



Department
for Environment
Food & Rural Affairs



Darwin Initiative Newsletter

February 2014

Welcome to another issue of the Darwin Initiative newsletter. Within the Initiative we have been going through a really busy period the last few months as it has been applications time! We have received applications for the Main Projects plus, as usual, the standard of the Main Projects applications has been very high, making our job very difficult to decide who should get funded.

This is an opportunity to note our appreciation of the Darwin Expert Committee. They review every single application submitted to the Darwin Initiative and spend considerable time deliberating their merits. We are particularly appreciative of their work since it is a voluntary position. Special recognition this year should go to Professor Stephen Blackmore who is Chair of the Darwin Expert Committee. This is his first year to chair the committee through a full round of funding and he is doing a great job.

We expect to announce the results of the recent funding round in the next couple of months. For those that are successful keep an eye out for details of the New Projects workshop which will likely be in early April in London. Details will be sent with your feedback letters but we will also post details on the website and Twitter.

To find out more, check out the website Darwin.defra.gov.uk and Twitter [@Darwin_Defra](https://twitter.com/Darwin_Defra)





Conserving the critically endangered Bengal Florican – a Terai flagship species (19-011)

Despite having a spectacular display, the Bengal florican is an enigmatic species about which, very little is known outside of the breeding season. Restricted to just a few grassland sites in India, Nepal and Cambodia the Bengal florican is under threat of extinction due to the continual erosion and fragmentation of this habitat. The nucleus of the Darwin project is to catch and satellite tag birds to see where they go and what habitat they prefer both during and after the breeding season. We can then establish trial plots and if successful, roll out management prescriptions at suitable sites across the grassland areas of northern Indian and southern Nepal.

The plan for the first year was to catch and tag birds in Nepal so we employed the only people in the world who had caught Bengal floricans, Lotty Packman and Markus Handschuh. Lotty and Markus have caught and tagged 30 birds in the vast seasonal wetlands of Tonlé Sap in central Cambodia and have been studying them over the past 5 years.

We paired them up with two local Nepalis, Jyotendra Thakuri from Bird Conservation Nepal (the BirdLife Partner) and Shambhu Ghimire from Himalayan Nature. The first step was to train them in the delicate art of handling and securing the

tags on these big but wary birds. The tags are attached via a specially designed harness, similar to a rucksack, and the team had to practice on live chickens for a few days to ensure they could successfully deploy the tags without harming the birds.

The catching site was Koshi Tappu Wildlife Reserve in the south-east corner of Nepal close to the Indian border. This site was chosen as almost 50 birds (about 50% of the Nepalese population) were rediscovered there in 2011, and without the added danger of encountering tigers, rhinos or elephants, it was considered the best and safest place.

The team had just two weeks in the field and things didn't get off to a flying start as they spent the first 3 days from sunrise to sunset covering large areas of grassland, but only seeing two florican and attempts to catch them failed. Finally, at the start of the second week, on April Fools' Day, a male was successfully herded and tangled in the nets, unpicked, weighed and the satellite tag fitted and then released - all within 20 minutes. This was truly an historic moment being a first for the Indian Subcontinent. The team followed this by catching a second male the next morning, but despite several more attempts, no other birds were caught. Since then we have been closely monitoring the



Tagging a Bengal florican
Credit: Jyotendra Thakuri Bird Conservation Nepal

movements of the two tagged birds, and rather surprisingly they have not ventured very far from the areas where they were caught. If it remains the case that they do not move very far, then conservation efforts to protect their habitat might be easier than first thought but begs the question why the birds are not seen outside of the breeding season.

Running parallel to the catching work, both the local BirdLife Partners, BNHS India and Bird Conservation Nepal, undertook national surveys to help establish the population size and distribution of the species in India and Nepal. Recent and historical records in both countries have been analysed and show the bird is now largely confined to protected areas so these areas have formed the basis for the survey work. A standardised and repeatable survey method based on visits to a grid of survey points centred on cells of known land cover was developed at workshops held in both countries.

Fieldwork finished in June and despite the occasional encounter with both elephants and rhinos, useful data was collected and used to populate a model from which maps have been produced of potential areas that might support

the species. These areas have subsequently been visited by the local partners and grasslands have been identified that could attract Bengal floricans. These areas will be surveyed during the 2014 breeding season and we are hopefully that some of these previously unknown grasslands will support the florican.

We are also moving ahead with establishing trial management plots to see if we can attract more birds. We are working with local communities to vary the cutting, burning and grazing techniques traditionally used to produce optimum grassland habitat but at the same time ensure the areas continue to meet the needs of the local people. This primarily includes fodder for cattle and thatch for local housing. With the breeding season for 2014 about to start we are optimistic we can build on the successes we have had during the first year of the project.

For more information about the project contact Ian Barber (RSPB UK) ian.barber@rspb.org.uk



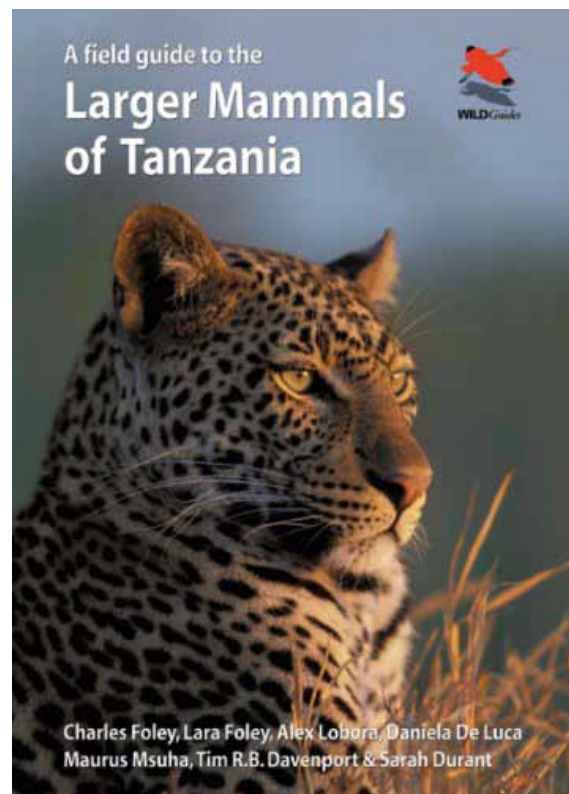
Information generated by Darwin Initiative projects contributes to a new guidebook for Tanzania Mammals (11-007 and 14-055)

The Darwin Initiative, because it supports projects to establish lasting capacity and leave a permanent legacy, often has impact that goes way beyond the lifetime of the project. Two projects in Tanzania, 'A national plan for carnivore conservation in Tanzania' (2002-2005) and 'A national plan for mammal conservation in Tanzania' (2005-2008), have continued to generate a substantial amount of information on mammal status and distribution beyond the lifetime of these two three-year projects. This Darwin Initiative support enabled the establishment of the Tanzania Carnivore Program, under the Tanzania Wildlife Research Institute. It also started a camera trapping survey program in 2004, which has contributed 15,000 records to a database holding over 50,000 mammal records. This information has recently been used to update the distribution maps for many species found in Tanzania, and produce a new field guide for Tanzanian mammals, due to be published in June 2014.

The field guide covers all the larger mammals of Tanzania, and detailed accounts are provided for more than 135 species, along with colour photos and distribution maps. Accounts for land species give information on identification, subspecies, similar species, ecology, behaviour, distribution, conservation status, and where best to see each species. The guide also features plates with side-by-side photographic comparisons of species that are easily confused, as well as first-time-ever species checklists for every national park. Two of the Tanzanian coauthors on the book were the project managers of the Darwin Initiative projects. Maurus Msuha, who subsequently obtained his PhD through University College London and the Institute of Zoology, managed the first project, and now manages the new Darwin Initiative funded 'CUT large carnivore management plan' (19-006). Alex Lobora, managed the second project, and is now undertaking his PhD research through the University of Dar es Salaam.

The book illustrates one of the strengths of the Darwin Initiative, in that it is able to provide sequential project funding that enables staff retention and lasting capacity to be established over a number of years. This is particularly important in developing countries which have insufficient resources to support capacity development in biodiversity conservation. The Tanzania Carnivore Program has now been operating for over a decade, during which time the project has not only established and maintained trained and skilled staff, but also secured foundations of trust with project partners, including wildlife management authorities. These relationships provide a solid foundation for its current Darwin Initiative project, which is addressing threats to large carnivores in Tanzania from conflict, unsustainable use, and illegal trade.

For more information about the project contact Sarah Durant: sdurant@wcs.or



Data gathered through Darwin Initiative projects are central to a new guidebook for mammals in Tanzania which will be on sale in June

Assuring Engagement in Cayman's Enhanced Marine Protected Area System (EIDPO45)

A major element of a Darwin Post-project in the Cayman Islands, led by Bangor University, is to implement a novel solution to the country's currently limited environmental enforcement capacity through the development of phone and tablet applications ('apps').

The previous Darwin Initiative project in the country (18-016) designed a new MPA system for Cayman which is soon to be presented to the public in a third round of consultation, following which amendments, legislation and enforcement plans will be recommended to complete the project. The Post-project addresses four key issues that became apparent during the main project, and have the potential to undermine the success

of the new MPA system: (1) The effectiveness of culling in managing the invasive lionfish (*Pterois volitans*), (2) the use and management of multi-species spawning aggregations, (3) the extent of fish overspill from existing MPAs into concessionary fishing areas, and finally (4) the proposed expansion of No-Take MPAs from 15% to 50% of the Cayman shelf requires an expansion in their enforcement, but the government is currently not able to achieve this due to the economic downturn. In order to address this final issue, this Post-project is designing an innovative solution to assist enforcement involving the general public.

A suite of applications are being developed by Bangor University in close collaboration



with the Cayman Islands Government to assist with the enforcement of the country's MPA network and other conservation regulations as well as engaging the public through outreach, education, involvement and engagement – in both research, environmental monitoring and policing. The applications will serve the needs of the enforcement officers and back-office staff, as well as allow the public a means of learning about conservation and reporting incidents.

The in-house enforcement app is being created to work on tablets that will allow the enforcement operations to be more cost effective, with officers working more efficiently in the field and better able to respond to incidents, in turn providing a positive impression of enforcement action in view of the general public. Officers will be able to consult databases of marine permits, access maps of the MPAs, log operations and record evidence of incidents.

A separate application is being designed for use on smart phones and tablets by the public, which will provide information on which activities are permitted in certain areas at particular times of year. The application will allow the public to report incidents of transgressions as well as make environmental observations such as sightings of new turtle nests, whales, dolphins, sharks, coral bleaching, lionfish and local pollution events. The app will also feature a local sustainable seafood

guide to promote the practice of ethical seafood purchasing.

The apps are cost effective 'one-stop-shop' tools which can deliver many functions for modest initial investment and development. It is hoped that by improving the capacity of enforcement and securing ownership of the MPAs and other environmental regulations in the Cayman Islands by Caymanians and visitors alike through the apps, the public will become empowered stakeholders. The public app will be made available free of charge and as such, with a greater and broader engagement with the local environment through its use and provided with an easy way in which they may play an active part in protecting local biodiversity, the public may become more directly responsible for their environment. The data generated from a wide spectrum of people in the marine environment throughout the islands will provide the Cayman Island Department of Environment with an important collection of spatial and temporal information for conservation and management purposes, which it would otherwise never be able to resource.

For more information on this project contact:

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Protecting elephants through promoting peace (19-010)

The survival of the Mali elephants is intimately linked to the state of relations between the peoples of the Gourma region. The Mali Elephant Project empowers local communities to work together to protect elephants and their habitat from human encroachment, and the wider environment from degradation. Degradation of soils, water, vegetation and wildlife means that there is less to go round and increases the likelihood of conflict between elephants and humans. When communities work together to protect and restore the ecosystem they are protecting the resources on which their livelihoods depend, and the habitats the elephants require for their survival, as the project has repeatedly demonstrated.

At the same time, working with local groups to protect their environment promotes community cohesion, provides employment for the youth, targets post-conflict aid and reconstruction

activities, and is, therefore, an important vehicle for reconciliation.

Post-conflict there is the new challenge of healing the social wounds that have been opened up by the recent crisis. The question is, "How best to do this?"

Analyses of the situation tend to focus on ethnicity, but this is only a part of the story. Ethnicities are composed of different social groupings and we wanted to understand more about why some people became refugees, while some stayed. Our experience suggested that this would be key for effective aid and reconstruction, avoid exacerbating social tensions and avoid sowing the seeds for future conflict as has happened in the past.

The results of the study provided the starting point for a three-day workshop organized with the Ministry for Decentralisation and Land

Elephant caressing baby Credit C Ward





Management and the Ministry of the Environment and Sanitation. Attendees included top levels of national and regional Malian government, representing 11 Ministries, together with representatives of local communities, the national Reconciliation Commission, and two previous Prime Ministers.

In addition to elaborating a programmed action plan, the chief conclusions of the process were that:

- Reconciliation is a prerequisite for ensuring the social, economic and environmental sustainability of aid and reconstruction initiatives.
- Reconstructing local communities will help to improve local, national and international security by minimising the risk of repercussions beyond Mali's borders. Young men who are unable to return to their communities and who have nowhere else to go risk becoming radicalised and/or engaging in criminal activity.
- Local authorities must play an integral role in post-conflict reconciliation, aid and reconstruction, to ensure that these efforts are well targeted and to obtain the desired results. Their knowledge can aid in processes such as:
 - Disarmament – they know who has weapons and can help in recovering them,
 - Compensation – they are familiar with the pre-

conflict situation, and can help to ensure that compensation is fair,

- Redress, reintegration and bringing to justice – they know who has committed what crimes, and can help to determine the needs of displaced persons who wish to return to their communities.

The full report including the results of our study can be found at http://www.wild.org/wp-content/uploads/2013/11/Report-of-the-National-Reconciliation-workshop_EN.pdf

YouTube Video:

[“Punch Above Your Weight, Mali Elephant Conservation: Susan Canney at TEDxVailWomen”](#). 10 years in 10 minutes!

Please 'like' it!

For more information on this project contact Dr Susan Canney, Director of Mali Elephant Project susan.canney@zoo.ox.ac.uk



Participatory mapping in the Bay of Assassins Credit Blue Ventures

Conducting participatory mapping in southwest Madagascar to contextualize past and present natural resource-use and plan for future needs (19-016)

Late in 2013, the Blue Ventures (BV) Blue Forests team prepared for and led a participatory mapping campaign within seven coastal communities surrounding the Bay of Assassins in south-western Madagascar, including Tampolove, Vatoavo, Ankindranoke, Andalambezo, Agnolognoly, Lamboara and Befandefa. The objective of the campaign was to map areas that have been or are currently being used for natural resource extraction. This information helps contextualize which resources are being used; when, where, and how.

Leading up to the campaign, BV staff conducted interviews in each community to identify the full range of stakeholder groups targeted for

participation, which comprised both of female and male fishers, farmers, loggers, elders, lime makers, fuel wood collectors, and charcoal producers. Given the interconnectedness of ecosystems, despite BV's focus as a marine conservation NGO, the scope of participants represented natural resource-use associated with marine and intertidal areas, as well as the neighbouring dry terrestrial forest. With participants identified, BV prepared maps and questionnaires tailored to each stakeholder type. Community-Based Facilitators (CBFs) were also trained in mapping methodologies ahead of time. Working closely with CBFs, in each community, key stakeholders were asked, based on consensus, to indicate



on maps where they go to do each activity. For example, charcoal producers were asked to identify where they harvested wood to produce charcoal. Tailored questionnaires helped further elucidate the frequency of each type of extraction and the availability and status of each resource over the past 10 years. To end each day on a fun note, a mangrove quiz was presented to participants. This quiz entertained while also fostering additional conversation regarding the benefits of mangrove conservation. Comics were also presented to generate discussion about mangrove conservation.

Following the campaign, BV team members have been hard at work entering and analysing the answers to questionnaires and digitizing maps. A preliminary assessment of the data collected implies how productive the campaign was and illuminates the myriad services provided to communities by the assemblage of marine, intertidal and adjacent ecosystems. Through this campaign, it became clear that participants believe resource availability is dwindling, highlighting the urgency for improved management and reduced-impact use. Once completely compiled, the BV

team will return to communities to interactively present the results of the campaign and help facilitate short- and long-term community-driven conservation and reduced-impact use strategies. These results will help empower and build capacity within communities to make informed management decisions concerning natural resource-use. Through these activities and ongoing efforts our other study sites across the west coast of Madagascar, the Blue Forests team is making progress on many fronts; working closely with coastal people to improve livelihoods, alleviate poverty, help prepare for climate change, and safeguard the rich biodiversity and ecosystem goods and services of coastal Madagascar. These efforts would not be possible without funding from the Darwin Initiative.

For more information on this project contact:
Trevor Gareth Jones

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Photo of *Acacia anegadensis*. Photo Credit: M Hamilton, Royal Botanic Gardens, KEW

Conserving plant diversity and establishing ecosystem based approaches to the management of forest ecosystems in the British Virgin Islands (DPLUS012)

As of July of 2013, the National Parks Trust of the Virgin Islands in collaboration with Royal Botanic Gardens Kew embarked on a vegetation mapping project designed to identify the composition of the terrestrial ecosystems and diversity of plants across the Virgin Islands. Mapping the vegetation is vital to understand the physical distribution and subsequent conservation management needs of threatened and endemic plant species. Historically, the Virgin Islands' vegetation was primarily Caribbean Dry Forest, however this is becoming less prevalent due to the increase in land development.

Following this work, plant lists and a vegetation map will be built into existing Geographic Information System (GIS). Newly identified areas of high biodiversity will be included in the Virgin Islands' Protected Areas System Plan. In addition, samples will be incorporated into the

collections within the Joseph Reynold O'Neal Botanical Gardens (JROBG). Further to this, a draft management plan will be created for the forest ecosystem which will be utilised by the Government of the Virgin Islands and the Town and Country Planning Department to better inform the development planning process, as well as laws and legislation within the Virgin Islands.

To date 5 endemic and 16 threatened species have been identified in the Virgin Islands. The 5 endemic species are *Acacia anegadensis*, *Metastelma anegadense*, *Senna polyphylla* var *neglecta*, *Calyptranthes kiaerskovii* and *Pitcarnia jarecki*. All of which can be seen within the new Conservation Collection at the JROBG.

This Darwin Initiative project has been endorsed by and will benefit various stakeholders such as the Department of Conservation and Fisheries (CFD), the Town and Country Planning Department

(TCP), the British Virgin Islands Tourist Board (BVITB) and the Royal Botanic Gardens Kew. For CFD and TCP, this project serves to provide additional GIS information required for their watershed management project and the development planning processes. As for the BVITB, the newly found information will help to enhance their unique eco-tourism product. The project also helps to inform the Royal Botanic Garden Kew's on-going United Kingdom Overseas Territories Programmes's Online Herbarium. In addition National Parks Trust staff will be afforded training opportunities in phenological survey techniques and herbarium specimen collection. These partnerships will allow for the enhancement of continued collaborative conservatory efforts

within the Virgin Islands.

The information gathered from this project will enhance the preservation, conservation and management efforts of the National Parks Trust of the Virgin Islands of the designated and proposed natural and cultural areas protected under the System of Parks and Protected Areas, promoting their value to the people and visitors of the Virgin Islands.

For more information on this project contact: outreach@bvinpt.org



Photo of Martin Hamilton of Royal Botanic Gardens, Kew (foreground) and Denville Hodge, Terrestrial Warden of National Parks Trust of the Virgin Islands (background) planting threatened and endangered plants within the new Conservation garden at the Joseph Reynold O'Neal Botanical Gardens. Credit: Mr Joseph Smith Abbott . Director of the National Parks Trust of the Virgin Islands



Seabird tracking in the Caribbean (DPLUS007)

The UK Overseas Territories are home to many sites designated as Important Bird Areas (IBAs) by BirdLife International. One such site is Dog Island, located in the territory of Anguilla, Lesser Antilles. This small cay of just 207 hectares hosts globally important populations of brown booby, red-billed tropicbird and sooty tern as well as regionally important populations of laughing gull, masked booby, magnificent frigatebird and least tern.

In November 2013 this two-year Darwin Plus funded project gathered its first set of GPS tracking data from 44 brown boobies breeding on Dog Island as well as a further 35 from a nearby cay and IBA – Prickly Pear West. Our results reveal that brown boobies breeding in Anguilla travel up to 200 km on their foraging trips, with some even venturing into the neighbouring territories of Saba, Saint Martin/Sint Maartin, Saint Barthélemy and Saint Eustatius, thus highlighting the need for multi-regional initiatives in protecting seabird populations.

The project will track other important populations breeding within Anguilla and the British Virgin Islands (including sooty terns and magnificent frigatebirds) to build a comprehensive tracking data set which will be used to identify essential foraging areas within the region. This will also identify potential threats to these important populations.

This project is led by the University of Liverpool in collaboration with the RSPB, Anguilla National Trust, Jost Van Dyke Preservation Society and British Virgin Islands National Parks Trust, with support from the BVI Conservation and Fisheries Department and the Anguilla Fisheries and Marine resources Department.

For further information visit our website:

www.caribbeanseabirds.org.uk

or contact:

louise.soanes@liv.ac.uk

Creating Community Forests to Enhance Biodiversity and Provide Educational Activities

(20-005)

This exciting 3-year project managed by the St Helena National Trust (SHNT), is engaging the local community in creating 'community forests' for the education and appreciation of islanders and visitors alike. Important remnants of native habitat will be the focus of ecological restoration work to enhance biodiversity and provide opportunities for young apprentices to gain practical conservation skills. A 'forest school' programme is being developed for school children, young people and adults, to promote enjoyable and informative outdoor learning and foster stewardship of the natural environment.

St Helena has 45 endemic flowering plants and ferns but less than 1% of its native vegetation remaining. The community forests will focus on threatened biodiversity hotspots in both the dryland areas and the moist cloud forest zone which lies at over 750m above sea level. Restoration work will provide opportunities for apprentices and volunteers to get involved in invasive plant control, the growing and planting of endemic species and learning about the ecology of different habitats. Planting of endemic species St Helena rosemary, dwarf ebony and scrubwood has begun at Blue Point Ridge where there are remnant populations of these critically endangered species.

During the first quarter the project team has been developing a volunteering programme and building links with project partners on island, fostering collaboration with colleagues from government and civil society. Many of the thousands of dryland plants required for the restoration work are being grown by the project at the Millennium Forest under the watchful eye of the project nursery officer and we are collaborating with partners on the production of cloud forest species.

With the completion of an airport for St Helena due in 2016, tourists numbers are expected to increase tenfold by the end of the decade. The project will investigate the carbon storage potential of a selection of the island's native trees with a view to establishing a carbon offsetting scheme for visitors attracted to the island for its

unique flora and fauna. This will contribute to sustainable conservation alongside sponsored tree planting, guided eco-tours and local business development built around forest products.

For more information contact: pm.comforests@shnt.org.uk



The beginning of restoration work planting back endemics at Blue Point Ridge Credit: SHNT

Learning from Community Initiatives (20-011)

In December 2013, WWF–Kenya, through the support of Darwin Initiative supported community representatives to tour and engage with other communities who have successfully implemented participatory forest management projects, human wildlife conflict mitigation measures and livelihoods initiatives in selected parts of coastal Kenya and especially where WWF Kenya operates. This activity falls under the Darwin Initiative funded project where capacity of community and WWF partners on Participatory Forest Management (PFM) and Community Based Natural Resource Management (CBNRM) will be built.

The study tour was organized with the purpose of improving learning, reflection and sharing of experiences on participatory forest management,

improve understanding of community –based and simple and affordable human wildlife conflict mitigation measures as well as livelihoods options. A total of eleven (11) participants (4 women and 7 men) benefited from the exchange tour and were drawn from Darwin Initiative-funded project beneficiaries (local Aweer community and WWF partners - Kenya Forest Service and Kenya Wildlife Service). The tour offered the community representatives an opportunity to learn directly from local community on their experiences on participatory forest management, human wildlife conflicts and diversification of livelihoods. Most of the successful community projects visited consisted of those that were earlier or are currently funded through WWF. The trip also

Community representatives crossing channel Credit J Bett





offered a rare opportunity for various community representatives, government agencies and WWF staff to interact and share lessons and experiences. Community participants were very excited at the game moat project – a trench dug to keep at bay elephants and other big animals from leaving the national reserve and entering farmlands and destroying crops. Equally educative for the Aweer were nature-based livelihood initiatives such as ecotourism and village-based banking.

The participants had a lot of testimonies at the end of the study and I include this from one delegate,

"What a great experience! I feel privileged to have been able to participate in this tour, and learn from the local community. I believe that this tour has positively changed the way I will work with my local people and deal with human wildlife conflicts as well as management of our forest. I don't remember the last time I was so interested and excited to learn. The community from Kwale has done phenomenal

things such as game moats for reducing human wildlife conflicts. We will certainly take these lessons back home and practice them"

Tora Ware – Chairman of Aweer Community group.

For further comments/enquiries, please contact John Bett, Project Manager, Boni-Dodori Sustainable Forest Management Project on:

jbett@wwfesarpo.org

Darwin project features in Massive Open Online Course (17-027)

Massive open online courses (MOOCs) are being heralded as an important part of the future of education. The courses are online, free of charge and available to everyone, worldwide. A partnership between leading universities in the UK and a new enterprise 'FutureLearn' was launched in 2013 with a wide range of MOOCs.

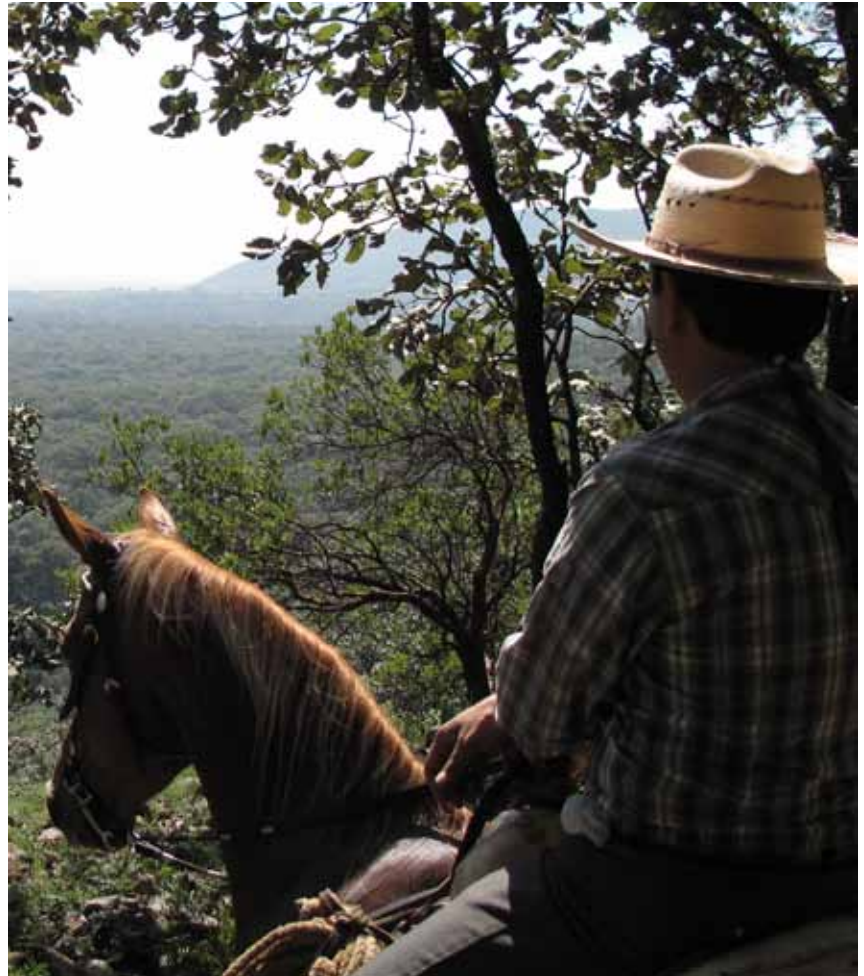
Darwin Project 17027 'Market Based Scheme for Conservation in La Primavera Forest Mexico', was featured in one of the first MOOCs on the new FutureLearn platform, a course on institutional economics called 'When Worlds Collide', with the first version running for two weeks from 21 October to 3 November. The course is about making difficult decisions on the management of natural resources, and the different values people place on nature. The Mexico Darwin project was focused on payments for ecosystem services, and was used as a case study in the second week with open access downloads of research papers by the Mexican project leader, Arturo Balderas Torres.

The course received warm accolades from the more than 5000 students. One participant said:

"I received my formal qualifications through distance learning but never experienced such active discussion around a topic as I have on this course. I think the format is fantastic and congratulations to Jon and his team for encouraging such engagement."

The Mexico research case study also included the award winning video 'Gira la Tierra' by the nature and conservation photographer Manfred Meiners. A participant commented on the case study:

"Well done Jon for your work in the Darwin Initiative project. Once again, localisation ensures that bad effects of bad decisions are avoided, because those making the decisions will lose out if they make the wrong choice."



'La Primavera project is the focus of a new online course
Credit: J Lovett

It was inspiring to hear from peasant and indigenous people in the film. They are the hope for humanity in terms of agroforestry and sustainable cultures. Their attitude is much more respectful of nature, because they recognise their direct dependence on it. Conversely, we 'civilised' people, far away from the destruction in our cities, never witness the ill effects of our lifestyles and political decisions..."

The course will run again from 31 March to 13 April, for more information and to sign up to the course visit:

<https://www.futurelearn.com/courses/when-worlds-collide-2014>

For more information contact Jon Lovett
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Forest futures: livelihoods and sustainable forest management in Bolivian Amazon, agroforest component (19-065)

This project is collaboration the Royal Botanic Gardens Kew, local communities and non-governmental organisations, working to reduce the impact on forest biodiversity and ecosystem services in the Bolivian Amazon. It aims to do so by improving local livelihoods and food security through the adaptation and adoption of locally appropriate agroforestry systems, by bringing new non-timber forest products to market and raising awareness of the ecosystem services and

biodiversity value of these forests amongst local decision-makers.

The forests of Pando are suffering increasing levels of deforestation. The recent influx of large numbers of poor Andean migrants, allocated significant tracts of land in an environment in which they have no farming experience has exacerbated the situation to the point where urgent solutions are needed.



Members of the Pimpollo community, recently settled from the Andes, preparing bags of soil for planting. Credit A Monro and RBG Kew

The agroforest component of our project aims to encourage the establishment of permanent agriculture (permaculture) on degraded cattle pasture and disused slash and burn (chaco) sites through a series of demonstration plots established in partnership with four rural communities. We are doing so using trees of the Inga genus of the legume family (beans, pulses, tamarind) to capture and restore soil fertility so that crops can be grown between the pollarded rows.

Inga trees are fast-growing and rapidly establish healthy soils as well as eliminating invasive weeds and supporting native biological controls. The technique takes advantage of the trees' ability to grow very rapidly (six metres in two years) and restore soil fertility rapidly through the production of abundant leaf litter and nitrogen-fixing roots. Key to this approach is the development of local political and social infrastructure to ensure the uptake and propagation of this approach. This emerging agroforestry system has not been tested or developed in Bolivia, but has great potential for reclaiming damaged unproductive land, reducing pressure on standing forests and improving the livelihoods of the burgeoning forest-based communities.

Kew's principal local partner, the Bolivian NGO Herencia, has a well-established track record in the delivery of community-based projects and economic planning in the region, and is actively engaged with a number of forest communities. Together we are working with four communities, one of which comprises Andean migrants. Key aspects of our approach are the delivery of fully functional permanent agroforestry plots within communal land tenure and individual Community Action Plans and the incorporation of the 'Bosque de los Niños' (Children's Forests) framework for involving. To date we have established four seedling nurseries housing ca 15,000 seedlings and secured the interest of local cattle ranchers to trial pasture enrichment using Inga. Our seedlings were planted in October and will be ready to plant by the end of January.

For more information contact: Alex Monro
a.monro@kew.org

For more information about the project go to our blog: <http://tropicalbotany.wordpress.com/>



A member of the community of San José inspecting the germinating seedlings that he helped plant and has been tending

Credit A Monro and RBG Kew

Enhancing habitat connectivity through sustainable development around the Gola Rainforest (20-022)

A cocoa farmer with his harvest. Credit M Hulme

The Gola Rainforest National Park (GRNP) established in 2010, is one of the largest remnants of the Upper Guinea Tropical Rainforest and the largest in Sierra Leone. Over 330 species of birds have been recorded there, 14 of which face global risk of extinction. There are also high numbers of vertebrate species of conservation concern, such as pygmy hippopotamus, chimpanzee, forest elephant and white-necked picathartes. These species are only a few of those that drove the international recognition of this area as a global biodiversity hotspot, requiring upmost effort and attention from the conservation community.

The GRNP consists of three forest blocks and sits within the wider Gola landscape which is defined by subsistence agriculture and settlements. Over 70% of the population depend on agriculture for their livelihoods which with an increasing population is the main driver for deforestation, threatening forest integrity and increasing human-wildlife conflicts. In an effort to increase incomes in forest-edge communities, abandoned cocoa plantations are to be rehabilitated and overall yields increased and quality improved. Through development actions, such as farmer field schools and drying facilities. Cocoa farming is therefore anticipated to provide a sustainable source of income to forest-edge communities. The project, which commenced in July 2013, aims to assess the impacts on birds and mammals of restoring these systems in corridor areas between forest blocks and habitat



connectivity, and to assess cocoa-raiding by primates and the effectiveness of mitigation methods employed.

The last few months of 2013 saw much progress liaising with communities in Malema and Nomo chiefdoms, which comprise the corridor areas and are the first of seven chiefdoms to benefit from the development work. In partnership with the Royal Society for the Protection of Birds and Welt Hunger Hilfe farmers interested in collaborating with the



A cocoa farmer discusses the management of his plantation with research technician Denis Bannah. Credit M Hulme

project are being identified. There has been a great deal of enthusiasm shown for the project with 1000 farmers expressing their wish to be involved in farmer field schools. Community surveys have been developed and interviews will commence in the early part of 2014.

Baseline biodiversity data inside the GRNP has been collected with Upper Guinea endemics such as white-breasted guineafowl, Gola malimbe and yellow-bearded greenbul being observed as well as mammals such as zebra, duiker and chimpanzee caught on camera traps in primary forest. In the farmland, mosaic work is ongoing to map active and abandoned cocoa plantations in preparation for stratified bird and mammal surveys across habitats, a very challenging proposition given vegetation, terrain, the variety of land uses present and the sometimes wet weather. Forget about keeping your feet dry!

A successful stakeholder meeting was held involving representatives of all 21 forest-edge communities in Nomo chiefdom where the

aspects of the project involving wildlife surveys were explained. All communities have welcomed the prospect of recording the wildlife on their plantations and the possibility of reduced conflict between humans and wildlife. Farmers are keen to concentrate more on cocoa rather than slash and burn agriculture and there appears to be plenty of scope for increasing cocoa yields whilst maintaining or improving habitat connectivity.

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We launched the Biggest Consciousness Campaign of Protected Areas In Guatemala

20-025

January first of 2014 the city of Guatemala woke up with 250 publicity charts regarding the beauty and the uniqueness of the protected areas of the Caribbean. This communication effort was made with the support of the National Council of Protected Areas –CONAP- and seeks to raise awareness of the importance of their protection. With the message “Protected Areas, Pride of Our Country, Visit and Protect Them – They are Yours” we are making the population aware of the beautiful natural places they can visit helping indigenous communities that manage the tourist sites and contribute to a healthy income to their families. The campaign also directed to the main political decision makers in Congress and the main ministries that can improve the budget for the protection of the rainforests of Guatemala and the continuity of the “Forestry Incentives Program”.

The six different images that include Cerro San Gil, Punta de Manabique and Rio Sarstún in Izabal, show the high value of the Caribbean Guatemala

and we believe that the knowledge of these places nationwide will help us greatly in all the activities that we develop in the city but also with the communities, the local governments and municipalities. This campaign is supported with a communication strategy that includes emailing, social networks and our presence in radio and TV programs that will make us deliver our message to a bigger audience.

We want to thank the Darwin Initiative for the support and for helping us launch this campaign. We are sure that we will strengthen the importance of the protected areas and its unique value in helping fight poverty in the communities protecting also the biodiversity of our country.

For more information contact:

www.fundaeco.org.gt

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Twitter [@fundaecoguate](https://twitter.com/fundaecoguate)

Facebook: [Fundaeco](https://www.facebook.com/fundaeco).



The campaign will raise awareness of our protected areas.

Credit: Fundaeco

Assessing Ascension Island's Marine Biodiversity (EIDCF012)

In August/September 2012 and June 2013 the Shallow Marine Surveys Group/South Atlantic Environmental Research Institute (SMSG/SAERI), in partnership with Ascension Island Government (AIG), conducted shallow marine surveys around Ascension Island. Little information exists on this environment. One of the primary objectives was to assess the community structure and abundance of fish fauna over different habitats around the Island using a visual census. This methodology utilised three divers: two for counting fish and the other to photograph 0.25m² quadrats in order to determine the density and % area cover of small invertebrates. This work is still being analysed – we collected 1200 quadrat photos and use special software to estimate density and % area cover to examine biodiversity and community structure quantitatively.

Surveys like these are important as they provide baseline data for this endemic species. Future surveys at different times of the year will shed some light on their biology, lifecycle and will make a direct comparison to our survey conducted in August/September. It is important that future

work be concentrated at estimating its abundance in temporal and spatial scales, describing and mapping its habitats and biology in order to inform a rigorous species action plan for this endemic species.

In conjunction with AIG, SAERI and SMSG were successful with a two year Darwin Plus grant "Ascension Island Marine Sustainability (AIMS) – A Fisheries and Marine Biodiversity Project". This grant has a number of work packages that includes fisheries and assessing Ascension Island's marine biodiversity. The project will allow for a much greater understanding of species like the white hawkfish because it will enable us to survey all year round.

SMSG and SAERI, on behalf of the survey team, would like to thank AIG, AIG's Conservation Centre, Colin Wells and Ascension Island Dive club for their invaluable continued support.

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White Hawkfish - *Amblycirrhitus earnshawii*
Credit: SMSG



Department
for Environment
Food & Rural Affairs



The Darwin Initiative aims to promote biodiversity conservation and sustainable use of resources around the world including the UK's Overseas Territories. The Darwin Initiative projects work with local partners to help countries rich in biodiversity but poor in resources to fulfil their commitments under the CBD, CMS and CITES. The initiative is funded and administered by the UK Government's Department for Environment Food and Rural Affairs (Defra). Since 1992, the Darwin Initiative has committed over £97million to over 830 projects in over 155 countries.

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For more information on the Darwin Initiative see <http://darwin.defra.gov.uk>

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