a Social Pact among institutions from different sectors (e.g., NGOs, farmers, and foresters) was formed to reduce deforestation rates. Within the Social Pact's framework, a pilot project called "Tradable Rights" was developed in the Pirapó River Basin. Through the project, a study demonstrated that using fallow land could preclude the clearing of forests for new agricultural activities. In addition, 30 landowners in the project area have agreed to start reforesting the Pirapó River Basin.

## Peru

### Strengthened Environmental Management to Address Priority Problems

USAID's environment program in Peru focuses on improving natural resource management by strengthening the protected area system, improving national environmental policies, and promoting sustainable forestry practices.

USAID protected area assistance has three primary objectives: (1) strengthening the country's capacity for park protection and management by training personnel and improving infrastructure and equipment; (2) advancing the legal framework for biodiversity conservation; and (3) promoting biodiversity conservation and sustainable resource management to improve the livelihoods of communities near the parks. To make progress in these areas, USAID works closely with Peru's National System of Protected Areas (SINANPE) and its parent agency, the National Authority of Natural Resources (INRENA).



Uwe Kurth, USAID

**FLOWERING CACTUS:** This cactus and many other plant and animal species stand to benefit from official recognition in FY 2005 of more than seven million hectares of the Chaco Forest as the Chaco Biosphere Reserve by the Man and Biosphere-UNESCO Committee.

USAID is implementing activities in six protected areas that contain high biodiversity value, critical habitats, and fragile ecosystems: Parque Nacional Cordillera Azul, Parque Nacional Yanachaga Chemillen, Reserva Nacional Pacaya Samiria, Bosque de Protección San Matías-San Carlos, Reserva Comunal Yanasha, and Paracas National Reserve. In FY 2005, USAID activities helped substantially improve INRENA's capacity to protect parks. USAID reinforced park guard operations, training, surveillance, and monitoring, and trained park staff in leadership, ecology, conflict resolution, biodiversity monitoring methodologies, and environmental interpretation. Local settlers and native indigenous residents are participating as park guards and are gradually taking a more active role in the parks' protection.

USAID also helped improve the legal framework for biodiversity conservation. For example, USAID helped resolve land tenure issues through



**SQUIRREL MONKEY:** Squirrel monkeys are often the highlights of a hike through the rainforest in Peru. The monkeys hang out in playful groups of 20 to 100 individuals. USAID helped train park managers in wildlife monitoring, which will help determine if park habitat is being adequately maintained for primates like these monkeys.

existing flora and fauna sanctioning protocols, allowing park guards to take action against illicit forestry activities in their respective parks.

In FY 2005, USAID helped INRENA redesign its organizational structure and develop new operating procedures for its forestry authority to address institutional weaknesses and transpar-

ties, and the design and implementation of forestry audits.

In FY 2005, INRENA, with USAID support, reviewed existing forestry concessions and found serious problems that needed to be corrected. INRENA found that 60 percent of 52 concessions were guilty of serious legal infractions, including falsifying documents, extracting timber outside legal boundaries, and bribery. While the other 40 percent were compliant with the minimal management standards of Peruvian law, the concessions still needed vast improvement to be sustainable. In response, INRENA suspended the granting of new concessions and requested USAID support to correct the weaknesses identified. Specific actions USAID has recommended include: (1) emphasizing international certification of pilot timber concessions; and (2) promoting greater decentralization of INRENA functions.

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**With USAID support, the Peruvian government reviewed existing forestry concessions and found serious problems. As a result, the granting of new concessions was suspended pending concession reform.**

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a conflict mitigation assessment of the southern part of the San Matias-San Carlos Protected Forest, where conflict between native and migrant communities has been on the rise. USAID support was pivotal for the official recognition of the Association for the Management of the Yanasha Communal Reserve (AMARCY) as a native organization, which gives it decision-making power over the reserve's natural resources. In addition, USAID and INRENA developed mechanisms to bring illegal logging enforcement procedures in line with

ency. For example, INRENA created an ombudsman position to monitor forestry decisions and processes; developed an operating manual and database of forestry laws and applications; and expects to conduct training courses incorporating this material in 2006. USAID also worked closely with the Multi-sectoral Commission Against Illegal Logging (MCAIL) and trained more than 250 Peruvian government officials, including forestry managers, tax inspectors, prosecutors, judges, and regional authorities, in wood species identification, legal is-

# CENTRALLY FUNDED PROGRAMS

## EGAT/NRM/Biodiversity Team

### Global Biodiversity Conservation

The USAID Bureau for Economic Growth, Agriculture and Trade (EGAT), Natural Resources Management (NRM) Office's Biodiversity Team works with USAID Missions and nongovernmental organizations (NGO) partners to conserve species and habitats in more than 45 countries worldwide. It supports activities that focus on site-based conservation, with an emphasis on sound governance, improved livelihoods, and social justice, as well as policy reform and implementation. In FY 2005, the Biodiversity Team helped place more than 1.8 mil-

lion hectares of biologically important habitat under improved management, for a cumulative total of more than 68 million hectares since 1996. An additional 3,811 hectares were placed under a rigorously defined category of "effective management," for a cumulative total of 2,017,244 hectares since 1996. The following highlights the Biodiversity Team's FY 2005 activities and accomplishments.

The Global Conservation Program (GCP), managed by the Biodiversity Team, is a partnership with six U.S.-based conservation organizations that implement conservation projects at 17 priority sites worldwide. For example, in Bolivia GCP support complemented Mission resources that enabled the Wildlife Conservation Society (WCS) to help the Tacana indigenous commu-

nity gain title to nearly 50,000 hectares. This land, adjacent to the Madidi protected area, is critical for ensuring both the sustainable livelihoods of the Tacana people and the critical watershed functions that benefit thousands of additional users further downstream. USAID also assisted the Government of Kenya to grant the incorporation of the Kenya Land Conservation Trust (KLCT), a landmark national institution that will allow land to be privately held for conservation, thus supplementing Kenya's traditional government parks and reserves.

Through the GCP, USAID encouraged the Governments of Kenya, Tanzania, and Mozambique to protect their most important mangrove forests—the Tana River Delta in Kenya, the Rufiji Delta in Tanzania, and the Zambezi Delta



Mike Colby, USAID

**LION CHASE IN TANZANIA:** A water buffalo runs for its life in Ngorongoro Crater National Park, home of the world's largest intact volcano crater. USAID support for improved management in Serengeti, Lake Manyara, Tarangire, and Kilimanjaro National Parks has led to increased visitor fees, revenue that the Government of Tanzania can invest in Ngorongoro and other parks.

in Mozambique. These decisions were made in close consultation with local communities, who rely on these mangroves for maintaining coastal fisheries and for providing protection from storm surges, waves, and tsunamis. USAID also supported improved management of Glover's Reef Atoll off the coast of Belize. At the site of one of the Caribbean's largest and last remaining Nassau grouper spawning aggregations,

provided in-country and virtual assistance to Bureaus and Missions designing programs to meet the new earmark. The Biodiversity Team also provided technical leadership in a number of areas, including: (1) revising a technical guide for Missions on the design and implementation of biodiversity programs; (2) developing a lessons learned document to assist Missions in meeting mandatory biodiversity

the protection and sustainable management of forests around the world. Forest protection and biodiversity conservation are inextricably linked through forests' role as a primary habitat for many flora and fauna species. USAID forestry programs reflect this, and promote better forest management in areas with high biodiversity value. Sustainable forestry, agroforestry, and forest management also provide a basis for economic growth and poverty reduction in many rural areas. More than one billion of the world's poorest populations derive food, medicine, fuel, and construction materials from forests. In some areas, competition for forest resources has resulted in illegal logging and conflict among user groups. In FY 2005, USAID's Forestry Team continued to provide technical leadership and assistance on these issues.

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**In FY 2005, USAID's Biodiversity Team helped place more than 1.8 million hectares of biologically important habitat under improved management.**

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there was a 33 percent increase in the number of spawning Nassau groupers observed over FY 2004.

The Biodiversity Team also provided direct field support to the Agency's Missions and Bureaus, as well as technical leadership within USAID, inter-agency fora, and in the development and conservation community. For example, in response to the urgent needs of the Asian Tsunami, the Biodiversity Team provided technical assistance to the Missions in Thailand and Sri Lanka on environmental sustainability and long-term economic security, to restart and diversify key coastal livelihoods through fisheries and culturally appropriate tourism. In addition, the Team continued to assist with the development of USAID's Amazon Basin Conservation Initiative (ABCI), transferring lessons learned in other regional programs, such as CARPE, to the design of the new initiative.

and forestry analysis requirements; (3) encouraging partners to work together to generate innovative conservation approaches and share effective conservation practices; and (4) leading implementation in Africa of the Convention to Combat Desertification.

In FY 2005, the Biodiversity Team increased its support for innovative efforts to integrate and mainstream biodiversity conservation across diverse technical sectors, including programs working with long-line fishery management, HIV/AIDS and gender, extractive industries, and humanitarian/natural disaster relief and mitigation. For example, the World Wildlife Fund's (WWF) Pacific Marine Turtle Bycatch Program saw reductions in marine turtle mortality and bycatch of up to 90 percent during some trials of alternative long-line fishing technologies, while maintaining fishing community incomes.

One of the Forestry Team's primary activities in FY 2005 was the Sustainable Forest Products Global Alliance (SFPGA), a public-private partner-

In FY 2005, the Biodiversity Team led a strategic budgeting exercise that sought to prioritize USAID biodiversity investment in regions that had the highest levels of terrestrial and marine biodiversity, and the highest level of threat. In addition, the Team pro-

## **EGAT/NRM/Forestry Team**

### **Sustainable Forest Management**

The Office of Natural Resources Management's Forestry Team promotes



Robin Mason, USAID

**TREE NURSERY:** These seedlings will be used to reforest hills around the Panama Canal, ultimately reducing soil erosion and helping regulate water flows into the Canal. Around the world, USAID's forestry programs seek to restore healthy forests for wildlife habitat, watershed protection, and income from forest products.

ship that works to reward sustainable forest management in the global marketplace. SFPGA is anchored by USAID's Forestry Team and its NGO partners—Metafore and WWF. USAID contributes its country-specific knowledge and technical support to the SFPGA. WWF, through its Global Forest and Trade Network, creates networks of suppliers in developing countries and buyers in consuming nations that commit to the production and trade of responsible forest products. Metafore works to increase the demand for sustainable forest products by helping companies based in developing countries understand the market for and the implications of how they purchase and use wood and paper products.

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**Tetra Pak, a packaging company, made a three-year commitment to purchase forest-based products from responsibly managed forests, and to reduce its CO<sub>2</sub> emissions over the next five years by ten percent.**

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SFPGA's efforts are helping protect forests and biodiversity around the world. For example, in FY 2005, Tetra Pak, an international food packaging and processing company, signed a three-year agreement that will help improve forest management and reduce its emission of greenhouse gases. To do this, Tetra Pak has agreed to begin purchasing forest-based products from responsibly managed forests and to reduce its carbon dioxide (CO<sub>2</sub>) emissions over the next five years by 10 percent. In addition, WWF's Global Forest Trade Network has grown to 408 members, including processors, manufacturers, traders, and forest owners. The network now manages 13.3 million hectares of forest as well as trade in forest products in excess of \$15.8 billion. To date,

70 successful trade relationships have developed from this network, with an estimated trade value of \$34 million.

The Forestry Team also works with the U.S. Department of Agriculture Forest Service (USFS) through an interagency agreement to improve forest management around the world. In FY 2005, USAID used USFS expertise to build local capacity for protected area management; reduce logging-related environmental damage; manage forest fires; conduct landscape planning and management; conduct aerial and ground-based forest monitoring; and protect watersheds in 28 countries in Africa, Latin America, and Asia.

In Africa, USFS helped the Congolese set up a Geographic Information System (GIS) and

remote sensing lab to detect and prevent illegal logging. In Liberia, USFS helped complete a transparent review of forest

concessions that is helping this fragile state eliminate corruption, reduce conflict, and rebuild the confidence of the global market. In Latin America, USFS continued its successful partnership with the Tropical Forest Institute, training 354 individuals in sustainable forest management practices in Brazil and extending training to other Amazon Basin countries such as Peru, Bolivia, and French Guyana.

In Asia, USFS, in cooperation with the Food and Agricultural Organization in Bangkok, initiated the Asia-Pacific Forest Invasive Species Network to help build regional capacity to detect, manage, and control invasive species, which are a global threat to biodiversity.

## EGAT/NRM/Water Team

### Conservation of Coastal and Freshwater Resources

USAID's Office of Natural Resources Management's Water Team promotes the principles and practices of integrated coastal and freshwater management in several key countries and all regions worldwide. These approaches address biodiversity conservation needs through planning and management efforts at the ecosystem or basin scale, and include biodiversity of freshwater, estuarine, and marine systems. In FY 2005, the Water Team began implementing two programs: Sustainable Coastal Communities and Ecosystems (SUCCESS), and Global Water for Sustainability (GLOWS).

SUCCESS works with institutions and people to improve their well-being by promoting healthy coastal ecosystems and sustainable resource management through good governance. The program is implementing site-based activities in Ecuador, Nicaragua, and Tanzania. For example, in Tanzania SUCCESS is working with local bivalve (mollusk) collectors in the waters around Fumba, within the Menai Bay conservation zone, to address the accelerating threat of over-harvesting. The SUCCESS program is introducing a zoning scheme, designating selected areas as "no-take" during certain periods, and introducing half-pearl aquaculture as a more eco-friendly alternative source of food (oysters) and income (sale of pearls). There is already strong local commitment for implementing the zoning strategy and half-pearl aquaculture. These two interventions are intended to improve the local quality of life and help protect the biodiversity of the Menai Bay/Fumba area.



Patrick Smith, USAID

**AN ABUNDANT CATCH:** Drawing a circle in the sand to show how he lays his net, this fisherman illustrates the traditional method for catching fish on Lake Malawi. USAID works in Malawi and many other countries to promote improved community-based wild fisheries management so that fish populations can return to sustainable levels.

GLOWS promotes the integrated management of water resources and aquatic ecosystems to maximize economic and social benefits while

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**After the Asian Tsunami, Water Team coastal specialists helped design a new program on the Andaman Coast of Thailand to promote low-impact tourism, development that reduces risks from natural disasters, and fisheries that are sustainable.**

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sustaining freshwater ecosystems. Working at a basin, watershed, or aquifer scale, GLOWS provides expertise across the policy, governance,

institutional, educational, and technical dimensions of integrated water resources management. On-site activities are designed to be proving grounds for new technical, economic, organizational, and political approaches to integrated water resources management in three river basins: the Pastaza River Basin in Ecuador and Peru; the Wakal River Basin in Rajasthan, India; and the Mara River Basin in Kenya and Tanzania.

The Mara River Basin in Kenya and Tanzania includes two of the region's most economically valuable conservation areas—Serengeti National Park, Tanzania, and Masai-Mara National Reserve, Kenya. GLOWS and its local

partners are working to establish a reliable estimation of the water needs of these protected areas, and then to ensure that these needs are met through sustainable national and transnational water management programs. As critical first steps in the Mara River Basin, GLOWS and its partners have been supporting the formation of new water user associations (WUAs) on each side of the border. In Kenya, a WUA has been formed and given legal authority to decide water resource management questions in the basin, the first WUA to be so empowered in Kenya.

The Water Team provided technical assistance to Missions in FY 2005, including the relief and recovery phase of the Asian Tsunami. For example, in response to the urgent needs of post-tsunami reconstruction in Thailand, USAID's Regional Development Mission for Asia (RDM/A) is supporting the Royal Thai Government and community efforts to restart and diversify key coastal livelihoods for longer-term economic security and environmental sustainability. Water Team coastal specialists helped the Mission assess options and design the new Sustainable Coastal Livelihoods program. The program is implementing a model rehabilitation effort in a cluster of communities along the Andaman Coast in southern Ranong Province, and will serve as a demonstration of an integrated approach to village and regional economic development for other communities and nations in the region. Activities feature sustainable small-scale fisheries, low-impact aquaculture, and culturally appropriate ecotourism that will protect and conserve the area's coral reef ecosystems and fisheries resources. USAID partners are implementing the two-year, \$3 million program in five badly damaged fishing villages.

## EGAT/NRM/Land Resources Management Team

### Improving Land Management Biodiversity Practices

USAID's Land Resources Management (LRM) Team promotes land management practices that provide long-term social, economic, and environmental benefits, including the conservation of biodiversity and the sustenance of critical ecosystem services. The LRM Team's portfolio of programs in policy reform, scientific research, education, governance, microenterprise development, and trade incentives promotes economically competitive, sustainable land management practices that enhance biodiversity conservation and improve human livelihoods. In addition to the programs described below, in collaboration with USAID's Agriculture Office the LRM Team manages two Collaborative Research Support Programs (CRSPs) that contribute to biodiversity conservation: the Sustainable Agriculture and Natural Resource Management (SANREM) Collaborative Research Support Program (CRSP) and the Integrated Pest Management CRSP; these are described in the EGAT/Agriculture section.

The LRM Team supports GreenCOM, USAID's global environmental education and communications project. GreenCOM facilitates the adoption of improved practices for biodiversity conservation through training and capacity building, partnership development, and advocacy to improve policy.

In FY 2005, GreenCOM developed a training manual on its approach, now known as SCALE (Systems-based Collaborative Action for Livelihoods and the Environment). Based on the



Chris Kosnik, USAID

**MEXICAN COFFEE:** This shade grown coffee is destined for a premium coffee shop near you. USAID's Coffee Corps program helps growers improve their profitability and environmental soundness.

project's 10 years of experience in more than 30 countries, a final draft of the GreenCOM manual was produced that contained an overview of GreenCOM's methodology and process, core competencies for implementing the approach, and an overview of social change methodologies.

The manual formed the basis for training courses on the SCALE approach

as applied to natural resources management. For example, GreenCOM worked in Tanzania, where the project supported activities to communicate new coastal and wildlife policy and promote best practices. In Panama, GreenCOM worked to protect the freshwater source of the Panama Canal and conserve forests and biodiversity in the surrounding watershed.

The LRM Team is supporting a wide range of environmental governance research with the World Resources Institute (WRI). For example, under its Eminent Domain and Protected Areas project, WRI completed case studies in Uganda, Kenya, Tanzania, and Zimbabwe on the law and practice of establishing protected areas and of converting game and forest reserves into national parks. This work will help define a strategy and action plan for democratizing eminent domain in a few countries in Africa. The LRM Team is also supporting WRI's assessment of appropriate choices of local institutions to manage protected areas. For example, in Senegal, the project is assessing the selection and effectiveness of local community organizations managing the Malidino Biodiversity Community Reserve. A case study in Mozambique is examining the stated and actual role of communities in the management of the Great Limpopo, one of the largest trans-frontier conservation areas in Africa (covering parts of Mozambique, Zimbabwe, and South Africa). In India, the project is examining the role of local governments in the management of the Great Himalayan National Park in Himachal Pradesh.

The LRM Team's Coffee Corps program provides technical expertise to developing countries' coffee growers, processors, and marketers to improve the quality, profitability, and environmental soundness of these countries' coffee industries. Coffee Corps provides assistance to farmers working in biologically significant areas such as Madagascar's remaining forest corridor in the Fianarantsoa and Tamatave Regions, and in Mexico's Triunfo Reserve. These farmers agreed to adopt biodiversity-friendly production practices and to stop further incursion into threatened forest corridors. In 2005, Coffee Corps volunteers introduced



Robert Hedlund, USAID

**INDIGENOUS POTATOES IN ECUADOR:** In Cotacachi, USAID encouraged the cultivation of indigenous potatoes, many of which are in danger of being lost due to a shift to more popular varieties. USAID supports the conservation of plant genetic resources, particularly native relatives of cultivated crops, for current and future use.

quality-control measures to improve farmers' capacity to produce specialty-grade coffee. Farmers were also trained in environmentally friendly production practices, including planting indigenous shade tree species, and soil and water conservation measures.

## EGAT/Agriculture

### Collaborative Research Support Program

EGAT's Office of Agriculture provides support to applied Collaborative Research Support Programs (CRSPs) that contribute to biodiversity conserva-

tion. These include the Global Livestock CRSP, as well as the Integrated Pest Management CRSP and the SANREM CRSP that are co-managed with EGAT's Land Resources Management Team.

improve the quality of life for people in developing countries while bringing an international focus to the research, teaching, and extension efforts of U.S. institutions. This goal is being met through collaboration between U.S. land-grant institutions and national and regional institutions abroad that are involved in livestock research and development.

In Kenya's Rift Valley, the Sustainable Management of Watersheds project is examining biophysical, livestock, and human interactions in the River Njoro Watershed. The River Njoro drains from the forested Mau escarpment

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### **A Collaborative Research Support Program worked with rural farming communities in the Altiplano and high valleys of Bolivia and Peru to improve their ability to adapt to climate change and enhance the biodiversity of their agro-ecosystems.**

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tion. These include the Global Livestock CRSP, as well as the Integrated Pest Management CRSP and the SANREM CRSP that are co-managed with EGAT's Land Resources Management Team.

#### **Global Livestock Research**

The Global Livestock CRSP is designed to increase food security and

through a series of pastoral, agrarian, and urban communities before passing into Lake Nakuru National Park. To develop a better scientific understanding of the watershed system, as well as to provide key information to decision makers for policy guidance and effective land management, the watershed's ecological and hydrological dynamics are being analyzed along with econom-



ic and health consequences resulting from land cover change. The project is building community and stakeholder institutional capacity to develop action plans to address the water quality and quantity problems, as well as the sustainability of economic functions of the watershed's land and water resources. Biological monitoring tools are being developed for the watershed, and interventions to reduce disease and improve health conditions among watershed residents are being identified and tested.

#### **Integrated Pest Management Research**

The Integrated Pest Management (IPM) CRSP supports research in sustainable agricultural practices that promote conservation by reducing pesticide use and chemical runoff, managing pest susceptibility, and limiting soil erosion. Much of the IPM CRSP work takes place in areas of great biological significance; for example, in Ecuador the CRSP is working in tropical highland forest and cloud forest areas that have been identified as a global biodiversity hotspot where agriculture is a principal threat. In Senegal, the use of a locust disease is being promoted as a biopesticide against the desert locust. Locust swarms often originate in natural areas where chemical pesticides would kill or harm many important native species. Because biopesticides only kill locusts, they are safe to use in ecologically sensitive areas, potentially allowing prevention of the formation of swarms and thus reducing overall pesticide use in other areas.

#### **Sustainable Agriculture and Natural Resources Management Research**

The SANREM CRSP supports cross-sectoral research linking sustainable agricultural production, sound resource management, and biodiversity conservation. In FY 2005, SANREM

researchers worked with local stakeholders and institutions to identify key information needs and undertake research related to: (1) developing market incentives to foster sustainable agricultural practices while increasing wildlife populations in Zambia; (2) analyzing property rights data from Uganda, Kenya, Mexico, and Bolivia to identify the impact of forest decentralization policies on the equitable distribution of benefits to local people, biodiversity, and sustenance of the natural resource base; and (3) working with rural communities and farmers in the Altiplano and high valleys of Bolivia and Peru to develop strategies and strengthen capacity to adapt to climate change and enhance biodiversity of their agro-ecosystems.

## **Israeli – Middle East Programs**

### **Middle Eastern Regional Cooperation and Cooperative Development Research Program**

USAID's Israeli Programs Office manages grants that bring Israeli scientists together with Arab and other developing country scientists to build cooperation and share Israel's significant expertise in agricultural and other sciences. In FY 2005, the Middle East Regional Cooperation Program, which funds cooperative technical projects between Israel and its Arab neighbors, supported an artificial reef research project between Israel and Jordan in the biologically diverse waters of the Gulf of Aqaba. The project is



Adam Reinhart, USAID

**DESERT BIODIVERSITY:** Despite its barren appearance, the Arava Valley in Israel and Jordan contains multiple habitats in close proximity. These include shrubland with sandy, rocky soil; a salt marsh with dark, organic soil; and red-colored sand dunes. USAID's Middle East Cooperation Program promotes peace through scientific endeavors like cataloguing the biodiversity of Arava Valley.

testing environmentally and biologically sound artificial reefs that mimic characteristics of natural coral reefs. The project's long-term objectives are to: (1) increase the productivity of local coastal ecosystems and enhance native fish populations; (2) create new sites for recruitment and colonization of coral reef organisms; (3) provide alternative visitation sites for divers and visitors; (4) decrease human damage to coral reefs; (5) provide a tool for enhancing the recovery of damaged coral reefs; and (6) provide additional fishing grounds away from natural coral reefs (Jordan only).

A second project is developing environmentally friendly and economically efficient aquaculture. The project focuses on both sides of the Jordanian-Israeli Southern Arava/Arava Valley in the Red Sea. USAID and partners are working to reduce the runoff of nutrients from aquaculture into the Red Sea. By preventing the damage those nutrients can do to both plant and animal species, these efforts will help protect the unique biodiversity of the Red Sea. The project will also provide policy makers with environmental performance information to help them develop adequate environmental regulations.

## **EGAT/Environment and Science Policy Office**

### **CGIAR, Global Climate Change, Biotechnology and Biodiversity Interface Grants Program**

#### **CGIAR**

EGAT's Office of Environment and Science Policy supports applied research on agroforestry systems through the Centers of the Consultative Group on International Agricultural and Natural Resources Research (CGIAR). The programs recognize that the sustain-

ability of farms, forests, and fisheries often depend on biodiversity conservation and the environmental services that natural ecosystems provide (e.g., the provision of clean water, soil conservation, and crop pollination). Of the 15 Centers, 10 have programs that contributed to USAID's biodiversity or forestry goals in FY 2005. The following is a sample of those programs.

The Center for International Forestry Research developed methods for Multidisciplinary Landscape Assessments (MLAs). MLAs enhance understanding among development practitioners, policy makers, and forest communities. The intended result is more informed decisions on policy, land use, and payments for biodiversity services that will improve forest conservation, protect the needs of local

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#### **A USAID project developed a model to predict where deforestation is most likely to occur in southern Republic of the Congo, allowing targeting of scarce conservation resources.**

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people, and advance the wiser management of tropical forests. In FY 2005, guidelines, scenarios, and procedures for planning and implementing more biodiversity-friendly management activities were developed, and the MLA technique was tested in Cameroon, Gabon, Indonesia, and Vietnam.

In FY 2005, the World Agroforestry Center conducted research on farm tree diversity in forest reserves in East Africa; this research provided insights into constraints and opportunities for promoting landscape biodiversity by increasing the diversity of indigenous woody species in farming systems.

The International Plant Genetic Resources Institute helped prioritize wild crop relatives in five countries

and identified areas to conserve them in situ. Diversity studies on wild fruit species helped identify a biodiversity hotspot—an area assigned top global conservation priority—in Latin America, leading to strategies for these species' conservation.

Cocoa production systems are one of the most extensive land uses in West and Central Africa, covering five million hectares, of which approximately four million are shaded. Cocoa grown under shade is part of a multifunctional agricultural system that produces cocoa and other crops while generating environmental services and conserving forest biodiversity. More than 250 plant species from shaded cocoa farms in southern Cameroon are utilized for timber, fruits, medicinal plants, and other products.

With USAID support, the International Institute of Tropical Agriculture (IITA) and partners in

the Sustainable Tree Crop Program are addressing policy issues and technical and marketing constraints facing these secondary products.

The International Center for Agricultural Research in the Dry Areas (ICARDA), through the Conservation and Sustainable Use of Dryland Agrobiodiversity program, reviewed and analyzed national policies relating to biodiversity conservation in Jordan, Lebanon, Palestinian Authority areas, and Syria. ICARDA proposed policy and legislative reforms that would promote in situ biodiversity conservation and habitat protection.

#### **Biotechnology and Biodiversity**

In FY 2005, the Biotechnology and Biodiversity Interface Program awarded

four new grants to conduct research on the potential risks to biodiversity from introducing bioengineered crops (e.g., those modified genetically to be resistant to pests, pesticides, or drought) into developing countries. Two grants will examine the risks of gene movement from cowpea and rice crops to related native plants in Africa. As cowpea originated in Africa, there is a possibility of gene flow from bioengineered cowpea to native plants, which could threaten specific species by altering the competitive dynamics in local ecosystems. Another grant will support post-commercialization monitoring of insect resistance development to Bt maize in the Philippines. The fourth grant will explore the impact of herbicide-tolerant maize on wild biodiversity in corn production systems in the Philippines.

Also in FY 2005, the Program for Biosafety Systems supported the development of regulations to assess and manage the risks of biotechnology on biodiversity in the Philippines, Indonesia, Kenya, Uganda, Tanzania, Malawi, Mali, Nigeria, and Ghana. Areas of work include: (1) conducting technical training for regulatory officials; (2) developing procedures to conduct confined field trials; (3) reviewing draft biosafety legislation; and (4) assisting with the development of information resources and communication strategies. Most of the countries where this program operates are parties to the Cartagena Protocol on Biosafety, an agreement under the Convention on Biological Diversity.

#### **Global Climate Change**

In FY 2005, USAID supported Winrock International's Carbon and Co-Benefits Initiative (CCBI) to conduct forest analysis work in Mexico, Brazil, and the Republic of Congo. CCBI's goal is to facilitate the sequestering of carbon in forests, thereby reducing



Conservation International

**GUIANAN COCK OF THE ROCK:** This stunning bird provides the vital service of dispersing tree seeds by eating the fruit, then defecating the seeds in distant locations. In the Kanuku Mountains of Guyana, home for this and many other types of birds, USAID promotes conservation-friendly, income-generating opportunities for forest-dependent communities.

atmospheric concentrations of greenhouse gases and mitigating climate change. Because forests are a critical natural regulator for atmospheric CO<sub>2</sub> concentrations, and also contain the vast majority of the world's terrestrial species, understanding threats to forests is relevant for both climate change and conservation. For example, in FY 2005, CCBI developed a spatial model of deforestation in the southern Republic of Congo. By projecting where deforestation is most likely to occur near two protected areas over the next 20 years, the project is helping to target limited conservation resources where they are needed most.

### **EGAT/Poverty Reduction Office**

#### **Conservation Enterprise Development in Guyana**

USAID's Poverty Reduction Office is supporting Conservation International's (CI) efforts in Guyana to promote conservation-friendly, income-generating opportunities for forest populations in the Kanuku Mountains

Pilot Protected Area. The Kanuku Mountains are home to 60 percent of Guyana's forest-based bird species and 70 percent of the country's mammals. Economic activities that can foster conservation or replace unsustainable practices will help protect these pristine forests and support sustainable development for the Amerindian communities in these mountains.

The project will assess and evaluate small, medium, and community-based enterprises that contribute to site conservation. It will work with local communities to identify business opportunities, build entrepreneurial skills and organizations, and support feasibility and marketing studies and other related activities. In addition, the project will lay the foundation for establishment of the Kanuku Mountains Pilot Protected Area by: (1) strengthening institutional and administrative capacity; (2) establishing and operating the Kanuku Mountains Steering Committee; (3) promoting extensive education and community awareness activities; (4) preparing a protected area management plan, including an

indigenous peoples action plan; and (5) preparing the draft protected area declaration proposal.

## DCHA/Conflict Management and Mitigation Office

### Conflict and Environment

The Office of Conflict Management and Mitigation (CMM) continued its work on the linkages among conflict, fragility, and natural resources. In many recent conflicts, valuable or scarce natural resources—including timber, minerals, land, and water—have played a central role in both causing and sustaining violence. In FY 2005, CMM published a document entitled, “Forests and Conflict: A Toolkit for Intervention,” which explains how forest resources, coupled with poor governance and corruption, can serve to exacerbate tensions and foster conflict. It also explored how development assistance can address key risk factors associated with forest-related conflict. Development programs can foster interventions and activities that, for example, increase the range of livelihood alternatives for forest-dwelling communities or help ensure a fair price for timber so that fewer trees provide sufficient income. Additionally, promoting sustainable forest management, such as in the Congo Basin Forest Partnership (CBFP) and the Central African Regional Program for the Environment (CARPE), can act as a tool to conserve biodiversity and to mitigate conflict.

## Global Health

### Population, Health, and Environment Program

USAID’s Global Health Bureau supports the Population, Health, and Environment program. This program

strives to address the impacts of human populations on biodiversity by recognizing that individuals cannot exercise adequate stewardship over local natural resources on which their livelihoods depend unless their basic needs for health, nutrition, and income are met. The Population, Health, and Environment Program seeks to simultaneously improve access to family planning and related health services while helping communities manage their natural resources, with the goals of both improving people’s health and livelihoods and conserving wildlife and other biological resources.

In the Philippines, USAID provided funding to PATH Foundation Philippines to continue Integrated Population and Coastal Resource Management sub-projects in seven coastal municipalities. These areas overlap with the highest-priority biodiversity conservation areas in the country and include the Bohol Marine Triangle, the Apo Island National Protected Seascape, the Danajon Double Barrier Reef, and the Calamianes and Quinaluban island groups in Palawan.

The project enhanced access to and use of family planning information and services by training and establishing

434 community-based distribution (CBD) outlets for family planning products. In addition, 24 marine protected areas were established, supported by 26 local ordinances for marine tenure arrangements and by 24 Marine Protected Area Management teams comprising fishers, women, and youth groups. Finally, 42 local governments formulated development plans and budgets that linked health and coastal

resource management activities.

The Kiunga Marine National Reserve (KMNR) in northern Kenya boasts outstanding marine biodiversity, supporting a wealth of ecologically critical habitats and more than 11,000 species, of which 60–70 percent is unique to the Indo-Pacific region. The region’s marine and terrestrial natural resources are under threat from destructive and unsustainable methods of extraction, exacerbated by high population growth rates and migration. USAID is supporting WWF to undertake a population-health-environment project in KMNR, with additional funding from Johnson and Johnson for basic health activities. FY 2005 saw substantial improvements in accessing family planning, reproductive health, and HIV/AIDS information and services in the Kiunga area. Mobile clinics reached highly marginalized people, providing critical healthcare and contraceptives and dramatically improving immunization rates among children under five. As a result of having their needs met in these critical health areas, local communities’ trust of WWF has increased

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**By providing health services to build trust, World Wildlife Fund, with USAID support, has been able to work with communities to develop a management plan for Kenya’s Kiunga Marine National Reserve, and help those communities adopt more environmentally friendly fishing techniques.**

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and they are now working as partners in the development of a management plan, and are adopting more environmentally friendly fishing techniques.

In Cambodia, USAID is supporting CI’s work with communities in five communes around the Cardamoms Conservation Landscape to protect this biologically rich terrestrial habitat. The Cardamoms contain more than 30

globally threatened species and provide vital watershed services to southwestern Cambodia and parts of Thailand. In FY 2005, CI forged a partnership with CARE to bring modern health services, including family planning, for the first time to communities living in the Cardamoms. In addition, the project facilitated participatory land use planning in four communes so that more than 1,200 participants could integrate their community and conservation needs into commune development plans.

In the eastern Democratic Republic of the Congo (DRC), USAID supported the Jane Goodall Institute's (JGI) innovative approach to community-centered conservation in the Graueri Landscape. The Community-Centered Conservation Program links sustainable development activities prioritized by the community to natural resource conservation. Communities have already contributed land to a network of community forest reserves linking the national parks of Maiko and Kahusi Biega, a UNESCO world heritage site. This project area encompasses habitat for important species, such as eastern lowland gorillas, chimpanzees, forest elephants, and okapi.

In FY 2005, the project enhanced local capacity to provide family planning and reproductive health services and to manage community-based health systems. The project provided family planning commodities to local distribution centers, while also recruiting and training 30 local health providers and 83 CBD agents on family planning methods and commodity management and handling. At the same time, sensitization and social mobilization campaigns were conducted to enhance behavior change towards reproductive health. More than 32,500 people were reached through various outlets such as



**SUNRISE IN GHANA:** The stillness of morning holds promise for sightings of birds, antelope, elephants, and maybe even hippos at this viewing platform in Ghana. USAID's Global Development Alliance supports the management of this and other wildlife areas by improving infrastructure, marketing, and staff management skills.

theaters, movies, and 28 hours of radio broadcasts. As a result, 1,486 women were counseled on family planning and HIV/AIDS, and there was a 5 percent increase in women adopting family planning methods.

## The Global Development Alliance

### Private-Public Partnerships Contributing to Conservation

USAID's Global Development Alliance (GDA) initiative combines the resources and expertise of the public and private sectors to improve the lives of people in the developing world. The GDA model recognizes the fundamental shift in global capital flows during the last three decades—today, 85 percent of the resource flows from the United States to the developing world are private and just 15 percent are public. By engaging the private sector, the GDA model harnesses these private flows to meet pressing devel-

opment needs. Alliances function by establishing partnerships for which USAID funding leverages significant additional resources (both cash and in-kind) from public, nonprofit, and for-profit organizations.

In FY 2005, the GDA Secretariat helped fund the Community-Based Ecotourism Project (CBEP) Phase II in Ghana, which will begin implementation in 2006. This project seeks to boost ecotourism development and promotion while ensuring resource conservation at ecologically and culturally significant destinations. CBEP Phase I, which ended in FY 2004, improved facilities, marketing, and staff management skills at 14 key destinations. Despite this progress, Ghana still lacks a critical mass of ecotourism experiences to make it competitive in the international ecotourism market. Public-private partnerships must be developed to ensure the long-term sustainability of this industry.

CBEP II will create further opportunities for rural communities to earn income and create tourism jobs by conserving their local ecosystems and culture at 30 destinations across Ghana. During Phase II, public-private partnerships will be created based on long-term relationships between private corporations and specific sites. The project has finalized an agreement with Cadbury's-Schweppes to establish a long-term sustaining relationship with a new project site in the heart of the cocoa-growing area of the Eastern Region of Ghana. Other partnerships are in discussion with Wienco and the Dutch Chamber of Commerce. Discussions will begin shortly with the American Chamber of Commerce as well to partner community tourism initiatives with corporate bodies.

The Community Watershed Partnerships Program is a new GDA with the Coca-Cola Company to provide grants for community watershed management, water supply provision, and sanitation improvement projects near Coca-Cola operations in countries receiving USAID funding. For example, in Bolivia the GDA Secretariat provided funds together with local Coca-Cola bottler EMBOL to support a local alliance of stakeholders in the water sector to promote improved watershed management in the Tarija area, including raising public awareness about the environment, engaging local industry in participatory decision-making processes, conducting community-based water resources management activities, and improving industry water and wastewater practices. These activities will be implemented by USAID's partner NGOs together with local governments and communities. In addition, the EMBOL bottling facility will be supported by Coca-Cola division and headquarter representatives to conduct hydrogeological analysis, conduct pub-

lic outreach and disseminate information, and improve water management in the plant operation itself.

## **The Tropical Forest Conservation Act**

The Tropical Forest Conservation Act (TFCA) was enacted in 1998 to build on the success of the Enterprise for the Americas Act. Although the TFCA is funded through the U.S. Department of the Treasury, and not directly through USAID, USAID does play a key leadership role in implementing this legislation.

The TFCA reduces concessional debt owed by qualifying countries to the U.S. Government resulting from old loans made by USAID and the P.L. 480 Food for Peace program. To qualify, a country must have such debt, be meeting substantial macroeconomic and political reforms, and have tropical forests of biodiversity importance. In exchange, participating countries generally create a Tropical Forest Fund, capitalized in local currency, that provides grants to civil society organizations to conserve and manage their tropical forests while furthering their countries' development.

The TFCA is overseen by a public-private Enterprise for the Americas Board led by an effective partnership among the U.S. Department of State, the Treasury Department, and USAID, with collaboration from other federal agencies and major U.S. environmental NGOs. USAID administratively houses the TFCA Secretariat. USAID takes the lead, with State Department and Treasury Department collaboration, in field-level implementation of the deals once they have been created.

By the end of FY 2005, \$56 million of TFCA-appropriated funds had been

used for debt reduction/debt swap agreements with Bangladesh, Belize, Colombia, El Salvador, Jamaica, Panama (twice), Peru, and the Philippines. Through these agreements, more than \$97 million in forest conservation funds will be generated in these countries over the next 10–26 years.

The TFCA program benefits from additional leveraged contributions from cost-sharing of grants, interest income, and direct contributions from other donors. The program has already leveraged a cumulative total of \$7.6 million in additional private funds from The Nature Conservancy (TNC), Conservation International (CI), and WWF through their participation in debt swaps. The TFCA program has also benefited programmatically from its partnerships with these large U.S.-based environmental conservation NGOs.

While no new agreements were finalized in FY 2005, the U.S. Government was in preliminary negotiations with the governments of Paraguay, Guatemala, and Botswana. Several other countries had either formal (e.g., Ecuador and Peru) or informal requests for eligibility consideration under review by the U.S. Government.

Additional details on the TFCA program are available in the 2005 Report to Congress entitled, "The Operation of the Enterprise for the Americas Facility and the Tropical Forest Conservation Act for Calendar Year 2005," submitted by the U.S. Department of State, or on the Internet at: [http://www.usaid.gov/our\\_work/environment/forestry/tfca.html](http://www.usaid.gov/our_work/environment/forestry/tfca.html).

# USAID BIODIVERSITY AND FORESTRY FUNDING OVERVIEW

## Forestry Budget Overview

### Analysis of FY 2005 Budget

USAID supported more than \$101 million in forestry activities in FY 2005. Forest projects are defined as activities and programs related to maintaining forest cover through sustainable forestry, protected area management, restoration of degraded lands, and the conservation of biological diversity in forest ecosystems.

USAID's Centrally Funded Programs provided \$6.5 million for forestry programs around the world. The Forestry Team continued its focus on providing technical expertise to field Missions in cooperation with the U.S. Department of Agriculture Forest Service, and on

promoting trade in sustainable forest products. The Global Conservation Program (GCP) also continued its work promoting forest conservation across different regions.

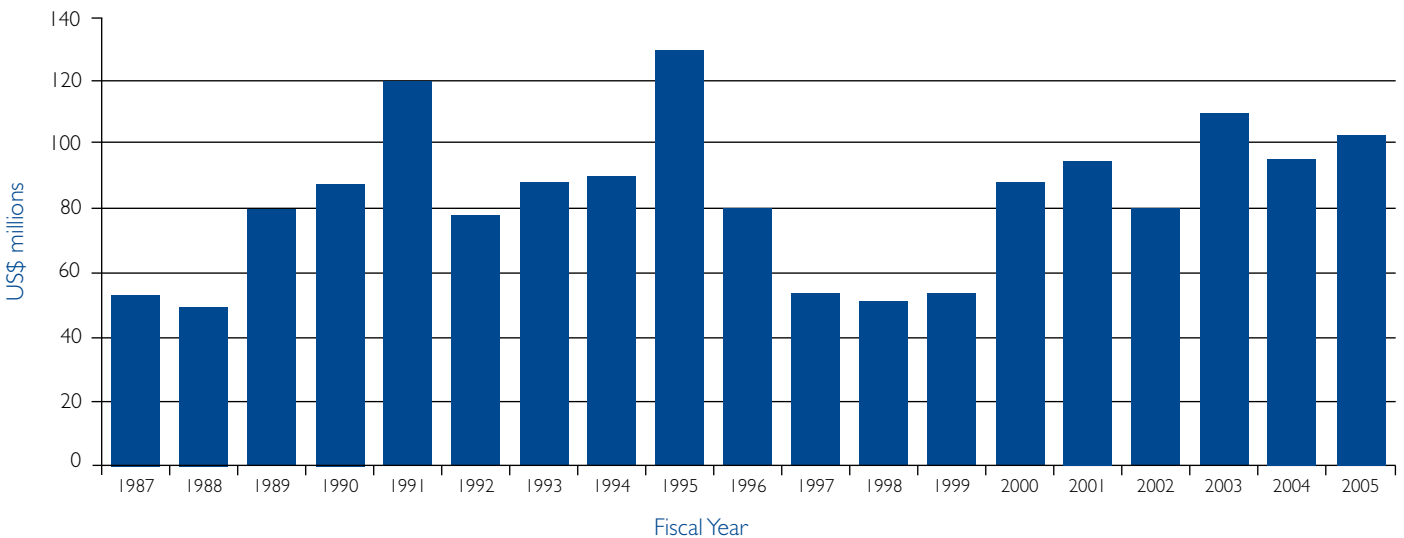
The Africa region provided the most support for forestry programs in FY 2005, accounting for more than \$45 million, or 44 percent, of total USAID forestry expenditures. Forests in Africa are critical to sustainable livelihoods and to conserving the unique biodiversity of the region. In FY 2005, USAID supported large programs that seek to conserve the vast tropical forests in the Congo Basin and the highly threatened and biodiverse forests of Madagascar.

Asia and the Near East accounted for more than \$21 million, approxi-

mately 21 percent of overall forestry spending. Indonesia remained a strong focus for the region and received nearly \$11 million in support of its efforts to conserve orangutan habitat and improve watershed management.

Europe and Eurasia accounted for approximately one percent of overall forestry programming with just under \$1 million in programming. The region's forests are important global reservoirs of carbon and support the economic growth of countries in transition. The Forestry Resources and Technologies Project (FOREST) in Russia was the largest in the region in FY 2005, but it is in the process of closing down its activities.

**Figure 1. USAID Funding of Forestry Programs, 1987-2005**



**TABLE I. USAID FORESTRY PROGRAMS AND ACTIVITY FUNDING, FY 2005**

<b>Program Name</b>	<b>Program Description</b>	<b>FY 2005 Forestry Funding in US\$</b>	<b>Type of Funds*</b>
<b>Africa Region</b>			
Africa Regional Program - AFR/SD	Office of Sustainable Development	9,314,000	DA
CARPE/CBFP	Central African Regional Program for the Environment/Congo Basin Forest Partnership	14,980,000	DA
CARPE/CBFP	Central African Regional Program for the Environment/Congo Basin Forest Partnership	530,000	ESF
West Africa	Ghana / Ivory Coast Natural Resources Transboundary Initiative	400,000	DA
The Democratic Republic of the Congo	Protecting Biodiversity amid Conflict	1,092,300	DA
Ethiopia	Restoring Degraded Watersheds and Indigenous Plant Species	227,000	DA
Guinea	Forest Co-management for Improved Livelihoods and Conservation	1,214,000	DA
Kenya	Improved Natural Resource Management in Biodiversity Areas	1,000,000	DA
Liberia	Liberia Forest Initiative	450,000	DA
Liberia	Liberia Forest Initiative	364,000	Suppl.
Madagascar	Biologically Diverse Ecosystems Conserved	7,524,000	DA
Malawi	Promoting Sustainable Economic Growth and Protecting Resources	1,608,000	DA
Mali	Decentralizing Natural Resources Management	167,000	DA
Nigeria	Sustainable Agriculture and Natural Resources Management	400,000	DA
Rwanda	Profitable Ecotourism through Improved Biodiversity Conservation	500,000	DA
Senegal	Improving Natural Resources Management Policy and Practice	1,500,000	DA
Sudan	Sudan Transitional Environment Program	2,300,000	DA
Tanzania	Improved Conservation of Coastal Resources and Wildlife	150,000	DA
Uganda	Conservation of Critical Habitats and Species in a Landscape Context	600,000	DA
Zambia	Community-Based Natural Resource Management and Sustainable Agriculture	733,000	DA
<b>Africa Total</b>		<b>\$45,053,300</b>	
<b>Asia and the Near East Region</b>			
ANE Regional Program	Managing Forest Conflict	220,000	DA
RDMA	Eco-Asia Biodiversity	2,856,481	DA
RDMA	Eco-Asia Biodiversity	400,000	ESF
Afghanistan	Conservation of Biologically Important Areas	1,141,738	DA
Bangladesh	Improved Management of Open Water and Tropical Forest Resources	1,000,000	DA
Bangladesh	Improved Management of Open Water and Tropical Forest Resources	150,000	ESF
Cambodia	Sustainable Management of Natural Resources and Biodiversity	1,500,000	DA
Indonesia	Strengthened & Decentralized Natural Resource Management	10,713,000	DA
Nepal	Sustainable Natural Resources Management	1,400,000	DA
Phillipines	Improved Natural Resources Governance	1,200,000	DA
Phillipines	Improved Natural Resources Governance	600,000	ESF
<b>Asia and the Near East Total</b>		<b>\$21,181,219</b>	
<b>Europe and Eurasia Region</b>			
Albania	Sustainable Management of Native Herbs and Spices	50,000	AEEB
Bulgaria	Protected Area Management	75,000	AEEB
Cyprus	Forest Restoration	0	AEEB
Georgia	Protected Area Management	0	FSA
Russia	Sustainable Forest Management	800,000	FSA
<b>Europe and Eurasia Total</b>		<b>\$925,000</b>	



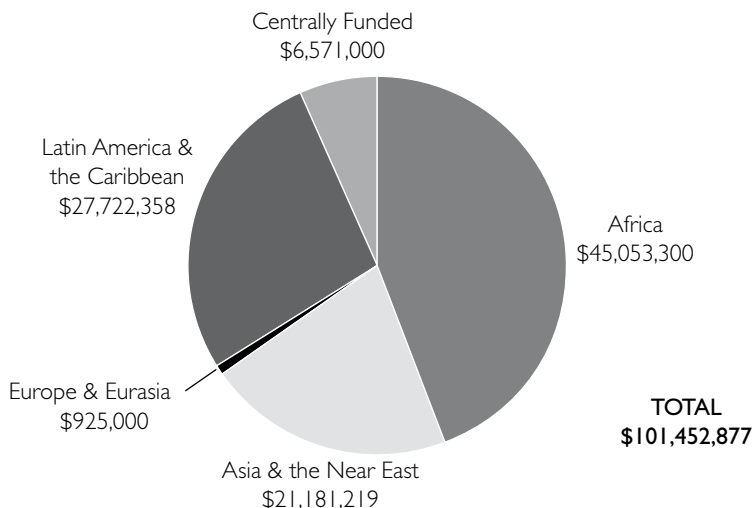
**TABLE I. USAID FORESTRY PROGRAMS AND ACTIVITY FUNDING, FY 2005 continued**

<b>Program Name</b>	<b>Program Description</b>	<b>FY 2005 For- estry Funding in US\$</b>	<b>Type of Funds*</b>
<b>Latin America and the Caribbean Region</b>			
LAC Regional Program	Parks in Peril	2,366,929	DA
LAC Regional Program	PROARCA: Improved Environmental Management in the Mesoamerican Biological Corridor	450,000	DA
Bolivia	Natural Resources Sustainably Managed	1,689,000	DA
Brazil	Environmentally Sustainable Land Use	2,496,000	DA
Colombia	Forestry and Sustainable Development Program	4,025,175	ACI
Dominican Republic	Improved Policies for Environmental Protection	300,000	DA
Ecuador	Sustainable Natural Resources Management and Biodiversity Conservation	2,417,000	DA
Guatemala	Sustainable Natural Resources Management and Biodiversity Conservation	1,824,964	DA
Haiti	Sustainable Agriculture and Natural Resources Management	3,093,705	DA
Honduras	Improved Management of Watersheds, Forests, and Protected Areas	900,000	DA
Jamaica	Sustainable Natural Resources Management and Biodiversity Conservation	685,000	DA
Mexico	Conservation and Sustainable Natural Resource Management in Targeted Watersheds	875,000	DA
Nicaragua	Sustainable Forest Management and Biodiversity Conservation	500,000	DA
Panama	Sustainable Water Resource Management and Biodiversity Conservation	1,290,000	DA
Paraguay	Sustainable Management of Globally Important Ecoregions	236,937	DA
Peru	Strengthened Environmental Management to Address Priority Problems	3,322,648	DA
Peru	Strengthened Environmental Management to Address Priority Problems	1,250,000	ACI
<b>Latin America and the Caribbean Total</b>		<b>\$27,722,358</b>	
<b>Centrally Funded Forestry Programs</b>			
<i>EGAT Bureau</i>			
Natural Resources Management (NRM)	Technical Staff	769,893	DA
NRM - Biodiversity	Global Conservation Program Forest Conservation Activities	1,200,000	DA
NRM - Biodiversity and Forestry	Natural Resources Information Clearinghouse Technical Support	202,477	DA
NRM - Forestry	USAID/US Forest Service Partnership Interagency Agreement (IAA)	993,630	DA
NRM - Forestry	Sustainable Forest Products Global Alliance (SFPGA) Forest Service IAA	945,000	DA
NRM - Forestry	Sustainable Forest Products Global Alliance (SFPGA) Leader with Associates Award	945,000	DA
Environment and Science Policy - Forestry	Center for International Forestry Research	750,000	DA
Environment and Science Policy - Forestry	ICRAF World Agroforestry Center	750,000	DA
<i>Other</i>			
DCHA/CMM	Conflict and Environment	15,000	DA
<b>Centrally Funded Forestry Programs Total</b>		<b>\$6,571,000</b>	
<b>Total Forestry Funding in FY 2005</b>		<b>\$101,452,877</b>	

\*Development Assistance (DA), Economic Support Fund (ESF), Andean Counterdrug Initiative (ACI), Assistance for Eastern Europe and the Baltic States (AEEB), Freedom Support Act (FSA), Supplemental (Suppl.)

The Latin America and the Caribbean region had the second-highest level of support for forestry, providing 27 percent of overall programming, more than \$27 million. The importance of tropical forests in the region to biological diversity and local economies are well known. Key programming areas were conserving Amazonian forests in Brazil and promoting sustainable forestry in Colombia as a way to combat the illegal drug trade.

**Figure 2. USAID Funding for Forestry Programs by Region in FY 2005\***



\*Amounts shown here include funding from all accounts: DA, ESF, ACI, FSA, AEEB, and supplemental.



**TREES FOR THE FUTURE:** A Tanzanian boy proudly displays a tree seedling. USAID provides technical and financial support to nonprofits, governments, and local communities in developing countries to reforest degraded lands, sustainably manage forests, and protect biodiversity.

**TABLE 2. U.S. GOVERNMENT INTERNATIONAL FORESTRY FUNDING, FY 2005<sup>†</sup>**

USG Department or Agency	FY 2005 Funding for Biodiversity Conservation (\$ millions)
U.S. Agency for International Development	101.4
U.S. Department of Treasury (TFCA)	20
U.S. Department of Agriculture, Forest Service	6.5
U.S. State Department (Intl' Organizations and Programs)	4.85
<b>TOTAL</b>	<b>132.75</b>

<sup>†</sup>This list is not necessarily comprehensive.

### Historical Forestry Budget Trends

Forest management and conservation has been an important part of USAID's efforts to protect the global environment and sustain rural livelihoods since the enactment of Section 118 of the Foreign Assistance Act in 1986, which recognized the importance of tropical forests in development. In the late 1980s and early 1990s, USAID investments in forestry activities increased substantially, reflecting increased awareness of the environmental importance of tropical forests.

In the mid- to late 1990s, forestry expenditures began to fall, declining from nearly \$118 million to only \$53 million (not adjusted for inflation). This decline was primarily due to reductions in the overall USAID budget during that time. In addition to budget cuts, Agency priorities shifted toward promoting democracy and human rights.

In the late 1990s through 2005, forestry investments increased yet again, in part due to increased investments in biodiversity-related programs in tropical forests, including those of the Amazon Basin, the Congo Basin, and Madagascar.

## Biodiversity Budget Overview

### Analysis of FY 2005 Budget

USAID supported biodiversity conservation programs in all geographic regions in FY 2005, for a total of \$176.1 million from all accounts of which \$162.2 million was Development Assistance (DA). Examples of these programs include managing protected areas, protecting coral reefs, conserving forests, and improving national and regional environmental policies.

USAID's Centrally Funded Programs supported more than \$25 million in biodiversity programs, which constituted 15 percent of overall Agency expenditures. The Biodiversity Team continued to support its GCP, which works to conserve critical terrestrial and aquatic habitats around the globe. The Forestry Team also pro-

moted sustainable forest management in high-conservation-value tropical forests.

Biodiversity programs in the Africa region totaled more than \$59 million, or 34 percent of the Agency's overall biodiversity funding. Conservation of forests in the Congo and Madagascar and of high-priority species (e.g. gorillas) remained key objectives in the region.

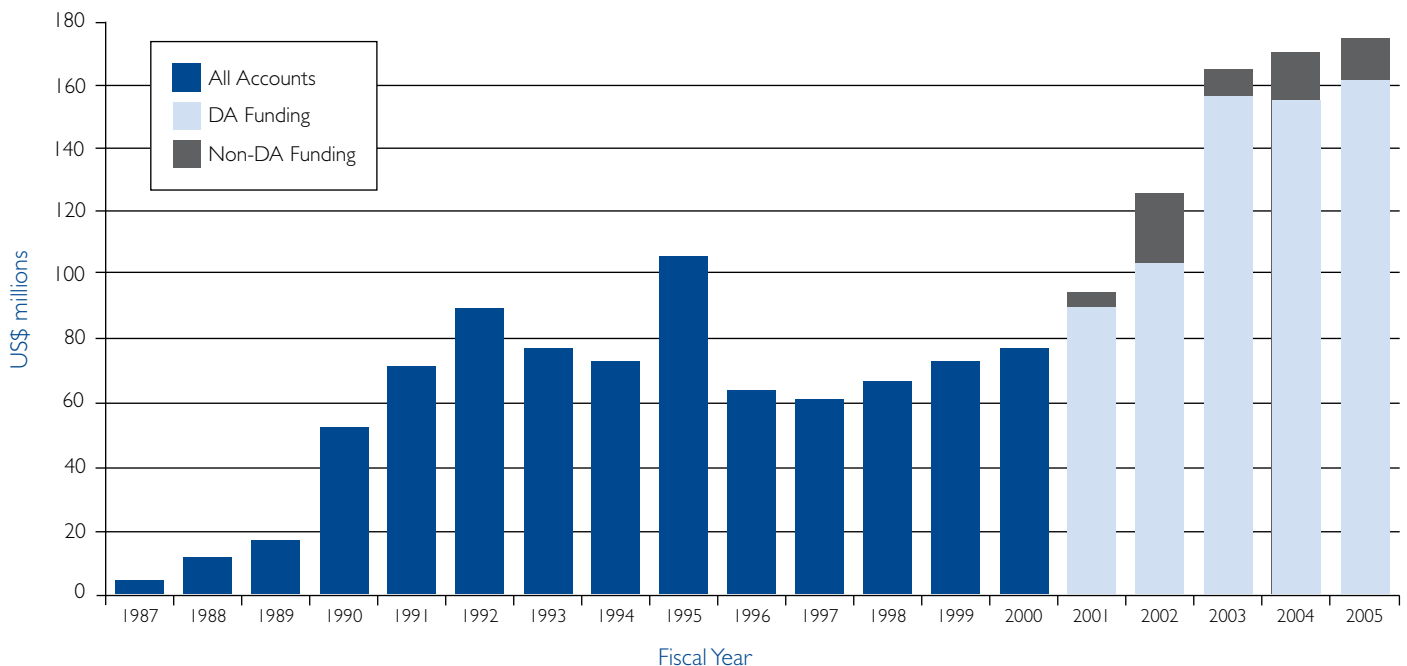
Asia and the Near East supported more than \$33 million in biodiversity activities in FY 2005. Conserving the critically threatened forests of Indonesia, including those harboring orangutans, was a strong focal point for the region. RDM/A also began a new program, the Eco-Asia Biodiversity Program, which will focus on protecting critical watersheds, improving the governance of natural resources in high-biodiversity areas, and reducing the illegal wildlife trade.

Europe and Eurasia accounted for less than one percent of Agency expenditures on biodiversity, or just over \$400,000. The largest program in the region was the Forestry Resources and Technologies Project (FOREST) in Russia, which is in the process of closing down its activities. In addition, Bulgaria began a new program in FY 2005 that will support the management of a key protected area in the country.

Latin America and the Caribbean supported nearly 33 percent, or nearly \$58 million, of the Agency's biodiversity activities. Efforts to protect the forests of the Amazon Basin remained a key priority, and forest conservation efforts in many countries across the region continued to receive strong support.

While USAID supports biodiversity programs in a variety of ecosystem types, a substantial portion of

**Figure 3. USAID Funding of Biodiversity Conservation, 1987-2005 (all accounts\*)**



\*Dis-aggregated figures for DA and non-DA funding are only available from FY 2001 onward.

**TABLE 3. USAID BIODIVERSITY PROGRAMS AND ACTIVITY FUNDING, FY 2005**

Program Name	Program Description	FY 2005 Biodiversity Funding in US\$	Type of Funds*
<b>Africa Region</b>			
Africa Regional Program - AFR/SD	Office of Sustainable Development	5,728,000	DA
Southern Africa	Improved Management of the Okavango River Basin	1,500,000	DA
CARPE/CBFP	Central African Regional Program for the Environment/Congo Basin Forest Partnership	14,980,000	DA
CARPE/CBFP	Central African Regional Program for the Environment/Congo Basin Forest Partnership	530,000	ESF
East Africa	Transboundary Water Resource Management to Protect Biodiversity	337,000	DA
West Africa	Ghana / Ivory Coast Natural Resources Transboundary Initiative	400,000	DA
Burundi	Reforestation and Sustainable Agriculture for Habitat Conservation	250,000	DA
The Democratic Republic of the Congo	Protecting Biodiversity amid Conflict	1,600,000	DA
Ethiopia	Restoring Degraded Watersheds and Indigenous Plant Species	500,000	DA
Ghana	Community-based Ecotourism	277,000	DA
Guinea	Forest Co-management for Improved Livelihoods and Conservation	2,008,000	DA
Guinea	Forest Co-management for Improved Livelihoods and Conservation	15,000	ESF
Kenya	Improved Natural Resource Management in Biodiversity Areas	2,845,000	DA
Kenya	Improved Natural Resource Management in Biodiversity Areas	1,300,000	ESF
Liberia	Liberia Forest Initiative	450,000	DA
Liberia	Liberia Forest Initiative	364,000	Suppl.
Madagascar	Biologically Diverse Ecosystems Conserved	7,524,000	DA
Malawi	Promoting Sustainable Economic Growth and Protecting Resources	2,900,000	DA
Mali	Decentralizing Natural Resources Management	167,000	DA
Mozambique	Supporting National Parks and Alternative Livelihoods	1,000,000	DA
Namibia	Promoting Communal Conservancies for Improved Livelihoods and Conservation	1,693,000	DA
Nigeria	Sustainable Agriculture and Natural Resources Management	950,000	DA
Rwanda	Profitable Ecotourism through Improved Biodiversity Conservation	500,000	DA
Senegal	Improving Natural Resources Management Policy and Practice	1,000,000	DA
Sierra Leone	Environmentally Sound Small-Scale Artisanal Mining	451,000	DA
South Africa	Conserving Coastlines through Ecotourism	400,000	DA
Sudan	Sudan Transitional Environment Program	2,300,000	DA
Tanzania	Improved Conservation of Coastal Resources and Wildlife	2,100,000	DA
Uganda	Conservation of Critical Habitats and Species in a Landscape Context	4,386,000	DA
Zambia	Community-Based Natural Resource Management and Sustainable Agriculture	800,000	DA
<b>Africa Total</b>		<b>\$59,255,000</b>	
<b>Africa Total DA</b>		<b>\$57,046,000</b>	
<b>Asia and the Near East Region</b>			
ANE Regional Program	ANE Support Team and Programs	720,000	DA
RDMA	Eco-Asia Biodiversity	3,199,000	DA
RDMA	Eco-Asia Biodiversity	400,000	ESF
RDMA	Tsunami Reconstruction and Rehabilitation	1,000,000	Suppl.
Afghanistan	Conservation of Biologically Important Areas	3,137,715	DA
Bangladesh	Improved Management of Open Water and Tropical Forest Resources	1,050,000	DA
Bangladesh	Improved Management of Open Water and Tropical Forest Resources	1,000,000	ESF
Cambodia	Sustainable Management of Natural Resources and Biodiversity	1,500,000	DA
Indonesia	Strengthened & Decentralized Natural Resource Management	10,713,000	DA
Nepal	Natural Resources Governance and Biodiversity Conservation	1,400,000	DA
Philippines	Improved Natural Resources Governance	6,000,000	DA
Philippines	Improved Natural Resources Governance	3,300,000	ESF
<b>Asia and the Near East Total</b>		<b>\$33,419,715</b>	
<b>Asia and the Near East Total DA</b>		<b>\$27,719,715</b>	
<b>Europe and Eurasia Region</b>			
Bulgaria	Protected Area Management	75,000	AEEB
Russia	Sustainable Forest Management	347,768	FSA
<b>Europe and Eurasia Total</b>		<b>\$422,768</b>	
<b>Europe and Eurasia Total DA</b>		<b>\$0</b>	

**TABLE 3. USAID BIODIVERSITY PROGRAMS AND ACTIVITY FUNDING, FY 2005 continued**

Program Name	Program Description	FY 2005 Biodiversity Funding in US\$	Type of Funds*
<b>Latin America and the Caribbean Region</b>			
LAC Regional Program	LAC Regional Sustainable Development	1,016,338	DA
LAC Regional Program	Parks in Peril	2,958,662	DA
LAC Regional Program	Amazon Basin Conservation Initiative	8,000,000	DA
Caribbean Regional Program	Improved Environmental Management of Public and Private Entities	1,099,000	DA
Central American Reg. Env. Program	PROARCA: Improved Environmental Management in the Mesoamerican Biological Corridor	3,981,000	DA
Bolivia	Natural Resources Sustainably Managed	4,100,000	DA
Brazil	Environmentally Sustainable Land Use	6,088,000	DA
Colombia	Forestry and Sustainable Development Program	4,020,000	ACI
Dominican Republic	Improved Policies for Environmental Protection	792,000	DA
Ecuador	Sustainable Natural Resources Management and Biodiversity Conservation	4,644,000	DA
El Salvador	Improved Management and Conservation of Critical Watersheds	2,700,000	DA
Guatemala	Sustainable Natural Resources Management and Biodiversity Conservation	1,000,000	DA
Honduras	Improved Management of Watersheds, Forests, and Protected Areas	2,505,000	DA
Jamaica	Sustainable Natural Resources Management and Biodiversity Conservation	2,269,000	DA
Mexico	Conservation and Sustainable Natural Resource Management in Targeted Watersheds	4,093,000	DA
Nicaragua	Sustainable Forest Management and Biodiversity Conservation	1,344,000	DA
Panama	Sustainable Water Resources Management and Biodiversity Conservation	3,350,000	DA
Paraguay	Sustainable Management of Globally Important Ecoregions	929,000	DA
Peru	Strengthened Environmental Management to Address Priority Problems	2,876,000	DA
<b>Latin America and the Caribbean Total</b>		<b>\$57,765,000</b>	
<b>Latin America and the Caribbean Total DA</b>		<b>\$53,745,000</b>	
<b>Centrally Funded Biodiversity Programs</b>			
EGAT Bureau			
NRM - Biodiversity Conservation	Global Biodiversity Conservation	6,079,000	DA
NRM - Forest Conservation	Sustainable Forest Management	3,856,000	DA
NRM - Water Resources Mgmt.	Conservation of Coastal and Freshwater Resources	2,163,000	DA
NRM - Land Resources Mgmt.	Improving Land Management Biodiversity Practices	2,139,000	DA
Agriculture - University Research	Collaborative Research Support Program	1,466,000	DA
Israeli-Middle East Programs	Middle Eastern Regional Cooperation	413,735	ESF
Environment & Science Policy	CGIAR; GCC; Biotechnology & Biodiversity	7,219,000	DA
Poverty Reduction	Conservation Enterprise Development in Guyana	75,000	DA
Other Central Bureaus			
DCHA/CMM	Conflict and Environment	15,000	DA
Global Health	Population-Health-Environment Programs	1,175,000	CSH
GDA Secretariat	Biodiversity Conservation Alliances	683,300	DA
<b>Centrally Funded Biodiversity Programs Total</b>		<b>\$25,284,035</b>	
<b>Centrally Funded Biodiversity Programs Total DA</b>		<b>\$23,695,300</b>	
<b>Total Biodiversity Funding in FY 2005</b>		<b>\$176,146,518</b>	
<b>Total Biodiversity Funding (DA Funds only) in FY 2005</b>		<b>\$162,206,015</b>	

\*Development Assistance (DA), Economic Support Fund (ESF), Andean Counterdrug Initiative (ACI), Assistance for Eastern Europe and the Baltic States (AEEB), Child Survival Health (CSH), Freedom Support Act (FSA), Supplemental (Suppl.)

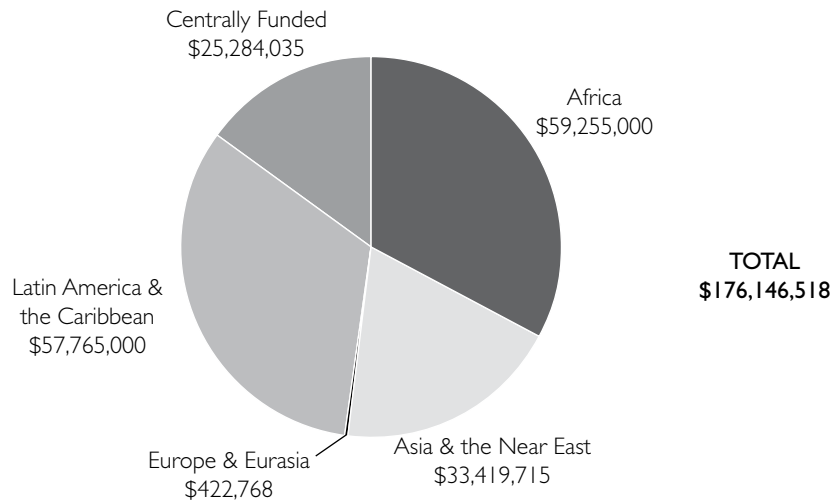
USAID investment in conservation is focused on tropical forests. In FY 2005, for example, forestry-related activities comprised approximately 52 percent of the total funds obligated for biodiversity conservation. While USAID also continued to support forest conservation through the Tropical Forest Conservation Act, the funds associated with the Act were appropriated directly to the Department of the Treasury and did not pass through USAID in FY 2005. Funding through the Act is therefore not reported in this document.

### Historical Biodiversity Budget Trends

Biodiversity conservation has been an important part of USAID activities for more than three decades. During the early 1970s, Missions provided funds primarily for conserving natural forests. In 1986, Sections 118 and 119 were amended to the Foreign Assistance Act, which placed a greater emphasis on biodiversity conservation and tropical forests in U.S. foreign assistance. The FY 1986 Appropriations Act also incorporated a \$1 million directive for Biodiversity Conservation. This broadened the scope of the Agency's biodiversity work, and began a long-term trend of increased USAID investment in conservation activities.

By the 1990s, USAID investments in biodiversity conservation expanded to more than \$60 million, at times exceeding \$90 million. Part of this surge in funding is explained by the Enterprise for the Americas Initiative (EAI), which began in 1990. EAI has promoted debt-for-nature swaps primarily in the Latin America and the Caribbean region and complements USAID biodiversity program funding. Since 1997, USAID support

**Figure 4. USAID Funding for Biodiversity Conservation by Region in FY 2005\***



\*Amounts shown here include funding from all accounts: DA, ESF, ACI, CSH, FSA, AEED, and supplemental.

**TABLE 4. U.S. GOVERNMENT INTERNATIONAL BIODIVERSITY FUNDING, FY 2005†**

USG Department or Agency	FY 2005 Funding for Biodiversity Conservation (\$ millions)
U.S. Agency for International Development	176.1
U.S. Department of Treasury (GEF)	107.5
U.S. Department of Treasury (TFCA)	20
U.S. Fish and Wildlife Service	18.8
U.S. Department of Agriculture, Forest Service	6.5
U.S. State Department (Intl' Organizations and Programs)	6.35
U.S. National Park Service	0.845
<b>TOTAL</b>	<b>336.1</b>

†This list is not necessarily comprehensive.

for biodiversity programs has steadily increased with new Congressional directives.

In FY 2004, the biodiversity directive became an earmark of \$155 million from Development Assistance (DA) funds, and in FY 2005 that earmark increased to \$165.5 million. USAID DA funding for biodiversity increased by \$8.3 million from FY 2004 to FY 2005, to \$162.2 million, but did not quite reach the earmark. Overall, the Agency provided more

than \$176 million for biodiversity programs through all expenditure accounts, including the Economic Support Fund (ESF), Andean Counterdrug Initiative (ACI), Child Survival and Health (CSH), Freedom Support Act (FSA), and supplemental funds.

# ANNEX I. ACRONYMS

ABCI .....	Amazon Basin Conservation Initiative
AFR/SD .....	USAID's Africa Regional – Office of Sustainable Development
ANE.....	Asia and the Near East
ASEAN-WEN.....	Asian Wildlife Law Enforcement Network
CARPE .....	Central African Regional Program for the Environment
CATIE .....	Tropical Agricultural Center for Research and Education
CBFP .....	Congo Basin Forest Partnership
CBNRM.....	Community-Based Natural Resource Management
CGIAR .....	Consultative Group on International Agricultural Research
CI .....	Conservation International
FY .....	Fiscal Year
CITES .....	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CRSP .....	Collaborative Research Support Program
DA.....	USAID's Development Assistance funding account
DRC .....	Democratic Republic of the Congo
EGAT/NRM.....	USAID's Bureau for Economic Growth, Agriculture and Trade/Office of Natural Resources Management
EAI .....	Enterprise for the Americas Initiative
FSC.....	Forest Stewardship Council
GCP.....	Global Conservation Program
GDA.....	Global Development Alliance
GEF .....	Global Environment Facility
GIS .....	Geographic Information System
ICM.....	Integrated Coastal Management
IUCN .....	World Conservation Union
IWRM .....	Integrated Watershed Resources Management
LAC.....	Latin America and the Caribbean
LFI.....	Liberia Forest Initiative
NTFP .....	Non-Timber Forest Product
PIAIL.....	President's Initiative Against Illegal Logging
PiP .....	Parks in Peril
PROARCA.....	USAID's Central America Regional Environment Program
RA .....	Rainforest Alliance
RDM/A .....	USAID Regional Development Mission for Asia
TFCA .....	Tropical Forest Conservation Act
TNC.....	The Nature Conservancy
USAID.....	United States Agency for International Development
USDA.....	United States Department of Agriculture
USFS .....	United States Forest Service
USG.....	United States Government
WCS .....	Wildlife Conservation Society
WRI.....	World Resources Institute.
WWF.....	World Wildlife Fund

# ANNEX II. DEFINITIONS

## **Agro-ecosystem**

A mix of cultivated and uncultivated land (including natural habitat) that functions together as an ecosystem.

## **Agroforestry**

Forestry that combines agriculture and forestry technologies to create more integrated, diverse, productive, profitable, healthy, and sustainable landuse systems.

## **Aquaculture**

The cultivation of aquatic plants or marine or freshwater food fish or shellfish, such as oysters, clams, salmon, and trout, under controlled conditions.

## **Biodiversity**

Short for “biological diversity,” it is the variety and variability of life, including the diversity of genes within species, the diversity of species, the diversity of communities and ecosystems, and the diversity of ecological processes.

## **Biodiversity hotspot**

A biodiverse area that contains a high number of endemic species and that has lost at least 70 percent of its original natural habitat (Conservation International). The 34 recognized biodiversity hotspots cover only 2.3 percent of the Earth’s land surface, but harbor more than 50 percent of the world’s plant species and 42 percent of all terrestrial vertebrate species.

## **Buffer zone**

An area adjacent to a protected area on which land use is partially restricted. This gives an added layer of protection to the protected area while providing benefits to neighboring rural communities.

## **Carbon sink**

An area that absorbs more carbon than it releases. Carbon sinks can be found in forests, soils, and the oceans. Carbon sinks help regulate climate by reducing the release of CO<sub>2</sub>, a potent greenhouse gas, into the atmosphere.

## **Conflict timber**

Timber resources that finance or sustain conflict; alternatively, timber resources that lead to conflict between competing groups or communities.

## **Ecoregion**

A relatively large area of land or water that contains a geographically distinct assemblage of natural communities (World Wildlife Fund).

## **Ecosystem**

A dynamic system of interactions among all of the species inhabiting an area and the non-living, physical environment. Ecosystems vary spatially and change with time, and no ecosystem is closed with respect to exchanges of organisms, matter, and energy. Priority areas or sites for conservation exist within ecosystems.

## **Ecotourism**

Responsible travel to natural areas that conserves the environment and improves the well-being of local people.

## **Endemic species**

A species that is native to only one geographic area of the world.

## **Environmental service**

An ecological process from which humans benefit. For instance, forests provide several key environmental services such as providing clean water and regulating climate.

## **Forest Certification**

An independent, third-party assurance that a forestry operation meets the responsible forestry standards set by a certification program. Companies apply voluntarily, and the government plays no direct role in the certification process.

## **Forest concession**

The award of forest harvesting rights to individuals, private companies and/or communities.



**Mariculture**

The cultivation of marine organisms in their natural habitats, usually for commercial purposes.

**Microenterprise**

A small-scale business, often owner-operated with few employees.

**Non-timber forest product**

Any organic material other than timber that is extracted from forests for human use.

**Protected area**

An area of land and/or sea dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and that is managed through legal or other effective means (IUCN World Commission on Protected Areas).

**Reduced Impact Logging (RIL)**

A method of harvesting trees with minimal residual damage and degradation of a forest site, which is achieved through the careful planning and design of the pre-harvest, harvest, and post-harvest stages of timber production.

**Smallholder**

A person owning or renting a piece of land under 50 acres that is used for cultivation.

**Sustainable development**

Development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development). Sustainable development activities are carried out such that natural resources are not depleted and therefore are available for future use.

**Sustainable forest management**

Management regimes applied to forestland that maintain the productive and renewal capacities as well as the genetic, species, and ecological diversity of forest ecosystems (U.S. Forest Service).

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[www.usaid.gov/our\\_work/environment/biodiversity/index.html](http://www.usaid.gov/our_work/environment/biodiversity/index.html)