Newsletter

June 2021

A woman fishes in the ZSL supported community fishpond in Chitwan National Park, Nepal, Credit: ZSL

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The Darwin Initiative supports developing countries to conserve biodiversity and reduce poverty. Funded by the UK Government, the Darwin Initiative provides grants for projects working in developing countries and UK Overseas Territories (OTs).

Projects support:

- the Convention on Biological Diversity (CBD)
- the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- the Nagoya Protocol on Access and Benefit-Sharing (ABS)
- the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- the Ramsar Convention on Wetlands
- the Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- the United Nations Framework Convention on Climate Change (UNFCCC)

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A member of the female-led cooperative poses with her goats, Ghodaghodi Lake Area, Nepal, Credit: ZSL

Contents

Products at the Harvest Festival that were made by members of producer groups, Tajikistan, Credit: Rasima Sabzalieva, FFI

Publicity and information about the Darwin Initiative

For more information on the Darwin Initiative please visit **gov.uk/government/groups/the-darwin-initiative**

For further details about current and completed Darwin Initiative projects, including their final application forms, please visit **darwininitiative.org.uk**

We also have a blog, that includes news and thoughts on issues being tackled by the Darwin Initiative – both at the project and programme level. You can read it here **blog.darwininitiative.org.uk**

We're also keen to share other Darwin project blogs. If you have a blog you'd like to share on our website, please get in touch at **darwin-newsletter@ltsi.co.uk**

Publicity and referencing Darwin Initiative

We kindly remind project leaders that if they are publicising their work then it is important that they make every effort to mention Darwin Initiative funding. This is important as it helps us to ensure the Darwin Initiative retains a high profile and secures continued Government funding.

Small islands from Hummock Island, Credit: Dave Higgins

A word from Darwin

The ethos underpinning the Darwin Initiative and Darwin Plus is to support, safeguard and conserve ecosystems all over the globe, from tropical savannas to mountain ranges and everything in between. This **World Environment Day** on 5th June 2021 will see the launch of the **UN Decade on Ecosystem Restoration**.

Through this edition of the newsletter focused on "A Global Restoration", we want to highlight how the projects we support are working with local partners and communities to prevent, halt, and restore the degradation of ecosystems.

In this newsletter, we hear from two projects working to encourage greater cohesion between human populations and the neighbouring wildlife in the transboundary Western Terai Complex of Nepal and the Kilombero Valley of southern Tanzania.

This edition also featured projects in the UK Overseas Territories which are working to assess the associated economic value and well-being impacts of the environment throughout the Caribbean, and unearth the value of peatland habitats and their relationship with biodiversity in the Falkland Islands.

Happy World Environment Day, we hope you enjoy this edition of the newsletter!

A close up photo of a gharial, Credit: Phoebe Griffith

Protecting gharials to conserve freshwater ecosystem

Freshwater ecosystems are among the world's most altered ecosystems, with changes impacting the systems' physical, chemical, and biological features. Major drivers of these changes include climate change, diversion of water flows, changes in land use and land cover, chemical and solid waste pollution, alien invasive species, and unsustainable resource extractions including aquaculture. In the Narayani and Rapti river systems in central lowland Nepal, some of these alterations have visibly impacted gharial, an apex fish-eating crocodilian that has been Critically Endangered and is ranked 15th out of 100 reptiles on the EDGE (Evolutionarily Distinct and Globally Endangered) species list.

> "Apart from the major drivers pushing the gharial to the verge of extinction, poaching and egg collection also directly impact its population"

Apart from the major drivers pushing the gharial to the verge of extinction, poaching and egg collection also directly impact its population. Similarly, overfishing has reduced fish stock in both the Narayani and Rapti rivers, affecting not only the gharials but also the livelihoods of indigenous river-dependent communities. Additionally, fishing practices used have also been detrimental to the survival of the gharial, as most gharials caught in fishing nets die due to drowning or face persecution at the hands of their captors.

ZSL's project *Community conservation of Chitwan National Park's (CNP) freshwater ecosystems and gharials*, funded by the Darwin Initiative, is an attempt to reduce anthropogenic pressures in the river systems, better understand gharial behaviour to inform effective conservation, and support indigenous communities through sustainable livelihood measures by reducing pressures on the depleted natural resources with which gharials are left. Through these interventions, we have successfully assisted CNP in stabilising the gharial population while harnessing community engagement and support in conservation.

Monitoring the river for gharials as part of the annual count, Credit: ZSL

For the past four years, we have been collaborating with our in-country conservation partners National Trust for Nature Conservation (NTNC) and Himalayan Nature to conserve the gharial and its vital freshwater habitat. An ongoing PhD research project is building an improved understanding of the gharial's river use, habitat choice, survival rate, movement, and reproductive behaviour. Similarly, staff from Gharial Conservation and Breeding Centre (GCBC) are being provided with equipment and trained on gharial husbandry, handling, release and rescue, and monitoring techniques, while information from the research is being directly fed into the GCBC. Based on the project's learning, the GCBC will use incubators for the first time to control egg temperature to produce more males, as opposed to the traditional sex ratio, which is skewed towards females. Together, these will guide the GCBC to ensure improved survival of gharials post release and will help with gharial recovery. Additionally, through river ecosystem management workshops and plans, representatives from local government, community members, and other stakeholders are being made aware of the issues around freshwater conservation. Five community drop-in centres established in the upstream communities of the two rivers are also helping communities understand the importance of freshwater conservation.

During the last four years, eight community fishponds have been established, which have so far earned a combined total of £37,057, benefitting more than 160 households.

> "Community members have also formed Gharial Guard Groups, which are actively patrolling the rivers and coordinating with park and NTNC officials to rescue stranded gharials, confiscate fishing nets, prevent illegal egg collection, report illegal sand and gravel mining, and monitor gharials"

This has not only enabled community members to meet their fishing needs, shift their fishing practices from wild rivers to managed fishponds, and invest earnings in other livelihood schemes, but has also helped reduce pressure on wild fish stocks. Community members have also formed Gharial Guard Groups, which are actively patrolling the rivers and coordinating with park and NTNC officials to rescue stranded gharials, confiscate fishing nets, prevent illegal egg collection, report illegal sand and gravel mining, and monitor gharials.

These efforts have helped gharials begin to rebound, with their numbers increasing almost 30% from 166 (2016 survey data) to 214 (2020), as evidenced by the annual gharial monitoring. Apex predators like the gharial are primarily known as inhibitors of population eruptions of prey and smaller predators, an effect that cascades throughout ecological communities and promotes biodiversity. Therefore, the loss of an apex predator like the gharial could have a disproportionately disruptive influence on ecosystem structure and function, in a process dubbed 'trophic downgrading'. Therefore, this project is working to ensure that the function and structure of the freshwater ecosystems of the Narayani and Rapti rivers remain intact by supporting the protection and improvement of the gharial population. A healthy freshwater ecosystem is more likely to be resilient against the impacts of climate change and contribute to the wellbeing of the community.

Written by Shashanka Sharma. For more information on project 24-015, led by the Zoological Society of London, please click **here**.

Community ecoguards building a firebreak, Credit: Idrissa Ganame

Mobilising communities to restore habitat for their own benefit

The Sahel (the semi-arid region separating the Sahara Desert to the north and tropical savannas to the south) rarely makes the headlines. Except, occasionally, to briefly highlight the jihadist insurgency that is sweeping across the entire region and other parts of Africa. But in the midst of it all, people and wildlife are striving to survive.

This area was once home to an abundance of wildlife, of which only pockets persist today. One of these pockets is the Gourma region of Mali, a vast semi-arid region nestled in the bend of the River Niger and stretching southward to the border with Burkina Faso. This region is home to a remnant population of approximately 200 desert-adapted elephants, as well as other endangered species such as Dorcas (*Gazelle dorcas*) and red-fronted gazelle (*Gazelle rufifrons*).

Living alongside the vast array of wildlife are nomadic pastoralists, semi-nomadic agro-pastoralists and sedentary farmers belonging to a variety of tribes, clans, and ethnicities who rely heavily, if not exclusively, on natural resources for their livelihoods. Population growth, coupled with opposing natural resource management practices between communities, have

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progressively led to intense desertification, habitat degradation and loss, endangering both the livelihoods of the local human populations and the survival of wildlife – an interdependence of fate of which local people are well aware.

An innovative approach centred around community consultation and stakeholder collaboration is helping reverse this negative trend. Supported by the Mali Elephant Project, communities in the elephant range have come together to establish plans to protect, manage, and restore their natural environment, which all clans, tribes, and ethnicities can agree on. These natural resource management systems, which contribute to restoring degraded ecosystems and increasing natural resource availability, also form the

Forests in similar environments with and without community management, Credit: Idrissa Ganame

basis for local livelihood initiatives led by women, youth, and mixed-gender associations that generate additional income for the communities. At the forefront of this approach are community ecoguards, young men originating from the variety of the Gourma's local communities, who drive the implementation of activities on the ground. The trust and collaboration that stem from this collaboration support social cohesion, weakened by years of conflict, which is crucial to the success of these local restoration initiatives. These local projects are initiated by the communities themselves, who choose what activities they wish to carry out. Despite the various unknown aspects and the high levels of flexibility required, these community-led initiatives are a lot more likely to succeed because they rely on existing local knowledge and knowhow, as opposed to solutions imposed from the outside. In the past year alone, 59,200ha of natural habitat has been set aside for protection and restoration by communities acting for their own benefit and that of the elephants. Evidence suggests that this success is driving other neighbouring communities to spontaneously copy some of these practices, contributing to spreading the model and empowering other communities to take action – the only way to ensure the model's long-term sustainability.

> "Despite the various unknown aspects and the high levels of flexibility required, these community-led initiatives are a lot more likely to succeed because they rely on existing local knowledge and knowhow, as opposed to solutions imposed from the outside"

This approach was enabled by Malian decentralisation legislation, which has transferred land and natural resource management responsibilities from central government to local governments and communities. The Mali Elephant Project was able to support the largely illiterate rural communities by facilitating the process and drafting the required legal documents. Working simultaneously at commune and local levels has meant that these provisions are encoded within the local plans for social, economic and cultural development. Further reinforcement has been provided by new protected area legislation, currently in the process of passing through government. The new reserve of 42,635km^2 encompasses the whole of the elephant range, using a biosphere reserve model that provides for strictly protected core areas surrounded by buffer and transition zones of regulated resource use, managed through the community natural resource management conventions. This legislation gives government foresters the legal mandate to help local communities enforce their natural resource management systems.

Written by Sophia Leroy and Susan Canney. For more information on project 23-022 led by the WILD Foundation, please click **here**.

Planting critically endangered gumwood tree, Credit: St Helena National Trust

Native plants for biodiversity at the Millennium Forest

The Millennium Forest is a long-term habitat restoration project on the small UK Overseas Territory of St Helena. Decades of deforestation and overgrazing almost devastated the forest, but an ambitious effort to restore an area once known as the 'Great Wood' has brought the forest back from the brink. The project blends conservation of the Critically Endangered gumwood tree with community engagement. The St Helena National Trust manages the forest on a bare-bones budget with money raised from project grants, donations, and fees paid by visitors. However, the pandemic has severely reduced funding streams for the Millennium Forest.

Due to Covid-19, grant schemes were delayed, funds were redirected towards pandemic responses, and tourists were unable to visit. Without a steady income the National Trust could not afford to employ people to carry out vital conservation tasks. It meant that habitat restoration was delayed, propagation of native plants at the Millennium Forest nursery was not carried out, invasive plants encroached on the area, compost production was not continued, and established plants in the nursery were unable to be planted back into the wild. In short, Covid-19 had very serious effects on biodiversity at the Millennium Forest.

Thanks to the Darwin Initiative Covid-19 Rapid Response funding, the St Helena National Trust was able to employ a team of four people to give a much-needed boost of labour to grow native plants, maintain habitats, and manage invasive species for biodiversity conservation.

> "Over 2,000 native plants of Critically Endangered endemic species were sown in the nursery (gumwood, tea plant, boxwood and salad plant) for future planting back into the wild"

The project was a huge success. Over 2,000 native plants of Critically Endangered endemic species were sown in the nursery (gumwood, tea plant, boxwood and salad plant) for future planting back into the wild. Invasive plant species were cleared from habitat areas. Before native plants were planted into the wild, sites were cleared of invasive species to give the natives the best chance of survival. The invasive species were recycled into compost for use in the nursery. The equivalent of 50 cubic metres of invasive vegetation was added to

compost, which will provide enough nutrient-rich soil well beyond the life of the project. In the areas cleared of invasive species 500 native plants were planted back into the wild from existing nursery stock.

By focusing on all four vital elements of habitat restoration: plant propagation, invasive plant clearance, compost production, and planting trees back into the wild, we have ensured that the cycle of habitat restoration is maintained and does not slip behind schedule.

Planting native species back in the wild on St Helena, Credit: St Helena National Trust

“By focusing on all four vital elements of habitat restoration: plant propagation, invasive plant clearance, compost production, and planting trees back into the wild, we have ensured that the cycle of habitat restoration is maintained and does not slip behind schedule”

In the longer-term we hope to set up commercial ventures at Millennium Forest which can provide sustainable funding for conservation so that we can build some resilience to a changing world.

Written by Mike Jervois. For more information on project CV19RR05 led by St Helena National Trust, please click **here**.

New employees give a boost of labour for conservation, Credit: St Helena National Trust

Arawak Beach, Anguilla, Credit: Jake Kuyer

How ecosystem accounting can help to shape policies for sustainable development in the UK's Caribbean Overseas Territories

The UK Overseas Territories (OTs) in the Caribbean are a bio-geographically unique region, and are home to approximately 220,000 people that are largely dependent on the wealth of their environmental assets. For example, in the Turks and Caicos Islands, environmental assets contribute to at least US$212 million annual value in 2019 (approximately 17% of its GDP). These environmental assets offer a wide variety of benefits, including: marine ecosystems for local fisheries; coastal protection from weather events; tourism attractions that support the economy; and the intrinsic value of biodiversity. However, the environment is also under immense pressure to support the increasing demands of a developing economy. The economic wealth and wellbeing of these territories are fundamentally linked to effective management of the environment, and an understanding of the value that it provides.

Ecosystem accounting, which is being developed through our Darwin Plus project, is providing the Caribbean OTs with a way of understanding the interplay between the environment, the well-being of people, and pressures from economic activity. With support from a partnership between **eftec**, the **Joint Nature Conservation Committee**, and practitioners from the governments of the five Caribbean OTs, our Darwin Plus project is developing an evidence base of the value that the environment provides, to support environmentally and economically sustainable decision making.

> "Ecosystem accounting, which is being developed through our Darwin Plus project, is providing the Caribbean OTs with a way of understanding the interplay between the environment, the well-being of people, and pressures from economic activity"

The evidence not only supports protecting the environment, but also invests in maintenance and enhancement of environmental assets. This links to the very timely launch of the UN Decade on Ecosystem Restoration, and the associated economic value and well-being impacts.

Ecosystem accounts focus attention on what environmental assets are present, what benefits they provide, and what their economic value is to society.

This information can further support policy and planning, for example by:

• Effective policy and management decision-making that impacts the environment;

• Investment in environmental assets, enhancing and sustaining the value they provide;

• Action on climate change, including mitigation, adaptation, and resilience;

• Delivery of international initiatives, such as the UN Sustainable Development Goals; and

• A green post-COVID economic recovery, focusing on a sustainable tourism sector.

The ecosystem accounting framework being developed in the OTs will streamline annual data collection efforts and build capacity for the development and use of ecosystem accounts among practitioners in the region. The project aims to establish a regional practitioner's network and aggregate all five OTs ecosystem accounts into one Caribbean ecosystem account that will align with the newly adopted **UN statistical standard for Ecosystem Accounting** (UN SEEA-EA).

Written by Jake Kuyer and Jodykay Maxwell. For further information on project DPLUS108 led by eftec, please click **here** or contact the authors at **jake@eftec.co.uk** and **jody@eftec.co.uk**. Ecosystem accounts draw on available data, as such we are happy to discuss the potential inclusion of outputs of other Darwin projects.

Underwater image of a small nurse shark swimming in the reefs off Anguilla, Credit: Cefas

Training local women on miminising impacts on Ghodaghodi Lake Area through reducing the use of pesticides and fertilisers Credit: ZSL

Ghodaghodi Guardians: empowering Indigenous Tharu women for conservation

Sarita Choudhary has spent her entire life, in tradition with generations of indigenous Tharu people before her, in the Churia hills in south-western lowland of Nepal where the Ghodaghodi Lake Area (GLA) is nestled. The beautiful lake area, abundant with flora and fauna, provides their livelihood, whilst also being a sacred site with a profound impact on wellbeing, culture, and spirituality.

Her typical day starts with a cup of tea accompanied by the sounds of birds, followed by a trip into the forest for firewood. This is followed by a variety of daily activities including working in the agricultural fields or going fishing in the lakes before settling down for the night with a meal of home-grown food. Their cuisine, history, identity, festivals, and songs all showcase their relationship with the landscape. The importance of this area extends further, as it is also a designated Ramsar wetland site of international importance and a key biodiversity area. The lake area also serves as an important wildlife corridor enabling species movement through the transboundary Western Terai Complex and Shivalik Hills.

Tharu people have for decades been utilising resources from the GLA, using their traditional knowledge to build mud houses, fish, collect fodder and firewood, and use herbs for medicines and daily needs, all while protecting their forest and lakes, by guarding the forests, controlling fire outbreaks, and deploying plantations.

However, alongside rapid population growth and fast-growing tourism, conservation has become increasingly difficult as more demand has been placed on the finite resources of the area. GLA has started degrading due to over-exploitation of natural resources, over-grazing, over-fishing, and agro-pollution. These threats have led to many of the lakes and their sources drying up, species becoming increasingly threatened and diminished due to overharvest and loss of habitats, and have led to a reverberating impact on the wellbeing of the marginalised communities, especially rural women. The accelerated environmental degradation proves to be difficult to manage through traditional methods alone,

“These threats have led to many of the lakes and their sources drying up, species becoming increasingly threatened and diminished due to overharvest and loss of habitats, and have led to a reverberating impact on the wellbeing of the marginalised communities, especially rural women”

Participants of the newly formed cooperatives pose after the completion of fund mobilisation training, Credit: ZSL

> "Tharu women are now starting to take the reins to improve their livelihoods while decreasing their direct dependence on the environmental resources of the Ghodaghodi Lake Area"

and requires technical and policy support coupled with indigenous knowledge.

Tharu women in the GLA interact extensively with nature; fetching water, fodder, and firewood, conducting agricultural activities, and other household chores. These daily tasks all revolve around direct access to ecosystem services. Since environmental degradation depletes the quality of ecosystem services, as in the case of the GLA, it can potentially put women at an increased risk of added physical, social, and mental burdens, as they have to go farther to fetch water and fodder, and lack of resources makes their agricultural and fishing works harder to manage. This is also exacerbated by the limited involvement of women in community decision making and within government bodies, thus limiting their capacity to ensure the wellbeing of their family. Therefore, it is imperative that women are empowered and involved in conservation.

Although the GLA is a Ramsar site, it lacks a robust scheme for sustainable conservation such as those provided to buffer zone communities which offer direct benefits and support for adhering to conservation practices. The aim of this Darwin Initiative project, led by ZSL, is to restore the GLA's ecological integrity through community-led, natural capital-based sustainable management, and to increase the wellbeing of local people while protecting biodiversity. This is being achieved through various strategies such as sustainable tourism, women-led cooperatives, land-use planning, biological monitoring and water security, working in collaboration with our partners Himalayan Nature, Comprehensive Ghodaghodi Lake Tourism Development Board (CGLTDB), and Ghodaghodi Municipality.

One of the ways the project is promoting wellbeing is by empowering Tharu women via women-led cooperatives and associated livelihood and organisational trainings. Two women-led cooperatives have already been formed in the area which provide a platform for women to pursue income-generating businesses, through soft loans for their start-ups at an interest rate of only 4%, compared to the 14% in other cooperatives.

Supplemented by various livelihood development trainings, natural capital assessment workshops,

Gender Equity and Social Inclusion (GESI) trainings, and group organisation and bookkeeping trainings, Tharu women are now starting to take the reins to improve their livelihoods while decreasing their direct dependence on the environmental resources of the GLA. Currently, nearly 100 women are engaged in fish farming, livestock, and agriculture-based small-scale businesses. Additionally, GESI trainings given to local stakeholder groups and boards have helped further strengthen the presence of women in decision-making bodies and their access to cooperative services, improving their confidence to grow small scale-businesses and thereby improving their status in the community.

Sarita Choudhary is the president of Gurans Women Saving Group, and this has not only helped her improve her livelihood and wellbeing, but she has also been able to contribute to her community through a leadership role. She has started pig farming, and she informs us that that this has helped raise her income, and wellbeing. Thirty women are members of this group with her, and they have benefited from livelihoods training such as goat farming, and now even join important community meetings with local authorities. They also keep an eye out for illegal activities inside the forest and around the lakes. The women share with a smile on their faces that previously they would be scared to even utter a word in front of someone else, but being part of the savings group has given them the confidence to make speeches in public forums now.

> “We were heartbroken to see our lakes losing their beauty and value in front of our own eyes, but now we are proud to see our efforts showing promise for sustainable resource use and conservation”
>
> *- Bishna Choudhary, Community Officer*

Empowering women, who are pioneers in ecosystem management and use, has paved the way for sustainable resource utilisation. As community officer of CGLTDB, Ms. Bishna Choudhary shares: “We were heartbroken to see our lakes losing their beauty and value in front of our own eyes, but now we are proud to see our efforts showing promise for sustainable resource use and conservation.”

Written by Anuska Joshi. For more information on project 26-012 led by the Zoological Society of London, please click **here**.

A community member holds up a placard during the World Wetland Day, Credit: ZSL

Tussac grass on Hummock Island, Credit: Dave Higgins

Recognise, protect, restore: driving sound stewardship of Falklands peat-wetlands

The Falkland Islands have the highest proportion of peat-wetland cover of any part of the UK and the UK Overseas Territories. About 40% of the Falkland Islands are covered with deep peatlands, and with Falklands' peat-carbon storage estimates of 934 metric tons of carbon, which is equivalent to the carbon stored by a forest the size of the entire archipelago! Peat-wetlands support habitats for diverse wildlife, protect against soil erosion, provide stunning landscapes, and are major water catchments. However, very little data has been gathered about these wetlands, and damage to peat wetlands has given rise to extensive soil erosion, disturbed wildlife communities, non-native invasive species, and habitat fragmentation. Estimates suggest as much as 80% of original tussac peat-wetland habitat has been lost.

Some Falklands peatlands, however, have remained largely unaltered; many of these are on remote islands. Over the next three years the project will explore these native habitats of whitegrass plains, boxwood scrub, bluegrass and tussac grass 'forests'. To understand these environments soil properties (density, depth, moisture), relationships between vegetation and invertebrates, impacts of invasive species, and the bird communities each habitat supports will be explored.

> "On rodent free islands we've seen that invertebrate communities beneath boxwood stands are rich in beetles, spiders, and sandhoppers, whereas populations in habitats invaded by rodents are depleted"

We expect invertebrate communities will hold a large range of functional groups (predators, prey, grazers, decomposers etc.) and be key to healthy ecosystems. Originally the Falklands were rodent free, but today introduced rats and mice impact invertebrate populations. On rodent free islands we've seen that invertebrate communities beneath boxwood stands are rich in beetles, spiders, and sandhoppers, whereas populations in habitats invaded by rodents are depleted. A rich and diverse invertebrate community supports larger wildlife, and are the stimulus for important processes including decomposition and nutrient recycling.

Another important factor, especially on small offshore islands and along coasts, are the relationships between vegetation and marine derived nutrients (e.g. faecal deposits of sea lions, elephant seals, and nesting seabirds).

Orb-web spider (Molinaranea magellanica) *on New Island, Credit: Dave Higgins*

This nutrient transfer can be a major factor for plant growth, and all the wildlife a habitat supports; from the smallest insects, to birds of prey like variable hawks and caracara. A reduction in these relationships can impact the health of an ecological community and are important considerations when restoring habitats towards their original states.

“This nutrient transfer can be a major factor for plant growth, and all the wildlife a habitat supports; from the smallest insects, to birds of prey like variable hawks and caracara”

We are working with on-island and overseas partners including the Falkland Islands Government, the Centre for Ecology and Hydrology and Kew Gardens. The expertise this brings is invaluable for setting up survey protocols. It also offers a window into the world of peatland restoration. Alongside these partners are farmers, landowners and island owners that allow access to land and help us understand local land management methods. It would be an understatement to simply say that these people are valuable, when in reality they are essential to success.

“Alongside these partners are farmers, landowners and island owners that allow access to land and help us understand local land management methods. It would be an understatement to simply say that these people are valuable, when in reality they are essential to success”

Their knowledge, expertise and willingness to engage is key to the project. In the first five months, seven landowners have been directly involved in field work. A further eleven have engaged with the project and in years 2 and 3 all have allowed access to their land.

With 30 months of project work remaining, the detail will be expanded and refined - meaning peat-wetland habitats will be better understood. With new information on ecological relationships and processes, peat-wetland habitats should become valued in a way that reflects their importance to carbon capture, soil protection, catchment health, biodiversity and as an essential farm resource.

Written by David Higgins and Michelle Winnard. For more information on project DPLUS110 led by Falklands Conservation, please click **here**.

Louise Ndegwa, the treasurer of Hombe CFA, tends to a wild tree nursery in Mt. Kenya, Credit: Nature Kenya

Restoring one of Kenya's key water towers

The Mt. Kenya forest ecosystem is one of Kenya's five main water towers, this unique ecosystem covers over 200,000ha within central Kenya and has earned global recognition as a designated UNESCO World Heritage site and an Important Bird Area. The forest ecosystem, comprising of the famed mountain and surrounding forest areas, provides a home to hundreds of plant species and iconic wildlife. This includes African elephant, leopard, buffalo, giant forest hog, the Critically Endangered mountain bongo and the black-fronted duiker. The Kenya Forest Service (KFS) is responsible for the management of the complex yet critical ecosystem.

> "Despite Mt. Kenya being important in supporting livelihoods through tourism and its ecosystem services, it remains threatened by a number of pressures including logging, charcoal burning and invasion by aggressive invasive plant, *Lantana camara*"

Despite Mt. Kenya being important in supporting livelihoods through tourism and its ecosystem services, it remains threatened by a number of pressures including logging, charcoal burning and invasion by aggressive invasive plant, *Lantana camara*.

The pressures faced by Mt. Kenya forests has also intensified human-elephant conflicts in adjacent areas. Elephants tend to stay away from deforested areas and those colonised by Lantana bushes in favour of visiting farms for food. Lantana has already colonised 1,200ha of the Upper Imenti forest, 1,500ha in the Lower Imenti, 500ha in Ngaya forest and an additional 500ha in the Nyambene hills. In addition to intensifying cases of human-wildlife conflicts, Lantana invasions pose a threat to the natural regeneration of local vegetation, as the it forms impenetrable thickets blocking the necessary sunlight needed by saplings.

The challenge, according to KFS, is critical and urgently requires attention. The KFS admits that restoring the forest is an expensive venture that requires partnerships. "*Lantana camara* invasion is one of the biggest challenges we are currently experiencing. The plant has created thickets and canopies in areas where fodder for wild animals once grew, forcing elephants to look for alternative food sources, ending up moving into people's farms.

Community members of Gathiuru Community Forest Association, Kenya, Credit: Milka Musyoki

"In some instances, elephants get electrocuted, and in other instances, people get killed. Removing the weed is an expensive venture, and we are entirely dependent on partnerships," Meru County Ecosystem Conservator said.

Through support from the Darwin Initiative and World Land Trust, Nature Kenya is implementing a restoration project targeted at reclaiming degraded areas within the water tower. Ecosystem Assessment conducted by Nature Kenya indicates that 6,200ha of Mt. Kenya forests are degraded and require urgent restoration.

Nature Kenya has adopted innovative approaches of creating linkages and building the capacity of Community Forest Associations to enable them to mobilise resources locally. These approaches seek to enhance the restoration of areas identified to require urgent attention in Mt. Kenya. Creating linkages among local communities and private sector players like Kenya Breweries Limited and Safaricom Limited has seen companies adopting degraded sections for restoration. Restoration activities currently taking shape in Mt. Kenya.

"This approach aims to create a model where public and private sectors team collaborate to restore this vital water tower," Nature Kenya Species and Sites manager Paul Gacheru says.

The approach also entails training Community Forest Associations on resource mobilisation and engaging county governments to save the forests. The aim is to create a restoration model which can be replicated in other degraded areas across the country. A Restoration Strategy Framework for Mt. Kenya forest to guide long term restoration of the ecosystem has also been developed.

Community Forest Associations members have also undergone training on wild tree seed collection and propagation. The propagated wild tree seedlings are for planting in degraded forest areas, says the Nature Kenya Community Liaison officer Martin Kiama. "Through this approach, we are creating a sustainable model. This will ensure that the tree seedlings planted in degraded areas are site-matched. Previously, seedlings were procured from nurseries outside designated restoration areas. At times, trees planted were not suitable for sites earmarked for restoration," explains Kiama. Through wild seed collection and propagation, the Community Forest Association members also benefit from selling trees to organisations and partners who have adopted forest parts for restoration.

While the Mt. Kenya restoration model ensures that community livelihoods are catered for through wild seed collection and propagation and beekeeping, the approach also engages schools and households adjacent to the forests.

Written by Caroline Chebet. For more information on project 25-031 led by Nature Kenya, please click **here**.

Buttonwood seedlings Conocarpus erectus *planted by members of Anguilla's National Youth Ambassador Corps, Credit: Anguilla National Trust*

Increasing climate change resiliency through vulnerability modelling and habitat restoration in Anguilla

In September 2017, Hurricane Irma, a Category 5 hurricane, tore through the northern Caribbean. With sustained winds of 285km/h, it ravaged all of the islands in its path, including Anguilla - a small, flat island located at the top of the Lesser Antilles. Hurricane Irma caused catastrophic damage to infrastructure and ecosystems, roofs were blown off buildings, houses were destroyed, people's lives were uprooted, and coastal and in-land ecosystems were devastated by both strong winds and associated storm surges. While Anguillians made significant strides in rebuilding their homes, lives, and the island's economy, the island's ecosystems were not as quick to recover and even years after Hurricane Irma, beaches, dunes, and mangroves are nowhere close to their pre-Hurricane Irma state.

Equally as concerning are the studies that indicate that the frequency and intensity of hurricanes will continue to rise. Intense hurricane that were once expected every hundred years are now occurring more frequently – one in every sixteen years. In addition, as ocean temperatures and sea levels rise, hurricanes are expected to move more slowly and deposit more rain, leading to further flooding, erosion, and wind damage. Hurricane Dorian in 2019 was a frightening example of the destruction that a slow but powerful hurricane can cause.

One of the best natural defences against these storms are coastal ecosystems, which play a significant role in limiting damage while also protecting coastal infrastructure.

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Recognising the value and importance of coastal ecosystems and natural capital, over the last two years, the Department of Disaster Management has been partnering with the Department of Natural Resources, the Anguilla National Trust, and Wales-based Environment Systems Ltd. to identify key coastal areas at risk of flooding from storm surges and ocean swells and opportunities to maximise the impact of nature-based mitigation. Following extensive vulnerability modelling and opportunity mapping, seven priority coastal sites for habitat restoration were identified on the Anguilla mainland, including beaches, dunes, and wetlands.

Priority action plans for each site were developed, outlining potential habitat restoration measures. Together with hundreds of community members, project

Recently-planted seagrape seedling Coccoloba uvifera *at Cove Bay, Anguilla, Credit: Anguilla National Trust*

partners have been working to implement the action plans by collecting and germinating seeds, air-layering woody coastal vegetation (a method where stems are propagated while still attached to the parent plant), and planting over 1,000 buttonwood (*Conocarpus erectus*), seagrape (*Coccoloba uvifera*), red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemose*) seedlings in some of Anguilla's most vulnerable and storm-affected coastal areas.

Although this isn't the first time that coastal nature-based restoration has been applied in the Caribbean – the project partners are taking an innovative approach by consulting with colleagues across the region to learn from past experiences to ensure that these methods are effective. Learning how to germinate seeds and acclimatise plants to Anguilla's intense sun and hyper saline conditions has been a learning process. Despite this challenge, the project has been able to improve the survival of outplanted seedlings by carefully monitoring nursery conditions, planting methods, and health of seedlings post-planting, and as a result over seven acres of coastal habitat have been restored in the last few months.

In partnership with local schools and community groups, the project hopes to continue its restoration activities

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through the project lifetime and beyond and expand into the outplanting of a wider variety of coastal plant species to ensure diverse and resilient habitats and ecosystems. While it will still take some years for these seedlings to mature, the long-term benefits of these cost-effective, nature-based solutions to both communities most affected by climate change as well as island biodiversity is undeniable.

Written by Farah Mukhida, Louise Soanes, Calvin Samuel, and Carencia Rouse. For more information on project DPLUS091 led by the Government of Anguilla, please click **here.**

A member of the producer groups, all fruits and nuts are harvested from her own garden, Credit: Rasima Sabzalieva, FFI

Enhancing forest biodiversity and community resilience to Tajikistan's changing climate

Two of Tajikistan's most valuable walnut-maple forest sites are the Childukhtaron and Dashtijum Reserves making up a combined 64,700ha. These reserves are home to a rich variety of wild fruit and nut trees, including two Critically Endangered pear species, *Pyrus tadshikistanica* (endemic to Tajikistan) and *Pyrus korshinskyi*, a threatened almond species (*Amygdalus bucharica*), and apple species (*Malus sieversii*). These globally significant forests are important genetic reservoirs, as climate-related impacts threaten domesticated varieties grown worldwide.

This Darwin Initiative project started implementing its activities in Tajikistan in April 2017, addressing identified threats such as firewood collection, livestock grazing, and over-harvesting. The project addressed these threats by strengthening ecosystem resilience to mitigate and adapt to climate change, and addressed local communities' urgent need for financial resilience, through increasing access to growing markets for fruit and nut products, and secondary processing in Childukhtaron and Dashtijum Reserves.

Over four years, our project, co-funded by Foundation Franklinia, Lift Economy and Stanley Smith Foundation, has made a meaningful impact, through planting and restoration, and support for sustainable livelihoods. To date we have planted 278,536 saplings and 2,124kg of seed (equivalent to 333,235 saplings) of 17 native species, including the four threatened tree species mentioned above, in the forest and nurseries of both Reserves. We have established one school nursery in Dashtijum, one community nursery, four nurseries for the Forest Service Units of both project sites, and fenced 2km in Dashtijum forest for a livestock passing corridor to mitigate over-grazing. We have also supported 47 households with pear species in their plots, with fencing materials as a protection measure from grazing, to enhance natural regeneration.

“To date we have planted 278,536 saplings and 2,124kg of seed (equivalent to 333,235 saplings) of 17 native species, including the four threatened tree species mentioned above, in the forest and nurseries of both Reserves”

One of the household gardens with planted saplings and fruit trees, Credit: Rasima Sabzalieva, FFI

> As well as planting and restoration activities, the project supports the local community, by supporting sustainable livelihoods for 360 community members, whose income heavily depends on the forest resources

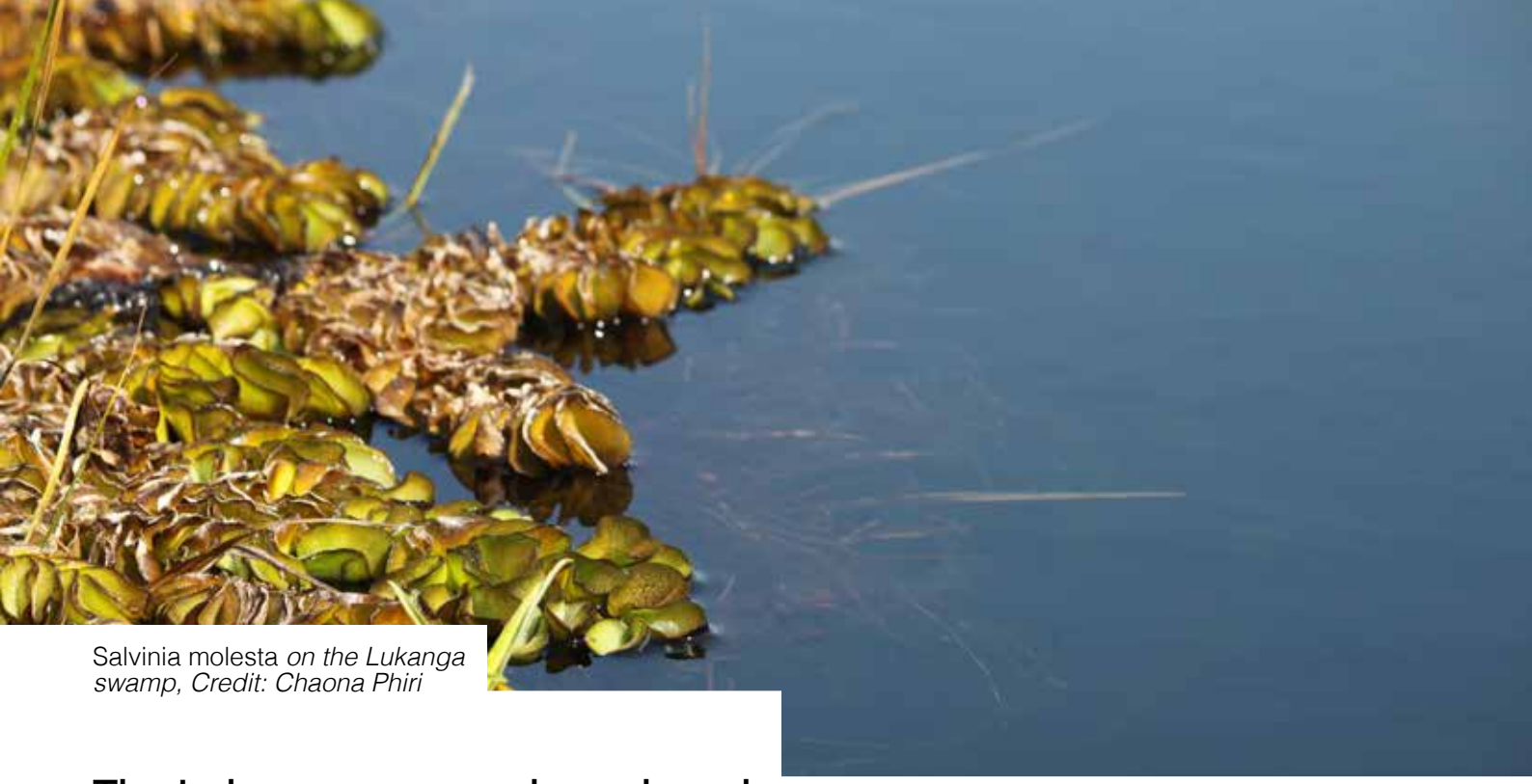
As a result, the two threatened pear species have increased in number from 700 to 1,724 saplings, showing that there is community involvement and interest in protecting the rare threatened tree species.

As well as planting and restoration activities, the project supports the local community, by supporting sustainable livelihoods for 360 community members, whose income heavily depends on the forest resources.

This has resulted in increased quality of processed fruit and nut products, better access to the market and an increase in family income from the added economic value of the forest products. Consequently, community members have become incentivised to plant more native trees in their gardens and leased forest plots, under their own initiatives.

Based on a Participatory Impact Assessment, the project stakeholders have expressed their gratitude to the Darwin Initiative for supporting them in forest restoration and biodiversity conservation, and for creating opportunities for livelihood activities. Community members and the Forest Service Units' team have hope for enhancing their forest biodiversity and improving their livelihoods.

Written by Ubayd Gulamadshoev, Muqaddas Milikbekova, and Rasima Sabzalieva. For more information on project 24-006 led by Fauna and Flora International, please click **here**.



Salvinia molesta *on the Lukanga swamp, Credit: Chaona Phiri*

The Lukanga swamp championed by a beetle

The Lukanga swamp, approximately 3,300km^2, is one of Zambia's important wetland ecosystems, a designated Ramsar site and an Important Bird and Biodiversity Area hosting over 360 resident and migratory bird species. Besides being a suitable habitat for birds and other biodiversity, the swamp is one of Zambia's major fisheries, supplying protein to at least four large cities and contributing about 20% of the country's fish. It also supports over 2,500 households who directly depend on it for their livelihoods. However, since 2009 the swamp has been infested by an invasive aquatic weed, *Salvinia molesta.*

Salvinia molesta, commonly known as Kariba weed, is a free-floating aquatic fern native to Brazil. However, this weed has widely spread and colonized many water bodies throughout the world. On the Lukanga swamp, the weed has posed serious challenges to the socio-economic wellbeing of the local community and the swamp's enormous biodiversity. These challenges include navigation difficulties, reduced fishing grounds and fish catch, increased breeding grounds for mosquitoes, and reduced biodiversity.

With the support of the Darwin Initiative, BirdWatch Zambia has successfully come up with solutions to mitigate and control this invasive weed. This was achieved through our partnership with BirdLife International. The approach was developed after failed attempts to control the weed using manual and mechanical methods in 2013. Following these attempts, we introduced the use of a host-specific biological agent *Cyrtobagous salviniae*, commonly known as a Salvinia beetle or weevil, which sucks chlorophyll (a green pigment found in plants which is used for photosynthesis) off the weed's leaves, turning it brown and further decomposing and sinking it to the bottom of the water body.

The introduction of the weevils in approximately 1,900km^2 over three years has cleared canals, opened up channels for navigation and fishing activities, and promoted social activities such as swimming. Additional impacts of this habitat restoration are improved biodiversity for a number of bird, plant, mammal and reptile species.

The project enhanced the capacity of 20 community members by improving knowledge and skills on weevil mass rearing techniques, gillnetting survey, habitat monitoring, and bird identification.

One of the weevil monitors, Mr Mofu, said his doubts had been overcome by the evidence of a little insect that is sorting out a really major problem that had compromised his source of income, fishing. "The canals are clear, the birds are back, fishing is easy, navigation is much easier. This has exceeded my expectations of results in a short space of time," he exclaimed!

The project has set the scene for a successful project for duplication at already identified sites within Zambia.

Written by Clara Nanja and Swithin Kashulwe. For more information on project 24-030 led by BirdLife International, please click **here**.

Elephants crossing village farms close to the corridor, Credit: STEP

Restoring a Tanzanian elephant corridor for coexistence

Restoring ecological connectivity between ecosystems through wildlife or habitat corridors can be as important as restoring degraded habitat within those ecosystems. There are many ecological reasons for this, including seasonal resource needs of wildlife, genetic connectivity to ensure the long-term viability of populations, and buffering against ecological change induced by climate change. But there are also critical reasons related to improving the security and livelihoods of the human communities living adjacent to these ecosystems.

An example of the importance of habitat corridors can be seen in the Kilombero Valley of southern Tanzania, where elephants and other wildlife have traditionally, for thousands of years, crossed the fertile lowlands of the valley between the Selous ecosystem and the Udzungwa Mountains, a global biodiversity hotspot. Over the last 40 years, the corridors that the elephants use have been converted from forest and woodland into farmland.

This connectivity remains important for elephants, as evidenced by the regular attempts that they still make to complete the journey. However, this has led to increasing conflict with farming communities along the route, resulting in destruction of crops and ongoing threats to human and elephant life.

Southern Tanzania Elephant Program (STEP), supported by the Darwin Initiative and in collaboration with the Tanzanian Government, is working with communities to restore an elephant corridor as part of the long-term solution to enhance human-elephant coexistence.

Since late 2018, the STEP team, including long-time members of the local community, have been engaging the three corridor villages in extensive consultations, discussions and education on the benefits of a 12km long, fenced, community-managed corridor that will funnel elephants across the valley and prevent them from entering farms and areas of local settlement, including schools.

“An example of the importance of habitat corridors can be seen in the Kilombero Valley of southern Tanzania, where elephants and other wildlife have traditionally, for thousands of years, crossed the fertile lowlands of the valley between the Selous ecosystem and the Udzungwa Mountains, a global biodiversity hotspot”

The corridor will be approximately 200m wide and is designed to link Magombera Nature Reserve, part of the Selous ecosystem, with the Udzungwa Mountains National Park, ensuring that residential areas are avoided. 300 farmers have agreed to be compensated for small farm plots that fall within the corridor area.

Following the finalisation of the compensation agreements, a joint village land use plan will be completed through a participatory land use planning process to enshrine the corridor in law for perpetuity. Community representatives will sit on the corridor management committee, and Village Game Scouts are being recruited to monitor and protect the corridor. In addition, STEP has worked with these communities to create farmers' cooperatives that manage beehive fences, which help to keep elephants out of the farms and have the potential to increase income through the sale of honey. Village and Savings Loans groups supported by STEP also enable farmers to take out loans to support farming activities and diversify their income streams, offering safe access to credit for the first time for many individuals. The corridor is anticipated to have ecotourism potential, and will include Tanzania's first purposely built elephant underpass, funded by the European Union, USAID and UK Government.

When we began holding meetings, consultations and focus group discussions, it was difficult at first for some community members to conceive of an elephant corridor across farmland. However, two years into the project, the great majority of the local farmers have agreed to being compensated to create the corridor. There is recognition and hope that the corridor will help to reduce crop losses in surrounding farms, and increase security for people going about their daily lives.

> "By restoring the Kilombero Elephant Corridor, these communities will be leading the way and setting a positive example for corridor and habitat restoration across the country"

The Tanzanian government has in recent years demonstrated a strong commitment to restoring wildlife corridors between ecosystems, and a national corridor action plan assessing and prioritising over 60 corridors around the country will soon be published. By restoring the Kilombero Elephant Corridor, these communities will be leading the way and setting a positive example for corridor and habitat restoration across the country.

Written by Dr. Trevor Jones and Joseph Mwalugelo. For more information on project 26-007 led by STEP, please click **here**.

Students learning about wildlife corridors and coexistence, Credit: STEP

Members of the Yala ecosystem site support group plant papyrus to restore degraded sections of the Yala Swamp, Credit: Ayiro Lwala

Local communities at the core of protecting ecosystems in Yala swamp

Designated as a Key Biodiversity Area, potential Ramsar site, and biodiversity hotspot for globally endangered and endemic species, the Yala swamp is one of the few remaining extensive freshwater wetlands in Kenya. With its unique satellite lakes, Lake Kanyaboli, Lake Namboyo, Lake Sare, and river tributaries flowing into Lake Victoria, the expansive wetland has been home to local fisherfolk, farming communities, and island dwellers for millennia.

> “Designated as a Key Biodiversity Area, potential Ramsar site, and biodiversity hotspot for globally endangered and endemic species, the Yala swamp is one of the few remaining extensive freshwater wetlands in Kenya”

Despite significant milestone developments in biodiversity conservation and ecological restoration within the Yala swamp, degradation of natural resources persists, adversely affecting both biodiversity and human wellbeing. Nature Kenya is striving to put the Yala swamp on a sustainable footing through this Darwin Initiative project.

Multi-agency stakeholders comprising County Governments of Siaya and Busia, national government agencies, local communities and Nature Kenya established an 8,404ha Indigenous Community Conserved Area (ICCA) at the core of Yala swamp. The ICCA comprises natural areas surrounded by open-access farming land, grazing land, riverine forest and papyrus wetland. Stakeholders formed a federated governance system for the ICCA, with representation from farmers, fishermen, water users, forest users and tour guide associations, handicraft artisans, medicinal plant gatherers, community wildlife wardens, cultural/religious groups, islanders, among others.

The government is represented by the Kenya Wildlife Service (KWS) and County Water, Agricultural, Livestock, and Fisheries Extension Officers at the Ward level. Village Natural Resource and Land Use committees (VNRLUCs) were formed in all the swamp-adjacent villages to enhance ownership of biodiversity conservation at the village level. Local resource use guidelines were developed through participatory processes to guide the use of resources within the ICCA, including fisheries, water and papyrus access.

VNRLUCs will facilitate delivering on-the-ground actions as agreed with the ICCA management committee.

Yala Ecosystem Site Support Group (YESSG)-local community partners and conservation champions have been spearheading habitat restoration in line with the ICCA model. Over the last year, YESSG trainer of trainers coordinated the production of 124,143 indigenous and exotic tree seedlings for use in habitat restoration. About 64ha of the lower River Yala riparian zone were restored through the planting of indigenous trees and 60ha of woodlots established with exotic trees.

An additional 67ha of degraded wetland within the ICCA were restored through papyrus planting. Management guidelines were developed and are under application to promote the natural regeneration of papyrus in 100ha of degraded areas within the Yala swamp and 100ha of riverine vegetation within the River Yala riparian zone. Biodiversity monitoring was conducted within the ICCA. Key bird species such as Papyrus Gonolek and White-winged Swamp Warbler were recorded during the dry season detailed monitoring and their presence acts as a good indicator that the papyrus habitat is of good quality in these restored areas.

Guided by a management plan, with technical backstopping from the government, the ICCAs will be managed for multiple uses for the benefit of important cultural values and biodiversity, ecotourism, farmers, livestock herders, fisherfolk, and island dwellers.

“Key bird species such as Papyrus Gonolek and White-winged Swamp Warbler were recorded during the dry season detailed monitoring and their presence acts as a good indicator that the papyrus habitat is of good quality in these restored areas”

The ICCAs will ensure the continued flow of ecosystem services to enable production and ensure development overall is sustainable.

One of the restoration success factors has been the commitment of local community volunteers. The volunteers conduct community sensitisation, mobilise planting, and monitor the restored areas. When asked to comment on habitat restoration efforts, an elderly man from Rukala village in the lower reaches of the swamp summed up, “any threat to Yala swamp is a threat to our wellbeing, our livelihoods, our local economy, our wealth, our heritage, and our very own survival. This swamp defines our existence. Our destiny as a community is intertwined with the swamp, so we must protect it.”

Written by Emily Mateche. For more information on project 26-003 led by Nature Kenya, please click **here**.

Members of the Yala ecosystem site support group planting papyrus next to Lake Sare, Credit: Wilson Seda

Training on sustainable practices for farmers in the Bosque La Primavera wildlife corridor, Credit: Fundación Ecológica Selva Negra

Restoration efforts and awards continue at La Primavera project 12 years after kick-off

From 2009 to 2012 the Darwin Initiative supported the "Market-based scheme for conservation in La Primavera Forest, Mexico" project led by Dr. Jon C. Lovett and Dr. Arturo Balderas Torres. The project explored the potential to promote locally-based approaches for valuing and enhancing the provision of forest carbon services through conservation, restoration and reforestation activities and analysed the implications of climate change mitigation, biodiversity conservation and local sustainable development. In 2010, Selva Negra Ecological Foundation, a local NGO, sponsored by the internationally-known rock band Maná based in Guadalajara, approached the research team to devise a strategy to mitigate the emissions produced by the bands' next tour. As a result, the project focused on the main wildlife corridor between Bosque La Primavera Biosphere Reserve (BLP) and the Ahuisculco Mountain range which is an area used by pumas and other animals in the region.

The project is now almost a decade old and offers many lessons. It has helped in the conservation of more than 1,000ha and the reforestation of nearly 60ha in the region; through the project a community fire brigade was established and trained and is being financed by Selva Negra.

> "Selva Negra also promoted the building of a wildlife pass above a highway in the area, the first of its kind in Mexico!"

In addition, Selva Negra also promoted the building of a wildlife pass above a highway in the area, the first of its kind in Mexico! Many different initiatives have been implemented to promote local development, including a community-based tree nursery, a farmers school to promote sustainable practices, and the first internet centre to offer this service in the Ahuisculco Community. Selva Negra has been successful in integrating the effort of other organisations and actors in the last ten years. Later this year, the Centre for Research and Projects in Environment and Development (**www.cipad.mx**), founded in 2015 by Dr. Balderas Torres, will contribute to the reforestation of and additional ten hectares of the valued wildlife corridor. This project has been supported through the European Outdoor Conservation Association, following an online vote that saw and immense public support in the city of Guadalajara and throughout Mexico.

> Our Darwin project was successful in publishing novel scientific information of Bosque La Primavera Biosphere Reserve's potential to contribute climate action, the valuation of these by citizens and farmers and the institutional frameworks for doing it

One of the most critical challenges in preventing the degradation in La Primavera and many other protected areas resides in the fact that their connections to other natural habitats remains unprotected. Thus resulting in these areas being more vulnerable to drivers of deforestation and habitat degradation, including land use change leading to agriculture, urban or infrastructure development, illegal logging, forest fires (which are ever more frequent and intense), poaching, and unsustainable use of natural resources. This is the case for BLP's wildlife corridors. Research found that if forest carbon projects targeted areas with high biodiversity value, such as these corridors, interventions would be more likely to deliver multiple benefits.

Moreover, results also showed the high willingness of citizens and potential buyers for purchasing carbon offsets from "local" projects instead of lower cost options from projects elsewhere.

Our Darwin project was successful in publishing novel scientific information of BLPs' potential to contribute climate action, the valuation of these by citizens and farmers and the institutional frameworks for doing it. All of this information along with efforts made by other actors, helped to increase awareness at local level during this period, and as a result, policy, decision-making, and budgeting for the BLP improved substantially. However, resources for conservation and restoration remain scarce. There are still many challenges ahead for restoring and protecting BLP and its corridors, but the knowledge and experience produced in recent years, importantly thanks to the support from the Darwin Initiative, show clear pathways for implementation and for strengthening local environmental governance.

Written by Arturo Balderas Torres. For more information on project 17-027 led by the University of York, please click **here**.

Local firefighters preventing fires in the wildlife corridor of Bosque La Primavera and Ahuisculco Mountain Range, Credit: Fundación Ecológica Selva Negra

Megallanic penguin on Motley Island, Credit: Dave Higgins

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Secretariat is based in Defra and includes Doug Gibbs, Scott Nelson and Chelsea Goodwin.

For any queries on project applications or existing projects please contact our Darwin Administrators (NIRAS-LTS International) at **darwin-applications@ltsi.co.uk** or **darwin-projects@ltsi.co.uk**

This newsletter is produced quarterly. To include an article on your project please contact us at **darwin-newsletter@ltsi.co.uk**

The UK Government's Darwin Initiative aims to promote biodiversity conservation and sustainable use of resources around the world including the UK's Overseas Territories. Since 1992, the Darwin Initiative has committed over £177 million to 1,238 projects in 159 countries.