Conservation news

New Masters in Conservation Leadership

There are already many excellent Masters courses in conservation, so why start another? Most such courses concentrate on conservation biology and conservation science, or environmental policy. However, the new course at the University of Cambridge, UK, is somewhat different, focusing on leadership for conservation. This new 1-year course has been more than 2 years in the planning and accepted its first intake in October 2010.

The new Masters in Conservation Leadership, funded by the MAVA Fondation pour la Nature, offers distinctive objectives relative to other programmes: to focus teaching on management and leadership, to engage the experience of conservation organizations, and to benefit from the collaboration between the six university departments and nine conservation organizations that comprise the Cambridge Conservation Initiative (CCI). The Masters is designed for people with experience of conservation leadership who wish to develop their knowledge and understanding through working together.

The University's Department of Geography is the academic host for the Masters. Staff from the University departments of Land Economy, Plant Sciences, Zoology, the Judge Business School and the Cambridge Programme for Sustainability Leadership, as well as from BirdLife International, the British Trust for Ornithology, Fauna & Flora International, IUCN, the Royal Society for the Protection of Birds, TRAFFIC International, the Tropical Biology Association, the UNEP World Conservation Monitoring Centre, and the network of the Cambridge Conservation Forum, teach on the course. As a result, 60 staff from within the CCI partners bring a wealth of practical conservation experience, as well as teaching on management and leadership, to the course.

Another key feature is that students undertake a professional placement with a conservation organization during the second half of the programme, rather than the dissertation research that characterizes most Masters. After completing the placement, students write a report on the placement's outcome and achievements rather than a dissertation. The experiences offered by the CCI partners provide many opportunities to innovate with the placement approach.

Students require 3–5 years of post-graduate experience to be considered for the Masters in Conservation Leadership. Many applicants for the first intake already held postgraduate qualifications, at masters or doctoral level. The 12 students admitted in October 2010 originate from 10 countries (Brazil, Colombia, Denmark, India, Iran, Kenya, Peru, Switzerland, USA, Zimbabwe). The wealth of mature experience adds to the richness of classroom discussion. Experience to date suggests this new Masters has the potential to fulfil its distinctive aim of helping train the next generation of conservation leaders. For further details see http://www.geog.cam.ac.uk/graduate/mphil/conservation/

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First seminar on the Iberian lynx in Portugal

In the International Year of Biodiversity and at a time when the conservation of the Iberian lynx *Lynx pardinus*, a flagship species for the stewardship of biodiversity on the Iberian Peninsula, is a conservation priority, the League for the Protection of Nature (Liga para a Protecção da Natureza) organized the first seminar on the species in Portugal, in October 2010. The seminar was held in the University of Algarve, Faro, with financial support from Banco Espírito Santo and in partnership with Fauna & Flora International (FFI), Institute for Nature Conservation and Biodiversity, National Forestry Authority, Centre of Environmental Biology, the Portuguese Society of Ecology, and the Centre for Functional Ecology.

The Lynx Programme, a partnership between the League for the Protection of Nature and FFI, has been closely involved in the conservation of the lynx, engaging state and private landowners to ensure the creation and management of a continuous corridor of habitat to link fragmented lynx populations across the Iberian Peninsula. The seminar discussed the conservation of the Iberian lynx in Portugal based on the presentation of conservation efforts for the species taking place throughout the country. There was special emphasis on issues related to the management of habitat and prey (the wild rabbit), the captive breeding programme and social perceptions of lynx conservation.

The dramatic situation of the Iberian lynx, with < 200 individuals, is balanced by some optimism as a result of conservation actions being implemented both in Portugal and Spain and by the success of the captive breeding programme. There is now a total of 16 lynxes in captivity in the new Portuguese captive breeding centre in Silves, southern Portugal that, with the three centres in Spain, comprises the captive breeding programme for the Iberian lynx. This programme will facilitate future reintroductions in both countries.

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From the presentations and discussions it became clear that the involvement of local people in areas where the lynx still occurs or will be introduced is a key to the success of conservation actions for the lynx. In addition, the maintenance of sustainable agricultural lands and forest, and hunting practices, compatible with the presence of the lynx is crucial.

The seminar was attended by c. 200 people, comprising researchers from Portugal and Spain, managers, landowners, students, and public and non-governmental organizations. The 2-day event not only brought together specialists and stakeholders with an influence in lynx conservation but also gave representatives of civil society an opportunity to participate in the discussion of the conservation of the Iberian lynx and how society can contribute.

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Fires destroy breeding habitat of Zino's petrel

On 13 August 2010 an arsonist, or arsonists, set fire to Madeira's central massif, the breeding site of the Endangered Zino's petrel *Pterodroma madeira* (see *Oryx*, 35, 128–136). Strong winds, which were constantly changing direction, led to the total destruction of the area. All breeding ledges, except Manga dos Vómitos, were completely burnt. On Manga 1987, however, which is extremely steep, the fire passed so rapidly that some of the juveniles there survived.

Unfortunately the fire did not kill the rats and cats that predate the petrel's breeding colony. The Parque Natural da Madeira, which started monitoring soon after the fire, was soon able to confirm the presence of both predators. They immediately replaced all control mechanisms, which had been destroyed by the fire.

The 13th of August is near the end of the hatching period. Most juveniles would have been alone during the day, with the parents returning at night to feed them. The first count, by Parque Natural da Madeira, was of 25 dead chicks and three dead adults, two of which were still incubating. Had the fire occurred 2 weeks earlier many more adults would have died. *Pterodroma* spp. are known to be attracted by bright lights, and in the Cape Verde islands local people capture *P. feae* by lighting fires to attract and then capture the birds. It is possible that the fires on Madeira, which burnt for several days and nights, attracted further petrels and thus killed them.

The final known death toll was 38 juveniles and four adults. Some of the juveniles that survived the fire later died of starvation or predation. An additional adult died having become entangled in nylon and caught in a bush on a breeding ledge. Of this year's generation only one juvenile was ringed and fledged. The Parque Natural da Madeira have now built artificial nests on the breeding ledges, more or less in the position of the previous nests, and have used coconut matting to try to control erosion. It remains to be seen how the birds will react at the start of the 2011 breeding season.

Following some rain after the fire there are now signs of regeneration of the flora. Unfortunately the quickest growth is of invasive species, notably bracken. This will, however, help to hold the loose soil. Nevertheless, the area has still to survive the rain, snow and winds of winter.

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India proposes new strategies to conserve elephants

India is home to a population of c. 26,000 Asian elephant *Elephas maximus* over an area of c. 110,000 km². Currently 65,000 km² of this area is declared as 32 Elephant Reserves across Protected Areas (30%), Reserved Forests (40%) and private lands (30%). Securing this landscape for the elephant is a challenging task in country that has an expanding economy and over one billion people competing for space, some of it with elephants.

In 2010 an Elephant Task Force was set up by the federal Government to recommend measures for long-term conservation of the species. The Task Force is headed by a wildlife historian and political analyst, an indication that issues with elephant conservation encompass the broader social milieu. The Task Force's recent report, *Gajah: Securing the Future for Elephants in India* (http://moef.nic.in/downloads/public-information/etf_report_final.pdf) was based on country-wide consultations with an array of people, including farmers, elected officials, forest officials, wildlife biologists, conservation and welfare activists, mahouts, veterinarians, temple committees and elephant owners.

The report is critical of the lack of focus and attention at the highest level of Government and suggests the creation of National Elephant Conservation Authority and Reserve Level Management Advisory Committees comprising elected officials, conservationists and others, and that the Committees should hold public hearings. The report also calls for a critical evaluation of the current population estimation methods for elephants, and recommends a combination of distribution and abundance indices in non-protected areas and intensive surveys for robust density estimates in select sites. The report proposes that protected areas be expanded to include critical habitats and corridors or be declared as Community or Conservation Reserves, as appropriate. To reduce further fragmentation, Elephant

Reserves need to be declared as Ecologically Sensitive Areas, with infrastructure development, mining and local livelihood activities to be halted, or permitted only under strict ecological safety standards.

Another critical issue addressed is the way elephant habitats are managed in the name of habitat improvement (see *Oryx,* 43, 326–327). The report provides guidelines on management of surface water, forest road construction and other activities in elephant habitats. This is an effort to inculcate scientific management and also optimal use of conservation funds. With respect to the ivory trade, the report states: 'no rationale, whether ecological, economic [or] ethical can justify the international ivory trade'.

Every year in India >400 people lose their lives to elephants and at least 500,000 farmers are affected by crop depredation. The Task Force calls for an integrated approach to defuse tension, more accountability in the way physical mitigation measures are implemented, and suggests the creation of local Conflict Management Task Forces, involving local elected representatives, the media and farmers, with a minimum of two local meetings annually to address conflict issues. In a bid to take elephants to the people, the report also proposes that the elephant be declared a national heritage animal.

Although implementation of some of the recommendations of the Elephant Task Force may not necessarily be realistic, the report has shown how Government appointed committees can perform for conservation.

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Rapid response and eradication of an invading mongoose in Samoa

The small Indian mongoose *Herpestes auropunctatus* is one of the global 100 most damaging invasive species (http://www.issg.org/database/welcome/). It has been introduced to many islands, and the resulting declines and extinctions of native fauna are well documented. In the tropical Pacific this mongoose currently occurs on some of the Hawaiian and Fiji Islands; the species was deliberately introduced to both countries in 1883. The mongoose is currently unknown from most of the other Pacific island nations, including until recently Samoa and the Territory of American Samoa. Although no unintentional incursions of this species have previously been documented (W. Hays, pers. comm.) we report here the first apparently accidental incursion of the small Indian mongoose and describe the rapid response taken to ensure the species did not become established.

On 18 December 2009, while returning from rat eradication research on the Aleipata Islands in Samoa, a research team from Samoa's Ministry of Natural Resources and Environment (MNRE) and the United States Geological Survey (USGS) received a report from the Samoa Port Authority (SPA) of an unusual animal in the vicinity of the Satitoa Wharf, Upolu Island. On 21 December further reports were made to MNRE's Division of Environment and Conservation about a strange animal at the Wharf. A team from MNRE and USGS went there to interview the observers and to try to capture the animal. Most Samoans are unfamiliar with the mongoose but the description of the animal was accurate, although the observers did not know what to call it. The team saw a small Indian mongoose cross the road where the SPA employees had previously observed the animal and also observed tracks of this individual.

The Samoa National Invasives Task Team was informed and they developed a rapid response strategy that included further interviews at the site of the original sighting. These interviews resulted in more reports of sightings of the mongoose or other unfamiliar animals. The sightings were mapped and a Critical Ecosystem Partnership Fund (http://www.cepf.net) proposal to respond to this invasive species was developed by MNRE and the Secretariat of the Pacific Regional Environmental Programme (SPREP).

Even before the CEPF funding was obtained the Pacific Invasives Initiative in Auckland assisted SPREP to purchase 30 DOC-250 traps, which have previously been evaluated in Hawaii as suitable for capturing the small Indian mongoose. The USGS also shipped 200 Tomahawk Live Traps to Samoa. On 10 February 2010, 10 DOC-250 traps, baited with tinned fish, were placed at c. 50-m spacings at the site of the 21 December sighting. By the next day one sexually mature adult male mongoose had been caught. Twenty additional traps were placed at three other locations of reported sightings, all within 5 km of the site where the mongoose was trapped. These traps have been baited and checked since February but no additional mongooses have been trapped and no further reports of sightings have been received. Two other observations, potentially of mongooses, have been reported from other parts of Upolu Island and are currently being investigated. Trapping at the site where the mongoose was caught and at other reported sites will continue for at least 12 months.

This experience shows how accurate identification of an incursion of this invasive species, and the rapid response, may have prevented establishment in Samoa. Genetic analysis of the trapped specimen indicated that it probably originated from Fiji (D. Simberloff, pers. comm.), where the species is widespread and common in the port regions of Viti Levu and from where animals have been reported to have been found on ships (A. Talo'uli, pers. comm.). The occurrence of the only animal at Satitoa Wharf is unexpected as the main commercial wharf in Samoa is at Apia, on the other side of Upolu Island. Although the reports of mongooses in the area date from 2008, the reliability of the reports is uncertain and the animal may have travelled to Samoa in a cargo container from Fiji direct

to Satitoa Wharf during its construction (2008–2009), perhaps with construction materials or machinery, or as part of the 2009 tsunami relief to Aleipata District.

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Symposium spotlights ocean wilderness of the Kermadec Islands

New Zealand's Kermadec Islands, located between New Zealand's North Island and Tonga, are remote and rarely visited, and uninhabited apart from a government station on Raoul Island. The region is geologically active and has unusual biological features, straddles tropical and temperate latitudes, and supports important populations of whales and dolphins, sea birds, fish and deep-sea marine life.

In August 2010 in Wellington, New Zealand, more than 140 people gathered at an international symposium, DEEP—Talks and Thoughts Celebrating Diversity in New Zealand's Untouched Kermadecs. The symposium brought together representatives from science, government, academia, the Māori community, industry and conservation to share their knowledge of the geological and biological diversity of the Kermadec region. Hosted by the Pew Environment Group with Te Papa Tongarewa (National Museum of New Zealand), the symposium was held in recognition of the 2010 International Year of Biodiversity.

The geological diversity of the region was highlighted during the 2-day symposium. The Kermadec Islands form the longest underwater volcanic arc, with more than 50 underwater volcanoes extending along the 2,500-km^2 collision zone between the Pacific and Australian tectonic plates. Some of these peaks are within 65 m of the sea surface, and the volcanic landforms, hydrothermal vents and geomorphic features are still being explored. The area also includes the 10,000-m deep Kermadec–Tonga Trench.

Presentations also focused on the marine life. Eight species of whale, including blue, fin and sei whales, migrate through these waters. Hawksbill, leatherback and green turtles, all of which are threatened, occur in the region. About 150 fish species are known from the Kermadecs and it is likely that future surveys will reveal new species living in waters deeper than 600 m. Additionally, the Kermadecs are a globally significant sea bird refuge, with up to 6 million sea birds breeding on the islands each year.

Of significance to New Zealand and the world, the Kermadec region provides an important haven for threatened species and an underwater frontier that scientists are only now beginning to explore. For more information about the Kermadec Islands and the symposium see http://www.thekermadecs.org

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Evaluating the impact of an outbreak of yellow fever on the black-and-gold howler monkey in southern Brazil

In 2008 and 2009 an outbreak of yellow fever killed more than 2,000 regionally threatened (*Tropical Conservation Science*, 3, 78–79) black-and-gold *Alouatta caraya* and brown *Alouatta guariba clamitans* howler monkeys in the state of Rio Grande do Sul, Brazil. The remaining habitat of these species lies in forest fragments immersed in a matrix dominated by cattle ranching and farming, and silviculture of exotic pines and eucalyptus.

During January–May 2010 we surveyed 55 forest fragments, most of which are < 5 ha, in an area of c. 2,800 km^2 in Alegrete, where there were no reports of deaths of *A. caraya* during the outbreak. We located a total of 196 individuals in mixed male–female groups of 3–15 individuals (mean group size 6.5), one group per fragment, in 30 fragments, and a single subadult male in a further fragment (56% occupancy). In the other 24 fragments no sightings or indirect evidence of howler monkeys were obtained. We also found four groups, of 8–12 individuals, in a 4-km strip of continuous gallery forest, in April and May.

During June–October we surveyed 82 fragments, most of < 20 ha, in an area of c. 2,300 km^2 in Bossoroca and Santo Antônio das Missões, areas affected by the yellow fever outbreak. We found a total of 54 *A. caraya* in mixed male–female groups of 3–10 individuals (mean group size 6), one group per fragment, in only nine fragments (11% occupancy). Local health authorities and farm owners reported that 69 of the currently unoccupied fragments were inhabited by howler monkeys prior to the outbreak and that there were no previous reports of the species in four fragments. Thus it appears that the yellow fever outbreak caused the extinction of the black-and-gold howler monkey in 88% (69 of 78) of the forest fragments in this region.

This high rate of disease-related mortality increases the distance between isolated populations, compromising gene

flow and rupturing metapopulation dynamics, and therefore increasing the likelihood of species extinction at a regional level. Future assessments of the conservation status of howler monkeys in Rio Grande do Sul need to include disease as a major threat. This research was supported by the Brazilian National Research Council and the Primate Conservation Fund—Conservation International.

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Derema Forest Reserve, Tanzania—the challenge of enhancing connectivity in a highly populated biodiversity hotspot

Derema forest in the East Usambara Mountains of Tanzania has posed a conservation challenge in the Eastern Arc Mountains for the past decade. The forest is a key connection between Amani Nature Reserve and forests further north in this mountain range. However, a process to declare the area a Forest Reserve foundered, causing considerable local resentment towards government agencies. The gazettment process was then taken up in 2004 as a part of the UNDP GEF/Tanzania Forestry and Beekeeping Division project Conservation and Management of the Eastern Arc Mountain Forests and the Critical Ecosystem Partnership Fund Eastern Arc and Coastal Forests Hotspot project, and work continued until these projects closed in June 2010. During the gazettment process 1,128 farmers from five villages were compensated for giving up their farming land in the forest area, which was primarily underplanting of cardamom. The cost of the gazettment process and compensation payments between 2004 and 2010 was > USD 4 million, in addition to the many thousands of hours of input from Tanzanian government officers and their NGO and donor partners. However, the 968-ha Derema Forest Reserve was finally gazetted on 9 July 2010 in Issue No. 28 of the Government Gazette of Tanzania as Government Note (GN 255) of 2010, 10 years after the main process was started towards the end of the Finnish government funded EUCAMP project. Despite this success, there remains work to be done to complete the process of safeguarding local peoples' livelihoods around Derema, and for putting in place sound management of the Reserve within the context of the surrounding reserve network. This will ensure that the Reserve stands the test of time within this region of high population density, considerable land shortage and increasing threats to water quality.

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