



Elephant Survey in Northern Cameroon

by Christophe Lambert Bene Bene, Project Manager WWF CARPO

In April and May 2008, the Fonds Français pour l'Environnement Mondial (FFEM) convened sixteen experts to survey elephant populations in northern Cameroon. This aerial wildlife survey established baseline numbers of elephant populations and their distribution, and helped assess the level of elephant concentrations in three protected areas and adjacent hunting zones. The team included two experts from the Kenya Wildlife Service and officials from the Ministry of Forestry and Wildlife, the Northern Savannahs Project, the Garoua Wildlife Training College, WWF Cameroon, and five pilots from the area. FFEM sponsored the survey through the Projet de Développement de l'Ouest Bénoué (Development Project in West Benue).

The survey team collected data that was necessary to help determine:

the spatial distribution of elephants in the northern region of Cameroon, to understand and predict elephant movements to help maintain these corridors, and provide better viewing for tourists;
the threats that currently affect the elephant conservation including poaching, habitat destruction, and human-elephant conflict; and

• the concentration of elephants in protected areas and their total populations in northern Cameroon that will enable comparisons with other similar regions of Africa and to contribute to the review of the elephant management plans for the region.



RESULTS

The survey used two aircraft to collect data on wildlife in Faro, Benoue and Bouba-Ndjida National Parks and in surrounding hunting zones. Although the data collection focused on elephant populations and distribution, the data also included information on buffaloes, antelopes, bushbucks, giraffes, and livestock, including cattle and pigs. During the census, the team counted the total number of elephants, elephant carcasses, large herbivores and plain game in the area.

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BUILDING CAPACITY FOR CONSERVATION LEADERSHIP



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The survey found 525 elephants in the three national parks and in adjacent hunting zones. The experts noted that the highest concentration of elephants, about 44 percent, was found in Bouba Ndjidda National Park. The hunting zone to the northeast of Faro National Park had the second highest concentration with about 22 percent of the total elephant population.

The survey also found the highest number of buffalo in Bouba Ndjidda (21.65 percent) and Benoue (16.9 percent) National Parks. The rest of the buffalo were in the hunting zone to the southeast of Faro. Fifty-seven percent of the roan antelopes counted were found in the national parks with the remaining 43 percent were found in the hunting blocks. The data showed that cattle were mostly found within the protected areas, with the highest concentration in Benoue National Park, Faro National Park, and in the surrounding hunting zones, while Bouba Ndjidda National Park boasts the highest numbers of western hartebeests.

NEXT STEPS

This wildlife survey was the first attempt to collect information for a database on wildlife found in the network of protected areas in northern Cameroon. The Ministry of Forests and Wildlife in Cameroon will use the data to determine hunting quotas for wildlife in the region and

To learn more about EFN, please contact:

Education for Nature Program World Wildlife Fund 1250 24th Street, NW Washington, DC 20037-1132, USA Tel: +1 202 293 4800 Email: efn@wwfus.org Website: www.worldwildlife.org/efn help develop strategic management plans for the national parks. Based on the results, the survey team suggested that road infrastructure be improved in the protected areas to enhance monitoring of elephants and other wildlife species. Field observations also revealed that the incidences of human-elephant conflict may be on the increase because of wildlife encroachment near human settlements. The next step will be to continue to monitor wildlife and to intensify the anti-poaching patrols inside the protected areas.

Christophe Lambert Bene Bene received a professional development grant in 2009 to attend a training course on project planning and management in Mali. He currently works for WWF Carpo and is project manager for the Northern Sudanian Savannah Project in Cameroon.

Andes-Amazon Capacity Building Initiative

In 2008, the Gordon & Betty Moore Foundation renewed its commitment to EFN to continue to support training in the Andes-Amazon region. To date, EFN has awarded the following grants as part of this initiative.

Professional Development Grants in Protected Area Management

This year, EFN is proud to support four outstanding conservation practitioners to attend the Colorado State University (CSU) training course on the management of wildlands and protected areas. This training is a 34-day intensive course for protected area managers from Latin America and is co-hosted by CSU and the U.S. Forest Service International Programs Office.

Natalie Alem Zabalaga, Bolivia—Program Officer for Research and Monitoring, Reservea de la Biosfera y Tierra Comunitario de Origen Pilon Lajas Protected Area: Pilon Lajas Reserve

Diana Carolina Morales Betancourt, Colombia— Coordinator for Endangered Species and Education, Fundacion Omacha *Protected Area: Tuparro Natural National Park* Jose Luis Condori Goyzueta, Peru—Protected Area Specialist, Peruvian National Service for Protected Areas (SERNANP) Protected Area: Bahuaja-Sonene National Park

Javier Noriega Murrieta, Peru—Program Director for the Loreto Region, ProNaturaleza Protected Area: Pacaya Samiria National Reserve

Park Guard Workshop Grants

As part of the initiative, EFN awarded five park guard training grants to support local organizations in Bolivia, Ecuador, and Peru. These five grants will train 250 parkguards throughout the Andes-Amazon Region on a myriad of issues that address the critical needs of protects areas.

Fundacion Oscar Efren Reyes

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Capacity building workshop for parkguards and community leaders in techniques for monitoring Andean tapirs in the Ecuadorian Andes, Ecuador.

Fundacion para la Conservacion del Bosque Chiquitano Basic course on field operations for parkguards in Reserve de Patrimonio Natural Alta Vista, Bolivia.

Instituto de Investigaciones de la Amazonía Peruana

Training course on control and monitoring for parkguards in Tamshiyacu-Tahuayo Comunal Reserve, Peru.

Sociedad Zoologica de Francfort (SZF)

Parkguard training course on priorities for biological monitoring in protected areas, Peru.

Train-the-Trainer Workshop Grant

COLORADO STATE UNIVERSITY, PERU

Andes-Amazon Regional Train the Trainer Program for Park Ranger Trainers, Peru.

EFN and its partner, Center for Protected Area Management and Training at CSU, are collaborating to improve protected area management in the Andes-Amazon region by offering targeted Train-the-Trainer Workshops to increase the skills, knowledge, and ability of individuals committed to park guard training. Over the next three years CSU will host six in-country Train-the-Trainer Workshops. The first workshop will be held in Yanachaga-Chemillen National Park in Peru from May 17-28, 2009.

For more information, please visit www.worldwildlife.org/efn/amazon.

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New Russell E. Train Fellows

MALAYSIA Azlan bin Mohamed—

MS conservation biology. Universiti Malaysia Sabah, Malaysia. Thesis: Ecology and conservation of sympatric felid and vivverid populations and the effect of different forest management strategies on their occurance and survival Azlan Bin Mohamed in the field in Sabah

Robecca Jumin—PhD

conservation science. Universiti Malaysia Sabah, Malaysia. Thesis: Environmental management in the proposed Tun Mustapha Park





Robecca Jumin, Malaysia

MONGOLIA

NEPAL

Gankhuyag Balbar—MA communications. RARE Conservation Program - University of Texas, El Paso, USA. Thesis: Community-based freshwater conservation on the Onon River



Jyoti Bhandari, Nepal

Jyoti Bhandari—MS forestry. Institute of Forestry, Nepal. Thesis: Wildlife ecology in Eastern Himalayan Region

Hemanta Kafley—Postgraduate Diploma international wildlife conservation practice. University of Oxford, UK. Thesis: Carnivore populations in Terai Arc Landscape of the Eastern Himalayan Region

Ambika Prasad Khatiwada—MS forestry. Institute of Forestry, Nepal.

Andes-Amazon Capacity Building Initiative

Targeted training to improve protected area management

The immensity of the Amazon's challenge requires a long-term conservation vision backed by strong scientific expertise. In this vital landscape, local capacity to implement effective protected area management is limited. WWF's EFN Program, supported by the Gordon and Betty Moore Foundation, makes a difference through its Andes-Amazon Capacity Building Initiative.

The initiative's goal: To establish permanent protection for areas in Bolivia, Colombia, Ecuador and Peru by building local capacity in protected area management. Our

approach is comprehensive, weaving together both individual and institutional capacity development across the four countries. Grant applicants are encouraged to take advantage of the multilayered nature of the new initiative by applying for more than one program.

Training and Grant Opportunities for Protected Area Management

Professional Development Grants aim to build competencies for protected area managers and planners whose work has a direct impact on one or more protected areas. The grants provide support for mid-career professionals to pursue short-term, non-degree training to improve the management of protected areas in the Andes-Amazon.

Park Guard Workshop Grants aim to increase the skills, knowledge and abilities of park guards (official, volunteer, or indigenous) working in protected areas in the Andes-Amazon regions of Bolivia, Ecuador and Peru. These grants support local organizations to host park guard training workshops that address the critical needs of protected areas in this region.

Train-the-Trainer Workshops will create a corps of specialized trainers capable of designing and carrying out effective training programs to improve protected area management in the Andes-Amazon region. These workshops provide advanced training to individuals responsible for park guard training in protected areas.

Special Grants for Current Train Fellows and Andes Alliance Members

Visiting Expert Grants are meant to foster the exchange of ideas between conservation practitioners in the Andes-Amazon region and international experts in the field of protected area management. These grants enable current Russell E. Train Fellows and Andes Alliance members to connect with outside experts in a number of ways.

Employment Incentive Grants seek to increase institutional capacity at local organizations by helping to place Russell E. Train Fellows in key positions throughout the Amazon. Organizations seeking to hire a fellow to work in protected areas supported by the Moore Foundation or on Moore priority issues may apply for grants to offset salary and benefits or project costs.

How to Apply

Each type of grant requires a separate application. Individuals may be eligible to receive grants from multiple programs. Visit worldwildlife.org/efn/amazon to download the applications.



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Manu National Park Lowland rainforest along the edge of Lake Cocha Otoronge © André BÄRTSCHI / WWF-Canon

Conservation of the Andean Cat (Leopardus jacobita)

By Agustin Iriarte Walton, Director, Fundacion Biodiversitas, Chile - Research conducted by members of the Alianza Gato Andino. For a full list of contributors visit www.gatoandino.org/en/miembros.asp

The Andean cat (*Leopardus jacobita*) is the most endangered cat species in the Americas. It is also one of the rarest and least understood felines worldwide. In the last 25 years there have been fewer than 10 documented sightings of this small carnivore, which lives exclusively in the remote high-altitude deserts of the Andes in Argentina, Bolivia, Chile, and Peru. In addition to natural rarity and habitat loss, the prime threat to the survival of the Andean cat is human activity. Although it is only slightly larger than domestic cats, some local residents kill Andean cats because they consider them to be dangerous to humans and domestic animals. Other local people use preserved cats and skins in traditional dances and religious ceremonies and believe that killing a cat will bring



good fortune. Research on this species in the high Andes has been **PHOTO CREDIT: Dr. Jim Sanderson, Wildlife Conservation Network** hampered by numerous factors, including their apparently low local densities, the general inaccessibility of potential study sites, extreme climatic conditions, and a lack of basic information on species distribution, all of which have limited attempts to capture and remotely monitor live animals through radio-telemetry.

The Andean cat is legally protected in its host countries and by international treaties. The Andean mountain cat is included in CITES Appendix I and classified in the IUCN Red List as Endangered. It is one of the most threatened and least known felid species in the world, and as one of the only endemic altiplano species, may be particularly vulnerable to the burgeoning levels of habitat destruction and degradation of Puna ecosystems. Information on the presence and abundance of the Andean mountain cat is minimal, consisting primarily of a small number of pelts and skulls in museum collections and a few direct observations reported in the last decade. Because of the lack of data on the ecology, population, distribution, and evolutionary history of the Andean cat, it is difficult to reliably assess its role as one of the primary altiplano predators or its conservation status and vulnerability.

The Alianza Gato Andino (AGA) conducted a study, supported by the Wildlife Conservation Network, to increase the data available on the Andean cat in order to effectively protect this vulnerable species. The study used molecular genetic analyses of fecal samples combined with ecological and physiographic variables to describe how the Andean mountain cat and the pampas cat, two small felids with apparently similar phenotypes and natural histories, coexist in the high Andean ecosystem. The results of the AGA study provides unique insights into the ecology and population genetics of the enigmatic Andean mountain cat and pampas cat and provides some of the first datasets through which crucial field studies and conservation actions can be designed and implemented.

METHODOLOGY

Study Area

The study was centered in the high Andes of the Tarapacá Region in northern Chile, with some additional samples for dietary analyses collected from other portions of the Antofagasta and Atacama regions above 3,000 m. This region is part of the high altitude ecosystem or altiplano, where the environment is characterized by low atmospheric pressure, high solar radiation, low atmospheric humidity and relatively low and widely oscillating air temperatures.

Food habit analysis

Undigested remains in feces were separated through a binocular microscope. Contents were identified to the finest taxonomic level possible based on available literature and comparison with a voucher collection. Mammal remains were identified using teeth keys and birds were identified from the shape and size of the nodules in feather barbules. The mean weight of each vertebrate prey species was calculated from field data and from literature. Because adult mean weights were used in these calculations, the results may overestimate the biomass in the diets. Presumed temporal and spatial activity patterns of rodents were obtained from literature. The relative abundance of small mammals in the study area was determined by capture-recapture methods using Sherman traps.

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Genetic and phylogenetic analyses

We collected 186 carnivore samples (184 feces and 2 skulls) opportunistically and through systematic searches, both on and off human and animal trails and relative to geographic features (e.g. water and cliffs) in an area of approximately 25,000 ha while doing habitat and small rodent surveys. When multiple samples were found in latrines, a representative sample of the freshest scats was collected. Samples were stored in labeled paper bags in a dry place in the field and then at -20° C in the laboratory to delay DNA degradation. We extracted DNA from the epithelial rectal cells from the outside layer of the feces, using a specific kit for fecal material, and from dried tissue attached to the skulls.

Spatial distribution

To assess the spatial distribution of both species in the study area and their overlap, we characterized the location where scat was collected with regards to topography (altitude and slope) and distance to nearest vegetated area, water sources, roads and villages. To assess what factors affect the presence of both species, we analyzed the presence-absence record of their signs (feces) by building a generalized linear model with a binomial error distribution. These records were used as the response variable, while the predictor variables were altitude, slope, distance to human settlements, distance to water, and the normalized difference vegetation index.

Conservation Workshop Grants

EFN recently awarded conservation workshop grants to five organizations in Asia, Africa, and Latin America. These grants will train more than 300 partipicants ion diverse topics such as environmental legislation, forest tenure rights, and conservation education. To find out more about these grant opportunities, please visit our website www. worldwildlife.org/efn/workshop.

Avocats Verts, Democratic Republic of Congo Workshop on the opportunities for major environmental legislation addressing issues of biodiversity conservation

Chinese Academy of Forestry, China Workshop on collective forest tenure reform in nature reserves

Horizon Nature, Democratic Republic of Congo Training workshop on the use of improved cooking techniques to minimize deforestation in South Kivu

Indonesian Institute for Forest & Environment, Indonesia

Create the JERAMI Youth Club for the Environment for children in Bogor.

Sociedad Zoologica de Francfort (SZF), Peru Capacity building for protected area personnel.

Yayasan Orangutan Sumatra Lestari (Sumatra Orangutan Conservation Foundation), Indonesia Sumatran Orangutan Ecotourism Development Programme.

Water drops on lotus flower leaf - © Chris Martin BAHR / WWF-Canon

RESULTS

The 186 samples collected (184 scats and two skulls) were successfully amplified and sequenced from 143 (76.8%). With these sequences, 75 samples were identified as pampas cat, 33 as Andean mountain cat, 9 as domestic dog, 9 as puma, 8 as culpeo fox, and 9 were categorized as an unidentified cat species due to ambiguous sequences. The scat from Andean mountain cats and pampas cats were collected primarily from within or near caves in rocky formations.

METHODS

Food habits

The main component, between 70-80 percent of the diet of both pampas cat and Andean mountain cat was rodents, followed by birds. For pampas cats, 23 percent of the birds corresponded to one of three species of flamingos and 4.5 to tinamous. All of birds in the Andean mountain cat scats were tinamous. Food niche overlap between the two cats was extensive (0.82), indicative of low prey partitioning.

Cursorial-nocturnal rodents occurred in 37 percent of pampas cat and 34 percent of Andean mountain cat scat respectively, compared with 33 percent and 48 percent for cursorial-diurnal rodents. The most common prey species of pampas cat were species of leaf-eared mice (*Phyllotis spp.*), and a cursorialnocturnal rodent and the mountain viscacha (*Lagidium viscacia*). Similarly, but in reverse order, the most common prey items of the Andean mountain cat were mountain viscacha followed by leaf-eared mice. For both cats, viscacha was the most important prey item based on relative biomass (74.8 % for pampas cat and 93.9% for Andean mountain cat). These results show that both felids preyed on both diurnal (animals active during the day) and crepuscular (animals most active during twilight) species like the viscacha, as well as more nocturnal prey such as the leaf-eared mice.

Distribution modelling

The best logistic models for predicting the presence or absence of Andean mountain cat and pampas cat scats were determined using altitude, slope, distance to human settlements, distance to water, and distance to vegetation were used as predictor variables. Although signs of both species were found essentially through the same altitudinal ranges in the study area (from 3,714 to 4,494 meters above sea level (masl) for Andean mountain cat and from 3,670 to 4,487 masl for pampas cat), the probability of finding pampas cat decreased with altitude, while the opposite trend was observed for the Andean mountain cat.

Population size estimates

A rough estimate of the number of individuals sampled in our 25,000 ha core study area can be assessed in several ways. Using the formula for estimating the carrying capacity of the altiplano habitat for Andean mountain cats (0.6 kg/km2) and a conservative body mass of 5 kg, 30 individuals could theoretically inhabit the core study area. Alternatively, using the estimated home range size of an Andean mountain cat in the Bolivian altiplano of 47.12 km², approximately 5-10 Andean mountain cats would inhabit the core study area, assuming either no range overlap or a conservative average of 2 animals per home range.

CONSERVATION STRATEGY

The Unique Multinational Conservation Model was established in 1999 to protect the Andean cat in all 4 range countries: Argentina, Bolivia, Chile and Peru. Using the data collected in the AGA study, the countries reviewed the current threats to the cat and coordinated their conservation activities. AGA's integrative approach has yielded groundbreaking accomplishments, including: the first capture and radio-collaring of an adult-female Andean cat, the first photographs of Andean cats and the use of camera trapping, DNA analysis of feces to confirm the Andean cat's presence in different areas in the 4 range countries, and the completion of cat diet studies that yielded important information on prey abundance and preferences. To increase public awareness and acceptance of the Andean cat, AGA coordinates education activities in each of the countries. The protection of the Andean cat through conservation management, improved protected area networks, and community education is important to the entire region. The AGA study is the first piece to the new strategy that will save this vulnerable species and its ecosystem.

Agustin Iriarte-Walton received an EFN Professional Development Grant in 2005 to attend the Annual Meeting of the Society for Conservation Biology at the Universidade de Brasilia, Brazil. He is currently the director of Fundacion Biodiversitas in Santiago, Chile and is the Chilean country representative for the Alianza Gato Andino.

Notes from the Field

Eloisa del Mar Berman Arevalo, Colombia. Russell E. **Train Fellowship (2005)**

Eloisa Berman received her Russell E. Train fellowship in 2005 to complete a master's degree in human geography and international development at the University of Amsterdam, Netherlands. After graduating, she began working at the Amazonia-Orinoquia Territorial Division of the National Parks Unit in Colombia. Currently, she is the main associate for the Technical Secretariat of the Trinational Program for Conservation and Sustainable Development in the Protected Areas Corridor La Paya, Colombia - Gueppi, Peru - Cuyabeno, Ecaudor. She helps develop and consolidate a multi-level structure for coordination and decision-making; define common political and technical approaches for coordinated actions in the Trinational Corridor; document and systematize the coordination initiative; and generate a program monitoring and evaluation tool.

Rogelio Carrera-Trevino, Mexico. Russell E. Train Fellowship (2005)

Rogelio was awarded a Russell E. Train Fellowship in 2005

to pursue his doctoral degree in wildlife science at Texas Tech University, USA. He presented his research on population dynamics of the desert mule deer (Odocoileus hemionus crooki) in Central Arizona. In February 2009, he received the Clarence Cottam Award for best scientific work and oral presentation for his thesis of the Wildlife Society Texas Chapter



Rogelio Carrera (right) receiving the Clarence Cottam Award from Ruben Cantu, President

research at the 44th Annual Meeting of the Wildlife Society -Texas Chapter. Rogelio is currently working as a postdoctoral research associate for Texas Tech University.

Nellie Chimwemwe Chiphwanya, Malawi. Russell E. **Train Fellowship (2003)**

Nellie Chimwemwe Chiphwanya received a Russell E. Train fellowship in 2003 to complete a graduate certificate in environmental education at Rhodes University, South Africa. After completing her degree, she began working for Rhodes University as the eco-schools coordinator and received a Graca Machel Scholarship from Canon Collins Trust to pursue a master's degree of education in environmental education at Rhodes University to be completed in December 2009. Nellie was also selected to participate in the Expedition Antarctic 2009, sponsored by BP and 2041, composed of 63 people from 15 countries to witness the effects of climate change on Antarctica.

Tsechoe Dorji, China. Russell E. **Train Fellowship (2003)**

Tsechoe Dorji received a Russell E. Train Fellowship to pursue a master's degree in ecology at University of Tromsø, Norway. After completing his degree, he served as an ecology professor in the Department of Plant Science and Technology at Tibet University. He was recently awarded



Tsechoe Dorji in the field

a scholarship through the Network for University Co-operation Tibet-Norway, which addresses bilateral academic collaboration on research and education between Norway and Tibet. With his scholarship, he is pursuing a doctoral degree at the Norwegian University of Life Sciences. His research is focused on the effect of global climate change on plant biodiversity parameters in alpine steppe in Tibet.

Samira Juma Ali, Tanzania. Russell E. Train Scholarship (1998)

In 1998, Samira received a Russell E. Train Scholarship to complete a diploma in forestry at the College of African Wildlife Management in Tanzania. After receiving her diploma, she was promoted to conservation education officer for the Jozani Chwaka Bay Conservation Project under the Commission of Natural Resources, Zanzibar. In March 2003, Samira received an alumni grant and was the only woman to participate in a training on natural resources management and sustainable agriculture at Sokoine University of Agriculture Morogoro, Tanzania. After receiving this training, she was appointed to work in the World Bank Participatory Agricultural Development and Empowerment Project under the Tanzanian Ministry of Agriculture, Livestock, and Environment as a community agricultural development officer.

Sara Amelia Mateo Centeno, Peru. Professional **Development Grant (2006)**

In 2006, Sara Mateo attended the Beahrs Environmental Leadership Summer Certificate Program at the University of California, Berkely with funding from an EFN professional development grant. Since 2008, she has begun work in the tourism management unit at SERNANP, the new Peruvian Natural Protected Areas Service. Her duties include creating and implementing policies and initiatives to improve tourist management in natural protected Sara Amelia Mateo visiting Lake Titicaca areas in Peru. These initiatives



will include proposals to address ecotourism activities in management plans and zoning with the park system.

Ronald Kale Mulwa, Kenya. EFN Professional Development Grant (2004)

In 2004, Ronald received a short-term training grant to attend the 11th Pan African Ornithological Congress in Tunisia to present his paper on monitoring of endangered bird species by local communities of the Kinangpop Platueau, Kenya. After the experience and contacts he gained from the Congress, he has now moved from being a research scientist to director of the ornithology section at the National Museum of Kenya. He is also pursuing a doctoral degree at the University of Johannes Guttenberg - Mainz, Germany investigating the effects of land use and seasonal changes on bird diversity in forest and farmland habitats in and around Kakamega forest in Kenya. Ronald's research is being funded by BIOTA Africa and KAAD-Catholic Academic Exchange Service, Germany.



Miriam Mwajuma Karumba, Democratic Republic of Congo, EFN Professional Development Grant (2008)

In 2008, Miriam Mwajuma received a professional development grant, supported by the Liz Claiborne Art Ortenberg Foundation, to attend a training course on farming and environmental conservation hosted by Institut National l'Environnement et de Recherche Agricole(IRENA). After returning from the course, Miriam created a field project in Kamongola village to use the skills she learned at the IRENA course and worked with the local community to plant peanuts, pumpkin, amaranth, and sweet corn. The course enabled her to gain the knowledge necessary to teach local women how to plant these crops in a sustainable way and the best way to cultivate their land to avoid environmental degradation and improve agricultural production.



Miriam Mwajuma Karumba distributing seeds for reforestation to women in the Uvira Community

Rocio Polanco Ochoa, Colombia. Russell E. Train Fellowship (1996)

In 1996, Rocio received a Russell E. Train Fellowship to complete a master's degree in wildlife management at Universidad Nacional de Costa Rica. She worked at Alexander von Humboldt Biological Resources Research Institute as a researcher working on protected areas evaluating conservation and wildlife management projects in Colombia. She is currently working for Tropenbos Internacional Colombia coordinating the Tropenbos participation in a project with WWF Colombia, National Parks in Colombia, and other partners in Peru and Ecuador. The Project is an integrated landscape conservation and sustainable development plan to build a regional system of protected areas and indigenous territories in the trinational basin of the Rio Putumayo.

International Conferences

5th World Environmental Education Congress

Montreal, Canada * 10-14 May 2009 www.5weec.uqam.ca

Environmental education is on the cusp of an opportune moment, when environmental awareness has gone beyond the concerned minority to reach many people in all parts of the world. Prevention and resolution of environmental issues will require thoughtful, informed, and well-educated citizens to place pressure on political leaders and to make changes in their own lives and by taking action in their own communities. This Congress is for all educators: professors, researchers, teachers, university students, community leaders, civil servants, museum and park interpreters, consultants, journalists, artists, and all other actors in environmental education. Together, we seek to strengthen education in our neighbourhoods, villages, cities, and regions.

EESD 2009: International Conference on Energy, Environment, Sustainable Development

Paris, France * 24-26 June 2009 www.waset.org/wcset09/paris/eesd/ The International Conference on Energy, Environment, Sustainable Development aims to bring together researchers, scientists, engineers, and scholar students to exchange and share their experiences, new ideas, and research results about all aspects of Energy, Environment, Sustainable Development, and discuss the practical challenges encountered and the solutions adopted.

23rd Annual Meeting of the Society for Conservation Biology Beijing, China * 11-16 July 2009 www.conbio.org/2009

SCB is an international professional organization dedicated to advancing the science and practice of conserving the Earth's biological diversity. Our meetings are the most important networking outlet for conservation professionals. The meeting theme will be Conservation: Harmony for Nature and Society The connections between nature and society and diversity and mankind are critical for achieving the goals of conservation. The conference will consist of symposia, workshops, discussion groups, and short courses.

10th International Congress of Ecology

Brisbane, Australia * 16-21 August 2009 www.intecol10.org

In 2009, the New Zealand Ecological Society and the Ecological Society of Australia are hosting the International Congress for Ecology. This year's conference theme "Ecology in a Changing Climate - two hemispheres one globe" will give delegates thought provoking and intriguing insights into topics of interest to a changing global environment. We encourage delegates to make the most of the opportunities offered throughout the conference, by way of the scientific programme and myriad of additional conference events. Fieldtrips throughout Aotearoa New Zealand and Australia will offer further opportunities to explore biodiversity and natural and social histories that are unique to this part of the world.

VI Brazilian Congress on Protected Areas

Curitiba, Brazil * 20-24 September 2009 www.fundacaoboticario.org.br/cbuc The Brazilian Congress on Protected Areas gathers the most important specialists in the world, congregating also organizations that come to the public to show their environmental work. The Exhibition on Nature Conservation is an event parallel to the Brazilian Congress on Protected Areas. It has the intention of presenting and spreading consistent nature conservation actions ventured by governmental and non-governmental organizations, companies and universities, among other institutions.

OTHER OPPORTUNITIES

Development Marketplace 2009 Grant Competition for Climate Adaptation

Deadline: May 18, 2009 The Development Marketplace is a competitive grant program administered by the World Bank. The 2009 global competition is funded by the Global Environment Facility (GEF) and additional DM partners. It aims to identify 20 to 25 innovative, early-stage projects addressing climate adaptation. The DM is a unique opportunity to turn your idea into reality; if selected your project could receive up to US\$200,000 in grant funding for implementation over two years. Proposals will be selected through a rigorous selection process. Visit www. developmentmarketplace.org for more information.



School of striped convict tang, Acanthurus triostegus. Phoenix Islands, Kiribati © Cat HOLLOWAY / WWF-Canon



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