## The exceptional conservation potential of Sapo National Park, Liberia

Fauna & Flora International (FFI) first visited Liberia in March 1997, shortly after the cease-fire that led to the free and democratic elections of July 1997. Since then FFI's Liberian partner agencies, foremost among them the Liberian Forestry Development Authority (FDA) and the Society for the Conservation of Nature of Liberia (SCNL), have highlighted various areas that require immediate support if nature conservation is to return to and surpass its pre-war level. This includes restarting active management of Sapo National Park, and the acquisition of information on the status of wildlife and forest integrity in protected areas and in areas proposed for protection.

As part of this initiative, a rapid faunal survey was conducted in three areas in and around Sapo National Park (SNP, 1308 km²) in collaboration with three local hunters over 22 days in April and May 2001. Human signs were surveyed together with 14 easily tracked mammal and bird species, selected on the basis of their status as hunted, indicator and/or keystone species.

The almost daily presence of species such as the blue plantain-eater *Corythaeola cristata* and black-casqued hornbill *Ceratogymna atrata*, which are characteristic forest dwellers, indicates that the forest is relatively intact. In most other Liberian forests hunting has eliminated these birds, but access is difficult in the area of SNP. Similarly, the red river hog *Potamochoerus porcus* was constantly present, indicating an overall lack of widespread disturbance or hunting pressure. The white-breasted guinea-fowl *Agelastes meleagrides*, the forest elephant *Loxodonta africana cyclotis* and the forest buffalo *Syncerus caffer nanus* provide a more accurate indication of local disturbance, and these species were found to be rare or absent in the north-west and south-west of the park, but were frequently present in the west-central part. In the latter the intact and wide-ranging network of elephant trails connecting water courses and ponds, wallows and rubbing-trees, which are frequented regularly by elephants of all sizes and ages, suggests that elephants live there in virtually undisturbed social groups. This finding is important because elephants have been hunted to extinction in other forests in Liberia, even in the Cestos and Senkwehn River regions in the neighbouring Krahn-Bassa National Forest, formerly one of their strongholds.

The chimpanzee *Pan troglodytes* and the leopard *Panthera pardus* were found to be concentrated in the west-central part of SNP, but were also recorded at low densities in the northern and southern parts of the park. Tracks, faeces and trails of the pygmy hippopotamus *Choeropsis liberiensis* were recorded in areas of mixed habitat close to the Sinoe River. The relative rarity of pygmy hippo recordings may be because this solitary species lives at low densities, even in areas considered to be optimal habitat. Its presence indicates the high conservation potential of all three parts of SNP surveyed.

Previous surveys in West Africa have shown that the three monkey species surveyed, the red colobus *Procolobus badius*, the black and white colobus *Colobus polykomos*, and the Diana monkey *Cercopithecus diana*, are good indicators of hunting pressure from firearms. They are diurnal animals, hunted during the day with guns, and the red colobus is known to be the most sensitive to hunting. During this survey in the area west of SNP and in its west-central part, red colobus were encountered nearly every day in large groups, and it was the predominant monkey species. It was not detected, however, in the northern or southern areas of SNP. The Diana monkey was encountered as frequently as the red colobus in the west and west-central parts of SNP, but less frequently in the northern and southern parts of the park. The black and white colobus showed a similar distribution to the Diana monkey, but was less frequently encountered than the other two species. These observations indicate the outstanding ecological value of the west-central part of the park, and suggest that hunting with firearms has probably not occurred there for a long time.

Duikers are good indicators of snare trapping, and the two species selected for observation, Maxwell's duiker *Cephalophus maxwelli* and the black duiker *Cephalophus niger*, were rarely encountered, and the few recordings were based on the presence of tracks and pellets. According to hunters, firearm hunting was replaced by snare trapping during the civil war, when firearms and ammunition were either unavailable or relatively expensive.

This rapid appraisal found much evidence of typical forest-dwelling mammals and birds throughout areas both inside and outside SNP. This highlights the extraordinary conservation value of the park for forest-dwelling fauna in Liberia and the Upper Guinean



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ecosystem. Sapo National Park is at the core of an immense forest block that has not been disturbed or fragmented to the same extent as the rest of the Upper Guinean forest ecosystem, and as such it offers an important conservation opportunity. A long-term biological monitoring programme has been set up in SNP that will provide data on wildlife populations and trends. The details of this can be found in a recent report that is available from the authors.

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## Mesoamerican biological corridor threatened by hydroelectric dam

Sustaining the remaining biodiversity of Mesoamerica is the remit of the Mesoamerican Biological Corridor Project (MBCP). This forested corridor, stretching across the Central American isthmus, will provide a verdant landscape, allowing valuable genetic exchange between species, and will address the spatial requirements of species: room to breed, forage and utilize various types of habitat. These elements are necessary for the maintenance of healthy populations.

An important area of the MBCP is a block of forest known as the Selva Maya (Maya Forest). Encompassing 22,000 $km^2$, this is the largest tract of contiguous forest north of the Amazon Basin. Crossing the boundaries of Belize, Guatemala and Mexico, this section of the MBCP provides a sanctuary for threatened species in northern Central America.

However, the integrity of this forest is currently threatened by a Canadian-backed hydroelectric dam project known as 'Chalillo Dam'. Should the dam project go ahead in the central Maya Mountains of Belize, a unique river valley will be inundated. This river valley has been shown to be the principal reproductive grounds for the subspecies of scarlet macaw *Ara macao cyanoptera* in Belize. All field studies of this subspecies indicate that less than 200 of these rare parrots remain in the country. The proposed dam would also negatively affect another threatened species, the Central American tapir *Tapirus bairdii*, which is categorised as Vulnerable on the *2000 IUCN Red List*, as well as fragment the hunting grounds of the region's large carnivores, such as the jaguar *Panthera onca*, which is categorised as Lower Risk/near threatened.

Independent financial analysis of the proposed dam has shown that it is not economically viable. Furthermore, the Canadian-based company, Fortis Inc., is under a moratorium that prevents it developing a similar project on its home ground. The amount of power that would result from the proposed dam is projected to be 6–8 megawatts. Those opposing the project are encouraging Fortis to look at other energy options. Co-generation, which would involve the burning of sugar waste to provide a local source of energy, is being strongly promoted. This would remove the threat to the MBCP, and empower conservation efforts in the northern Central American region.

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## Update on coltan mining in the Democratic Republic of Congo

Tantalum is a rare, blue-grey metal that has a wide range of uses, including in the manufacture of capacitors to store electrical charges in portable computers and mobile phones. There are tantalum deposits in many parts of the world, including Australia, the Americas and Asia, but when a world shortage occurred in 2000 (primarily because of a demand for PlayStations) the biggest impact was in Africa.

In the Democratic Republic of Congo (DRC), thousands of miners entered World Heritage Site national parks to mine 'coltan', the African name for an ore of tantalum and its sister mineral, columbium or niobium. The name coltan is derived from columbite-tantalite. To support these mining camps, professional hunters killed vast quantities of wildlife for meat. One of the worst affected species was the Eastern lowland, or Grauer's, gorilla *Gorilla beringei* ssp. *graueri* that occurs only in DRC and whose population may have been decimated.

During 2000 the price of tantalum skyrocketed from $40 per pound to $500 per pound, but it has now returned to its original level. There has been speculation that falling demand is related to the downturn of the high-tech industries, global recession, development of alternatives to tantalum, expansion of mining in Australia and international pressure for a boycott of Central African tantalum. Whilst all of these elements may have contributed, one of the key factors is that during the shortage in 2000 panic-buying by major companies led to the creation of massive stockpiles. Those companies are now using up their expensive stock and the market is therefore depressed. Although demand appears to have slumped, this is probably temporary.



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As the fleeting price premium and international demand have disappeared, many miners are de-camping from the national parks. Some, however, continue to mine as they have little to return to, and, even though they are barely scraping a living, they cannot afford to stop. Despite protestations from many companies that they do not purchase Congolese tantalum, it is still being sold on the 'spot' market, where sources can be impossible to trace.

Much of the 'coltan belt' of eastern DRC is under the control of rebel forces, and the humanitarian agency Refugee International has reported that the rebel authorities are trying to impose taxes on international aid, including shipments of medicines, in order to replace the income that they received from coltan. The political situation in DRC is always volatile, although at the time of writing progress is being made to ensure that the 'Inter-Congolese Dialogue' multi-party peace talks will take place. Joseph Kabila's efforts to find a route to peace are being praised internationally, but the greatest challenge is to secure the same regard and co-operation within his own country.

Little is known of the impact of the fall in the price of coltan on the bushmeat situation. It is possible that the withdrawal of some miners has benefited wildlife by reducing hunting pressure. However, it is also possible that dependence on bushmeat will continue to escalate as the human population grows ever poorer. Deeply aware of the urgency of the situation, Fauna & Flora International is actively working to identify possible solutions and partnerships to assist in alleviating this conservation and humanitarian crisis.

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## Community and Business Forum – success for participation and dialogue

After two years of activities a recent evaluation report has demonstrated the impact of a novel approach to link economic development and biodiversity conservation in the Issyk-Kul region of Kyrgyzstan, Central Asia. The Community and Business Forum (CBF), an initiative developed to address the environmental and social consequences of mining in this region, has now proven the effectiveness of participation and facilitation of dialogue between stakeholders to provide a stronger foundation to address environmental and social issues. Furthermore, this project has shown that opportunities can be created for communities to collaborate with, and influence the decisions taken by, large businesses, whilst developing their own models of sustainable development.

The CBF was conceived in response to an accident in 1998 in which a truck released part of its cargo of cyanide into a river. The truck was travelling to the Kumtor gold mine, which extracts ore from an area of high montane tundra at an altitude of 4,200 m, run by a Kyrgyz-Canadian venture, the Kumtor Operating Company (KOC). The reaction to the incident led two investors in the mine, the European Bank of Reconstruction and Development (EBRD) and the International Finance Corporation (IFC), to identify the need to reassess how KOC engaged with local stakeholders in environmental and safety management operations. One of the biggest issues was lack of local access to information and the perceived credibility of information provided by KOC. This resulted in confusion, distrust and high levels of concern about the health and environmental consequences of the cyanide spill, which had polluted a river that flows into the biodiversity-rich Lake Issyk-kul.

With management from Fauna & Flora International and support from EBRD and IFC, the CBF was developed to facilitate dialogue between the various stakeholders (including local community groups, national NGOs, government agencies, KOC and international investors). CBF aimed to provide credible sources of information for all, and to provide opportunities for community representatives and local scientists to see the environmental standards of the mine for themselves. The project helped local communities to take action to address their own environmental, social and economic problems, through the provision of a small grants programme. Small grants supported a range of projects including organic fruit production, eco-tourism development, NGO resource centres, and support for cultural traditions that celebrate links with biodiversity (including a folk music group and handicraft production using traditional patterns and materials).

Participatory evaluation of the project showed that the target stakeholders recognised a significant increase in their access to information, including environmental data. Trust and understanding had been built between the different groups involved, and target communities felt that their influence on decision-making had increased. In addition, all stakeholders felt that their understanding of the environmental monitoring processes in and around the mine had increased. The project has also been effective in building the capacity and confidence of the growing local NGO movement, and the improving networks between different stakeholders has enabled them to voice their concerns directly to decision-makers.



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This project has removed barriers and built a firm basis to address biodiversity conservation in the future. The catalytic impact on local environmental NGOs has empowered and stimulated a growth in local activities. The issues that affect biodiversity conservation in Kyrgyzstan stem from the social and economic difficulties facing the country following the collapse of the Soviet Union. Taking a holistic approach to the situation, rather than separating environmental issues from their socio-economic context, has proved a highly successful and appropriate means by which to promote opportunities for biodiversity conservation. Indeed, the opportunity to extend the current base of the CBF to address biodiversity conservation and community involvement in local protected areas is already being explored.

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## Rediscovery of the Damar flycatcher *Ficedula henrici* on Damar Island, Indonesia, after 103 years

In 1898 a German, Heinrich Kuhn, landed on Damar Island (198 km$^2$) 400 km south of Ambon in the district of Maluku Tenggara Barat in Maluku province, with a team of Javanese assistants. As a paid specimen collector associated with the British Museum his job was to characterise the bird species composition of some of the most remote islands of Indonesia. The team spent three months on the island, October–December, shooting examples of all the bird species, preparing specimens, and shipping them to the Museum. Only 49 species were collected, all but two of which were known from other areas. One peculiar looking red-eyed cuckoo (green-backed bronze-cuckoo *Chrysococcyx rufomerus*) was described as a new species, and was thought to be endemic to Damar until found later on several of the surrounding islands. The second species was described as the Damar flycatcher *Ficedula henrici* (the species name is an English transliteration of Heinrich), and is still known only from the island of Damar. Nine specimens of this small (12 cm) dark blue flycatcher, with a white eyebrow and small white chest patch, were collected.

Apart from these specimens and their description, no other details have been forthcoming about Damar's unique flycatcher, the red-eyed cuckoo or any of the other 12 bird species recorded on the island that have globally restricted distributions of less than 50,000 km$^2$. *Threatened Birds of Asia, the BirdLife International Red Data Book*, published in 2001, categorizes the Damar flycatcher as Vulnerable based on its restricted distribution.

A recent one-month survey of Damar Island over August–September 2001 by BirdLife International and the Directorate General of Forest Protection and Nature Conservation (PHKA) aimed to rediscover the Damar Flycatcher and determine its status. After more than two weeks travelling to the island from Java, Colin Trainor of BirdLife International and Clemens Bulurdity, a PHKA Conservation Officer, recorded the Damar Flycatcher in tropical semi-evergreen forest near the villages of Wulur, Kumur and Batumerah, in approximately the same localities as the nineteenth century specimens. These were the first observations of this species in 103 years. Clemens captured two males and one female using mist nets. The birds were photographed, measured and released. The Damar flycatcher prefers the rattan dominated forest understorey, where it searches for insects on tree trunks, rocks and shrubs, and in leaf litter. Occasionally it enters vegetable garden plots at the edge of the forest, where it searches for grubs on chilli bushes and bananas. The diminutive size and unspectacular song of the Damar flycatcher make it of little interest to the local people either as a food item or as a tradable commodity. Given the extent of forest (about 70% cover) on the island and the low level of pressure from clearance for agriculture and small-scale logging, it is in no immediate danger of becoming extinct.

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## Increasing community awareness of frogs in the Philippines

Global concerns about the loss of amphibians first surfaced in the late 1970s, although it was not until the First World Congress of Herpetology in Canterbury, England, that herpetologists broadly agreed on the magnitude of the problem. This led to the development of a number of initiatives to address the issue, most notably the creation of the Declining Amphibian Populations Task Force in 1991. In the Philippines, however, the plight of amphibians has received very little attention at a national level. In the last decade most research has focussed on describing new species of amphibians, mostly frogs, and trying to determine their distributions. During 1997–2000, 15 new species were described.



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In 1998, during the 7th Annual Symposium of the Wildlife Conservation Society of the Philippines (WCSP), ''The Global Amphibian Campaign'' was launched in the Philippines by Conservation International, Fauna & Flora International and the IUCN Species Survival Commission. Subsequent attempts to establish a network of concerned individuals throughout the Philippines did not materialise, however, because of a lack of local resources and communication.

The issue resurfaced in 1999 at the 8th WCSP Symposium in Puerto Princesa City, Palawan. One of the recurring themes at this meeting was a lack of community awareness of Philippine amphibians, as well as poor knowledge of the distribution and status of many species. In response a Frog Awareness Campaign was developed, and tested in the Los Banos area of south-central Luzon Island. The campaign was supported by the Durrell Wildlife Conservation Trust, Melbourne Zoo and the University of the Philippines, Los Banos campus (UPLB). The Frog Awareness Campaign had three objectives: 1) to devise a creative way of disseminating information on the importance of and threats to frog populations in the Philippines; 2) to increase public concern for and awareness of threatened endemic frogs and wildlife habitats; and 3) to involve students and enhance their presentation skills.

The Campaign comprised three components. Firstly, a diorama was created and displayed at the UPLB Museum of Natural History in December 1999. It was naturally landscaped to resemble a Philippine streamside habitat, and preserved 'repainted' specimens of nine species of Philippine frogs were positioned within the display. A listing of frogs of the Philippines and information posters complemented the unit.

Secondly, a travelling module was used by the Organisation of the Zoology Majors (OZOOMs), University of the Philippines, in visits to five secondary schools in the Los Banos area during 3 September–6 October 1999. The module was available in English and Filipino (Tagalog), and covered the origins of amphibians, and the importance, distinctive features, life cycle and habitat of frogs. The frogs of the Philippines, threats to their survival and actions to protect them were also covered. A local frog character was created to help tell the story of the local frogs, his name was ''Okang Palaka''—''Oka'' being the nickname for Oscar (a farm boy in this instance) and *palaka* meaning frog. Each school was visited for three days, during which a presentation of information, data and pictures of different frog species found in the Philippines and around the world were displayed in the lobbies and rooms of the host school. Pupils received lectures on the issue, and evaluation questionnaires were distributed at the end of each lecture. Activity sheets containing drawings and mini games about frogs were also distributed.

The third component was a web site in English (http://www.geocities.com/frogs−99ph) and Tagalog (http://www.geocities.com/kokak−99ph), comprising the slide presentation from the travelling module, a set of four activities for students to undertake, and an evaluation section.

The students who attended the lectures and saw the exhibits responded positively, with 88% indicating that they had changed their attitudes towards frogs and 63% saying that they would join the Campaign. Prior to the Campaign only 41% said that they found frogs interesting. The students also suggested some improvements to the Campaign; e.g. live specimens for the exhibits and greater use of recorded frog calls.

The Frog Awareness Campaign was a pilot programme for future initiatives to raise awareness about frogs and the threats they face in the Philippines. It was the first such programme undertaken by the UPLB and, probably, the first of its kind for frogs anywhere in the Philippines. The results of the questionnaire demonstrated the success of the travelling module, and positive feedback was received about the diorama and both versions of the web site. The OZOOMs presenters improved their presentation and personnel management skills, and their hands-on experience will be of value for future involvement in other conservation and community education campaigns. The students' and presenters' suggestions for improvement have been incorporated into new materials.

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## People

In August 2001 Dr Mark Stanley Price took up the post of Executive Director of the Durrell Wildlife Conservation Trust in Jersey, taking over from Jeremy Mallinson. Mark is well known in conservation circles, with 25 years experience designing conservation strategies and running projects throughout Africa and the Middle East. He was the first manager of the successful project to reintroduce the Arabian oryx in Oman and the founder-chair of the World Conservation Union's Reintroduction Specialist Group from 1988–2000. From 1987–1999 Mark worked as Director of African Operations with the African Wildlife Foundation, based in Nairobi, Kenya, and for the last three years he has been on the Board of Trustees for the Kenya Wildlife Service.



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