Women from Quirinde village, Mozambique, Credit: Our Sea Our Life

February 2016 Newsletter

DARWIN INITIATIVE

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 Nagoya Protocol on Access and Benefit-Sharing (ABS)**
- **the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)**
- **the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**

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DARWIN INITIATIVE

Wandering albatross and RRS James Clark Ross, Credit: DKA Barnes

Contents

Blushing Snail *Succinea sanctaehelenae*, Credit: RS Key

Publicity and Information About the Darwin Initiative

For more information on the Darwin Initiative please visit:

www.gov.uk/government/groups/the-darwininitiative

For further details about current and completed Darwin Initiative projects, including their final application forms, please visit:

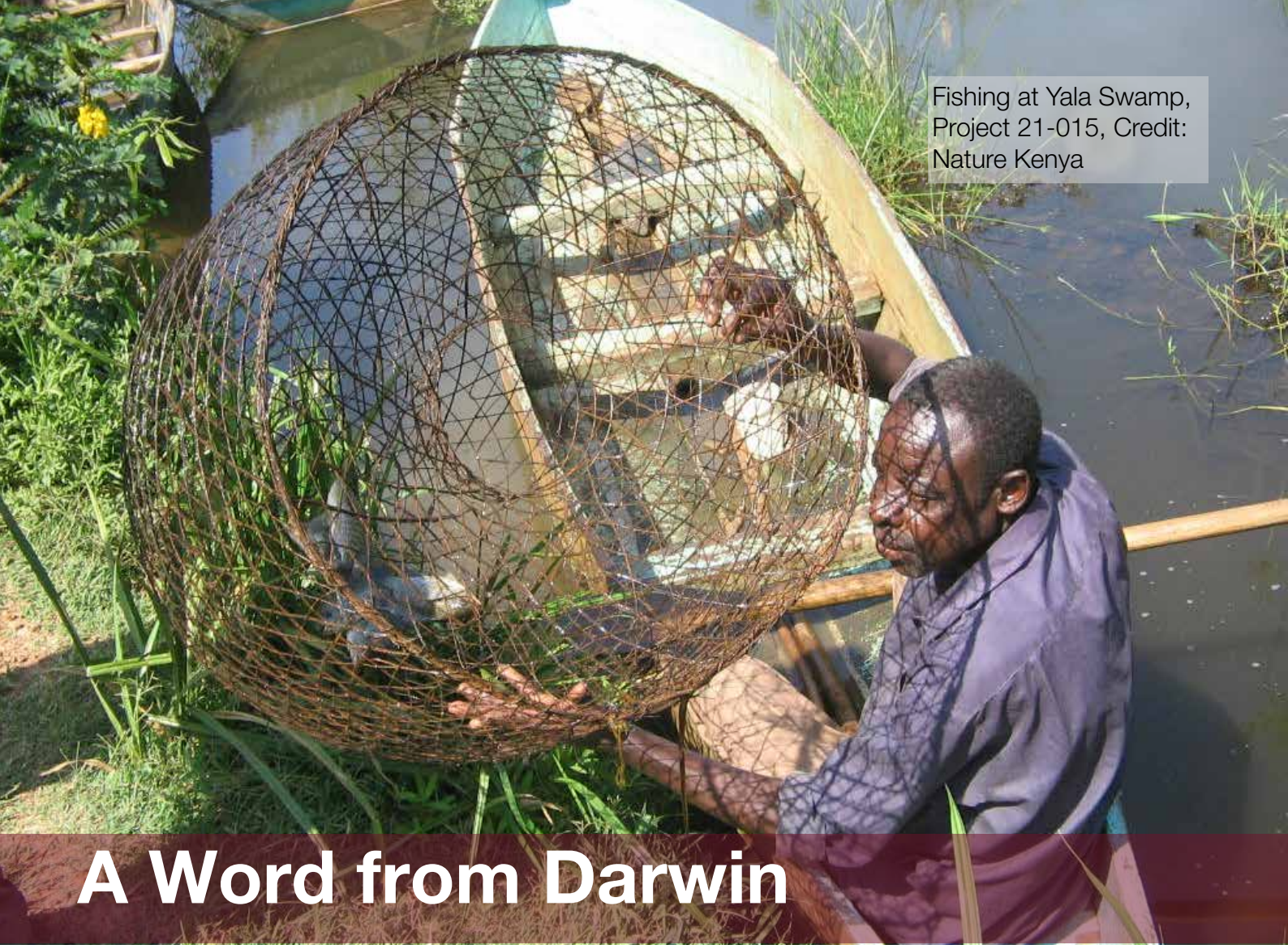
www.darwininitiative.org.uk

We've recently launched a Darwin blog. This includes news and thoughts on issues being tackled by the Darwin Initiative - both at the project and programme level. We're also keen to share other Darwin project blogs. You can read it here:

https://darwininitiativeuk.wordpress.com/

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 to secure continued Government funding.



Fishing at Yala Swamp, Project 21-015, Credit: Nature Kenya

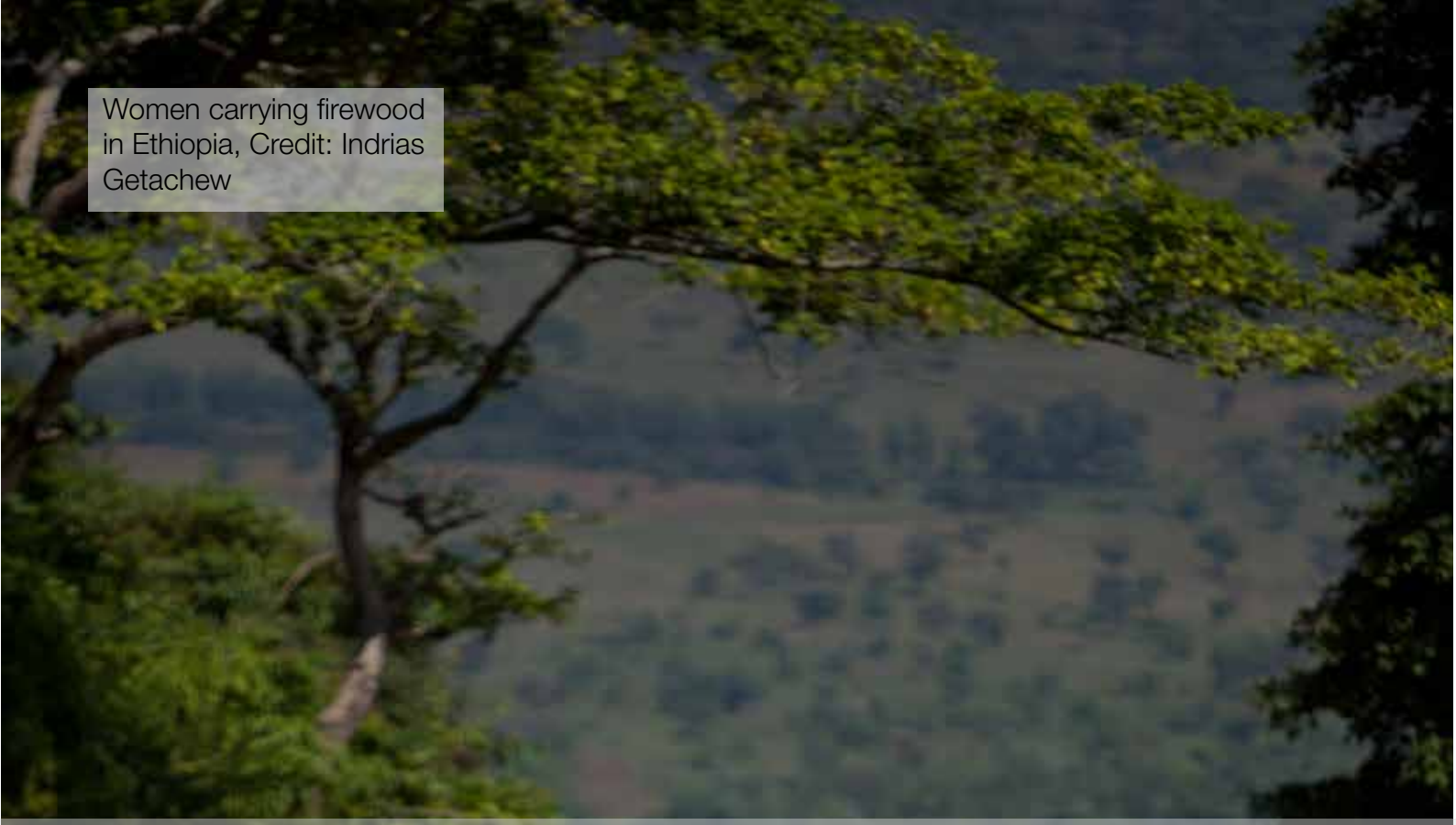
A Word from Darwin

Welcome to the first edition of the Darwin Newsletter of 2016 – and Happy New Year!

With the New Year comes a busy time for the Darwin Team. January saw the Stage 2 Sift and Strategy Meeting held in Bristol, where the expert committee gathered to discuss main project applications alongside scoping awards, fellowships and post projects. February also promises to be a busy month with lots of application feedback to write and planning for the New Project Workshop getting underway in earnest.

In 2015 we launched a new blog, and so far we have had a great response. We want to improve even further on this in 2016 and would love to hear how well your Darwin Projects are getting on. Please do share your blogs with us so that we can repost and share your progress with as many people as possible.

As always, keep in touch on Facebook and Twitter, and enjoy this latest edition of the Darwin newsletter!



Women carrying firewood in Ethiopia, Credit: Indrias Getachew

Darwin Initiative and the Global Goals for Sustainable Development

Department for Environment Food & Rural Affairs

UKaid from the British people

DARWIN INITIATIVE

5

Birhane Geremew, a member of the Ganiti Forest Management Association, Credit: I. Getachew

Introduction to the Global Goals for Sustainable Development

The United Nations General Assembly has formally adopted the Global Goals for Sustainable Development, or SDGs. This new global framework of 17 goals and 169 targets aims to wipe out poverty, fight inequality, and tackle the challenge of climate change over the next 15 years.

The UK has officially backed the UN framework, titled: "Transforming Our World: the 2030 Agenda for Sustainable Development".

The SDGs, unanimously adopted by the UN's 193 Member States in September 2015, aim to build upon the success of the Millennium Development Goals, which guided international development efforts up to 2015, as well as complete what these did not achieve.

A recent learning note touched on how Darwin Initiative projects have already contributed towards achievement of the SDGs. The project updates and articles below further demonstrate the various ways in which Darwin Initiative projects are working towards these new Global Goals.

THE GLOBAL GOALS
For Sustainable Development

The Global Goals for Sustainable Development

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all ages

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation

Goal 10: Reduce inequality within and among countries

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12: Ensure sustainable consumption and production patterns

Goal 13: Take urgent action to combat climate change and its impacts*

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development

*acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

Fishermen in 'Farol' (or 'lighthouse') migrant camp close to Quiwia village repairing their net, Credit: Our Sea Our Life

Our Sea Our Life Contributing Towards the Global Goals in Mozambique

The coastal areas of northern Mozambique are rich in marine biodiversity, but its coastal communities are among the poorest in the country, with high dependence on marine resources. The increasing pressures of a growing human population, unsustainable fishing practices and development threaten both marine biodiversity and livelihoods, and leave coastal communities increasingly vulnerable.

Goal 14: ***Conserve and sustainably use oceans, seas and marine resources for sustainable development***

The Darwin Initiative-funded Our Sea Our Life (OSOL) project is working directly with coastal communities to establish locally-managed marine areas, and ensure that local institutions and communities have the resources, training and additional income sources to allow them to engage effectively in fisheries management. The aim is to improve the resilience of coastal ecosystems and community well-being through the co-management of marine resources, leading to increased sustainability of fisheries and improved food security.

Goal 1: ***End poverty in all its form everywhere, and Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture***

OSOL is also working to diversify the livelihood base of coastal communities that are dependent on marine resources.

It is working towards increasing agricultural productivity, promoting small-scale enterprises including oyster aquaculture, and developing sustainable financing mechanisms. Village Savings and Loans Associations (VSLAs) have been set up to help fishers save and invest in alternative enterprises, diversify their income streams, alleviate poverty, and reduce their reliance on fishing.

Goal 5: ***Achieve gender equality and empower all women and girls***

Addressing the empowerment of women to increase gender equity is also central to OSOL's aims. The project places a clear emphasis on increasing women fishers' and harvesters' voices in fisheries decision-making.

OSOL has established or supported Community Fisheries Councils in each of the focal communities of the project. Women have traditionally been excluded from fisheries management, but OSOL has created specific intertidal harvester groups, that are made up predominantly of women and that are represented in the Community Fisheries Councils. These groups ensure that women's views are heard and that women gain capacity to manage intertidal resources critical to their food security.

For more information on project 20-023 click here or contact Project Leader Nicholas Hill, Nicholas.hill@zsl.org

Mainstreaming Biodiversity in Development Policy and Planning

How biodiversity mainstreaming could align with plans for implementing the UN Global Goals for Sustainable Development (SDGs) was keenly discussed by the eight countries who recently participated in the first international workshop for the Mainstreaming of Biodiversity in Development Policy and Planning Initiative. They recognised that the processes and challenges for integrating biodiversity into development plans would be similar to those for the SDGs, and that the more they could raise awareness in government of the overlaps and links, the more fruitful their work would be.

Goal 15: ***Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss***

SDG Goal 15.9 which aims to integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts, is an explicit example of the connection between the two initiatives.

This conversation was one of many that took place during the workshop which was held in Harare, Zimbabwe from 17-19 November 2015, with participants from Zimbabwe, Uganda, Ghana, Botswana, Zambia, Malawi, Namibia, and Seychelles.

The country project members – known as the Africa Leadership Group – informed each other of the progress they had made in revising their National Biodiversity Strategy and Action Plan (NBSAP) and preparing a mainstreaming strategy, using NBSAP implementation as a principal tool for the strategy roll out. They shared tips and tactics for success, and identified where they might need support from each other, and from the programme managers, IIED and UNEP-WCMC.

Building a strong business case for biodiversity mainstreaming to attract the necessary financial backing, and knowing how to engage the right people, with the right message at the right time, were two areas that came up.

Participants also identified the need for technical assistance with GIS mapping –both doing it and knowing how to use it as part of the mainstreaming toolkit.

Workshop participants, Credit: IIED

Tristan Tyrrell from the United Nations Development Programme gave a presentation that highlighted the links between the SDGs and the Aichi Biodiversity Targets. He presented examples, such as work to increase water security around Harare through wetland protection, and highlighted the potential for others in policy areas such as health, food security, sustainable livelihoods, disaster risk reduction and climate mitigation.

Next steps for the initiative in early 2016 include preparing practical tools for strategic communication, doing further work with the Africa Leadership Group on preparing a biodiversity mainstreaming business case and finalising development of a mainstreaming diagnostic tool, which enables country mainstreaming teams to analyse the focus sectors or themes for their work.

For more information on project EIDPO047 click here or contact Project Leader Dilys Roe, dilys.roe@iied.org

A farm within Boni-Dodori ecosystem, Credit: Nickson Orwa

Kenya's Boni-Dodori Ecosystem Project: Its Contribution towards the Global Goals

Community-Based Conservation and Livelihoods Development within Kenya's Boni-Dodori Ecosystem, is a Darwin-funded WWF project operating in the Boni-Dodori forest ecosystem. This is located within the East African Coastal Forest Ecoregion which is classified as a global biodiversity hotspot by WWF and Conservation International; it is one of the Earth's most biologically rich habitats.

The ecosystem supports the livelihoods of the indigenous forest community, the Aweer. This community were pure hunter-gatherers living in the forests until they were resettled by the government in the 1970s. This was closely followed by the gazettement of two of these forests as national reserves, reducing the access of the Aweer to game meat and other forest products. The community is now engaged in subsistence farming and occasionally gathers wild food from the forest.

New major economic developments in the area, and the associated pressures on natural resources, have highlighted the need for sustainable practices to ensure that the ecosystem sustains the needs of the growing population. A balance needs to be found between the increasing demands on the forest to achieve economic development while simultaneously reducing hunger and poverty, and safeguarding the forest's rich biodiversity.

WWF-Kenya, with support from the Darwin Initiative, is implementing a community-based conservation and livelihoods project with six Aweer and two Ijara pastoralist villages. In this article we will briefly examine how the project is currently contributing towards three of the SDGs.

Goal 1: *End poverty in all its forms everywhere*, and Goal 2: *End hunger, achieve food security and improved nutrition and promote sustainable agriculture*

The forest communities heavily depend on forest resources for their survival. This is no longer sustainable because of new national policies which prohibit harvesting of certain forest products, including game meat species. Added to this, changes in the climate have led to a scarcity of some of the vital forest products on which they depend. To address these ever increasing needs, unsustainable slash and burn cultivation is practiced by the forest communities.

With Darwin Initiative support, WWF, in partnership with other local organisations and the community, aimed to improve food security and household incomes in the area by introducing game moats. Game moats protect farm holdings from wildlife invasions and crop destruction, supporting farming activities and mitigating effects of human-wildlife conflict.

Furthermore, within the farm holdings themselves, the project supports the use of fertiliser and quality seed, as well as modern farm inputs. In the third year of implementation of the project, the community has reported a significant increase in food production and sales of surplus harvest to augment family incomes. In addition, beneficiaries have reported a decrease in biodiversity loss due to a reduced rate of clearance of new forest areas for farming.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss

Another outcome of the project has been increased knowledge of local biodiversity which has been used to inform management decision-making for improved biodiversity conservation and livelihoods. A biodiversity assessment, including mammal camera trapping, led to the discovery of rare and endemic species such as Aders' Duiker. This prompted the responsible government agencies to increase their focus on, and support to, the ecosystem. The project continues to use these findings to advocate for integrated strategies to reduce degradation of natural habitats, halt biodiversity loss and prevent the extinction of newly discovered threatened species.

For more information on project 20-011 click here or contact Project Leader Kiunga Kareko, kkareko@wwfesarpo.org

An image of the highly endagered Aders' duiker, captured by a camera trap in Dodori National Reserve, Credit: WWF Kenya

A local fisherman coming back from fishing, Credit: ZSL

Engaging Fisher Communities in the Sustainable Management of a Freshwater Ecosystem in Cameroon

The Lake Ossa Wildlife Reserve is a refuge for endangered fauna, among them West African manatees, freshwater turtles and crocodile populations. It is also home to an array of fish species on which surrounding fishing communities rely for their subsistence. However, overfishing, poaching and the destruction of lake habitats pose a severe threat to wildlife, and harm the livelihoods of local communities. Habitat degradation is mainly caused by the disposal of abandoned fishing nets in the lake, and alterations of water quality due to siltation and surface run-off aggravated by the clearing of riparian forest for agricultural purposes. With the support of the Darwin Initiative, the Zoological Society of London (ZSL) works with local communities, the Ministry of Forestry (MINFOF) and local NGOs to improve the management of this unique freshwater ecosystem.

Goal 6: *Ensure availability and sustainable management of water and sanitation for all*

In order to enhance the sustainability of fishing practices, ZSL has used Darwin funding to facilitate the drafting and approval of a local by-law for sustainable fishing. Management measures were discussed and debated among fisher groups, and later endorsed by local administration. Fishers agreed to establish set-aside areas to help replenish fish stocks. The demarcation of areas restricted to fishing will also serve to protect important grazing and breeding sites for the West African manatee. The establishment of replenishment areas was initially based on traditional knowledge and is now supported by ongoing research and bio-monitoring undertaken by ZSL, partner organisations, and MINFOF.

Goal 1: *End poverty in all its forms everywhere*

Darwin funds also allow ZSL to support the consolidation of a network of village saving and loans associations (VSLAs) that facilitate access to small loans for the local fisher families.

These financial hubs facilitate the transition towards a sustainable management model, by increasing the resilience of fishing households challenged by the seasonality of the catch and a decrease of fish stocks. 170 people (88 women and 82 men) from 7 villages have engaged in this network of saving groups in the first year of the project.

A further challenge was to reduce factors negatively impacting the habitat and leading to a decrease of fish stocks and aquatic wildlife. To achieve this, a clear link is being established between habitat regeneration and income-generating activities. For example, VSLAs in Lake Ossa are now connected to a global initiative for the removal of abandoned fishing-net debris for recycling into carpet tiles (www.net-works.com).

Financial incentives for the recycling of abandoned fishing nets serve as an additional buy-in for habitat restoration and behaviour change in local fishers. Almost 800 kg of net debris has been cleared from Lake Ossa in the first 6 months.

Goal 15: ***Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss***

Finally, the project is addressing the loss and degradation of riparian forests surrounding the lake. ZSL, in partnership with agroindustry and local NGOs is developing a re-forestation project to regenerate degraded riparian forests with the involvement of forest user-groups. This project will be part of sustainable palm oil certification process (RSPO) for the agroindustry company and provides an additional income opportunity for the local community.

For more information on project 21-017 click here or contact Project Leader Chris Ransom, chris.ransom@zsl.org

Discussing the sustainable fishing by-law at Lindema, Credit: ZSL

Fishermen from the village of Ifaty with their first harvest of seaweed, Credit: ReefDoctor

Conservation and Sustainable Use of Marine Turtles, Southwest Madagascar

In the south-west of Madagascar, the Vezo people are culturally linked to the ocean; to be Vezo means to earn a living from the sea. However for the rural fishing communities of this region, degraded coral reefs and concentrated fishing pressure mean that fewer and fewer people can make their living from the ocean. The competition for marine resources and the extreme poverty of these communities leaves little incentive for sustainable management. This leads to the continued over-exploitation of a heavily utilised and declining turtle fishery.

This Darwin-funded project targets households involved in the turtle fishery, and provides them with materials, training and skills to become independent mariculturalists (mariculture is a specialised branch of aquatic agriculture). The intention is to transform the vulnerable populations of Madagascar from resource consumers to resource managers.

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Through their involvement in alternative livelihood activities, farmers learn how to cultivate sea cucumbers and seaweed, generating sustainable incomes that are not dependent on declining fishery yields. The creation of productive employment opportunities allows for sustainable economic growth in a region in which livelihood options are extremely limited, while respecting the Vezo's cultural ties to the ocean.

Goal 5: *Achieve gender equality and empower all women and girls*

Fishing is traditionally a male dominated occupation in rural villages, with women restricted to collecting in the intertidal region. For the food security and income that fishing generates, women are therefore heavily dependent on male counterparts, and are consequently marginalised in their community. The cultivation of sea cucumbers takes place in the intertidal zone, empowering women to generate their own incomes and fosters independence.

Goal 1: *End poverty in all its forms everywhere,* and Goal 8: *Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*

Currently in the second year of the project, over 200 households are engaged in mariculture activities, across 6 villages of the Southwest region, and employment opportunities from this industry continue to grow. Farmers that have displayed excellence are invited to work with neighbouring communities that wish to have their own mariculture projects.

As Aquaculture Technicians, they establish farms in new villages, passing on their expertise across the region, while earning additional income. This development approach allows skills and information to grow within the community, enhancing the capacity and resilience of vulnerable populations. With a solid skills and knowledge base from which to draw, communities can achieve continued economic growth and the sustainable use of marine resources, even after the project's conclusion.

The reliable income that seaweed and sea cucumber farming generates is allowing households to live more comfortably, while reducing the imperative to hunt turtles. The use of intertidal regions for aquaculture activities provides protection for vital seagrass habitat, with flow-on benefits to the entire coral reef system. At the same time seaweed farms provide complex habitat and nursery grounds for a variety of commercially and environmentally important fish species. In this case, biodiversity conservation and poverty alleviation go hand-in-hand.

For more information on project 21-018 click here or contact Project Leader Shane Abeare, smabeare@gmail.com

Turtle tag-and-release program, Credit: ReefDoctor

Fishermen from the village of Andrevo, receiving a delivery of juvenile sea cucumbers, Credit: ReefDoctor

Women's group at Ol Pejeta Conservancy in Kenya scoring the importance of different social impacts, Credit: Phil Franks

Equity, Inclusion, Conservation and the SDGs

With the new SDGs the sustainable development agenda focuses on equity, equality, and inclusion as never before. Different agencies use these terms in somewhat different ways. In the SDGs these terms are mostly used in relation to access to resources, services and participation. In conservation policy, equity language is generally more common than inclusion and is often used in relation to the distribution of benefits and costs as well as access and participation. On the other hand, organisations with a rights-based approach tend to frame their work in terms of justice rather than equity and/or inclusion.

In plain English, equity, equality, inclusion and justice are just different ways of looking at fairness. But what does this actually mean in the context of biodiversity conservation? Building on its Darwin-funded Social Assessment of Protected Areas (SAPA) project, and working with academia and a range of organisations working on conservation policy and practice, IIED has been leading a process to try to answer this question in the context of protected areas (PAs) - see http://pubs.iied.org/17344IIED.html. At the heart of this work is a three dimensional understanding of equity – equity being an issue of recognition of rights, procedures, and distribution of costs and benefits.

Goal 14: *Conserve and sustainably use the oceans, seas and marine resources for sustainable development* and Goal 15: *Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss*

This piece of work specifically responds to the "equitable management" element of the CBD's Aichi Target 11, and, more broadly can be applied to SDGs 14 and 15 where equity is key to conservation effectiveness and sustainability as well as a goal in its own right. The approach we are using could also be readily applied to other conservation and development contexts, and is therefore of relevance to many of the SDGs.

In practical terms, how can PA management and governance become more equitable and how would you know if you were making progress in this direction? This is where SAPA comes in.

SAPA is a relatively simple, low cost methodology for assessing the positive and negative impacts of a protected area (PA) and related conservation and development activities on the wellbeing of communities living within and around the PA. It is a multi-stakeholder assessment for use by PA managers working with communities and other local level stakeholders which will help them to increase, and more equitably share, positive social impacts, and reduce negative social impacts. SAPA can be used with PAs of any kind, including PAs managed and governed by government agencies, communities and the private sector.

To date SAPA has been used at seven PAs in five countries of sub-saharan Africa; Ethiopia, Gabon, Kenya, Uganda and Zambia. The methodology uses a mixed methods approach combining participatory rural appraisal (PRA) methods, a survey and stakeholder workshops. A manual providing detailed guidance for use of the SAPA methodology will be published in March 2016.

For further information on project 20-010 click here or contact Project Leader Phil Franks, phil.franks@iied.org

Soil sampling for carbon assessment at Yala Swamp, Credit: Nature Kenya

Balancing Development and Conservation in Kenya's Largest Freshwater Wetland - Yala Swamp

This Nature Kenya project is on track to put the Yala Swamp and the surrounding poor communities on a sustainable footing. The project is working to ensure that key steps are taken to secure the future of Kenya's Yala Delta, recognising both development and conservation needs, and to promote similar work in other Kenyan deltas.

The project has completed a detailed assessment of the ecosystem services provided by Yala swamp. The ecosystem service assessment and report were developed through a consultative process and were presented to the National Government, Siaya County Government, local communities and private sector during a stakeholders' workshop held in Siaya County during August 2015. This report, that provides a business case for Yala Swamp, provided evidence that the conservation of significant areas of the Yala Swamp is crucially important for the sustenance of ecosystem services that support the economy, biodiversity and livelihoods.

The report shows that the Yala Swamp, located on the north eastern shore of Lake Victoria, is of great significance. It is a stronghold for cichlid fish endemic to Lake Victoria, a number of endemic wetland birds, including the globally threatened Papyrus Yellow Warbler, and the nationally threatened semi-aquatic Sitatunga antelope.

However, the swamp is threatened by the growth of large-scale rice-farming operations and over-exploitation of its natural resources. The business case will be mainstreamed into the Strategic Environmental Assessment and Land Use Plan currently under development, to provide a framework for future sustainable management of the Yala Swamp. Darwin funding catalysed co-funding from the MacArthur Foundation and USAID-PREPARED. Together these organisations have supported activities leading to at least 15 Community-Based Organisations establishing tree nurseries that have produced over 100,000 tree seedlings, including bamboo, for habitat restoration.

Goal 1: *End poverty in all its forms everywhere*

The project is also supporting 100 households to increase the income they derive from papyrus, by training them to process this material into high-value products such as mats and baskets. In addition the project is assisting them to market these products effectively in high end markets. Ten fishponds have also been constructed to improve nutrition and increase incomes for the project's 500 beneficiaries, whilst reducing the pressure on wild fish. Furthermore, 20 selected individuals have been trained to work as wildlife guides, taking advantage of the ecotourism opportunities offered by the Delta. The success of this project so far is due to its acceptance and support by government, local communities, and the private sector.

Article written by Emily Mateche, Project Officer. For more information on project 21-015 click here or contact Project Leader Serah Munguti, advocacy@naturekenya.org

White-winged duck, Credit: WCS

Safeguarding Globally Endangered Biodiversity in the Northern Plains of Cambodia

The forests and wetlands of northern Cambodia and the Tonle Sap Biosphere Reserve are one of the last strongholds for a number of large-bodied waterbirds that used to occur throughout Southeast Asia. Local communities within the area are amongst the poorest in Cambodia, and are dependent upon the forest and land resources for their livelihoods. Farmers primarily rely on subsistence rice farming, creating direct competition with wildlife for the use of the surrounding habitat.

Goal 1: *End poverty in all its forms everywhere*, and Goal 15: *Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation, and halt biodiversity loss*

From 2013 the Wildlife Conservation Society (WCS), with the support of the Darwin Initiative, has been monitoring threatened large-bodied waterbird species within the Northern Plains landscape. At the same time, a Payment for Environmental Services (PES) scheme 'Ibis Rice' has been set-up to engage local people in conservation whilst meeting their aspirations for development.

These sustainable agriculture practices tie in with the establishment of Village Marketing Networks, Community Protected Area Committees and Community Wildlife Rangers. Representatives from these institutions are trained to monitor and identify threatened large-bodied waterbird nests and conduct community workshops to raise awareness.

The impact of this project was recently highlighted when community wildlife rangers, supported by the Darwin Initiative, were contacted by a villager in Prey Veng village (Kulen Promtep Wildlife Sanctuary). Information was provided that a White-winged Duck (IUCN RedList: Globally Endangered) had been caught as a precaution when it was observed struggling to fly at a watering hole close to the village. Just a few years previously, villagers would not have thought twice about killing and eating this large, tasty duck. The bird was in fact displaying its eclipse plumage, which occurs after breeding when ducks moult and replace their old worn out feathers with new brightly coloured ones. During this period they can't fly so are very vulnerable to natural predators and hunting. The bird was then safeguarded at the house of the Deputy Village Chief before being transported to a wildlife rescue/rehabilitation centre where it was given enough time for its feathers to re-grow. After being fitted with a unique identification and given a clean bill of health, it was released back to the wild where it was originally found, during a Community Protected Area Committee event.

For more information on project 20-014 click here or contact Alistair Mould, amould@wcs.org

Golden Sail Spider,
Credit: R Key

News from Overseas Territory Projects

A single endemic whitewood tree isolated in a 'sea' of invasive New Zealand flax on St Helena Island, Credit: L Malan

Securing St Helena's Cloud Forest Trees and Associated Invertebrates

The Peaks National Conservation Area (NCA) contains all St Helena's remnant cloud forest habitat, made up of small spatially disparate patches, high in endemism. This important ecosystem is valuable not only for its range of unique plant and invertebrate assemblages, but is also vital in maintaining St Helena's water table.

Persistent pressure from invasive plant species continues to fragment the remaining habitats of four critically endangered endemic tree species: whitewood, dogwood, he cabbage and false gumwood. In severe cases single trees are isolated by surrounding invasive vegetation. This has led to a decline in opportunities for individual trees to reproduce, and to the genetic weakening of the species as a whole. Endemic invertebrates associated with, and believed to be dependent on, these trees are also threatened.

The Darwin Cloud Forest and Associated Invertebrates project is attempting to address this problem. To prevent further loss of individual trees and the consequent genetic erosion, vegetative material is being sampled from the remaining natural trees at all known sites across the Peaks NCA. Successful propagation of this material, mainly as cuttings, will allow the establishment of mixed species plantations that represent the majority of each species' total gene pool. The creation of these field gene banks across the NCA will be a project legacy and will be a vital resource for ongoing conservation and restoration work.

In addition to collecting plant material, habitat characteristics likely to be important to the endemic plants and associated invertebrate communities are being recorded. This data will be used to inform future conservation planning and allow an assessment of the proportion of suitable invertebrate habitats remaining in the Peaks NCA.

Since May 2015, the project team has collected plant material and information from over 70 discrete sites and has undertaken essential invasive vegetation control work to avoid further losses. Despite this, 3 trees have died since the project commenced. This illustrates, sadly, the necessity and urgency of this work. The ex-situ propagation of clonal material will go some way to preventing further losses.

Longer term, the project's geo-referenced database of habitats across the Peaks will be a useful tool for the island's conservation management teams. New propagation techniques for critically endangered species, and control measures for invasive species, are being developed and implemented to enhance existing conservation practices. Improving the conservation status of four endemic tree species will help secure St Helena's unique flora and invertebrate communities, which are an asset for the island's future tourism aspirations.

For further information on project DPLUS029 click here or contact Project Leader Lourens Malan, lourens-malan@enrd.gov.sh

Calves of the Cyprus breed at Akrotiri Marsh, Credit: Melpo Apostolidou

Awareness-Raising for the Akrotiri Marsh, Cyprus Sovereign Base Areas

Dissemination and public awareness has a key role when it comes to conservation efforts. For this reason, a website and an information leaflet dedicated to Akrotiri Marsh have been created as part of the Darwin project for the restoration of this unique wetland in the Cyprus Sovereign Base Areas (SBAs).

Through the website one can find information about the wetland, the birds and other wildlife of the wetland, as well as information about the Darwin Plus project activities, publications and news. As the project progresses, more news and photographs will be uploaded, so visit the website regularly to keep yourself updated.

The website is a great communication tool especially for those who wish to visit the Akrotiri Marsh or find out more about the efforts to restore the wetland.

Moreover, the project leaflet was produced to contribute to the overall efforts for the restoration of Akrotiri Marsh. The leaflet informs readers about the project's aim and activities and also highlights the importance of Akrotiri Marsh for wildlife. The leaflet is distributed in a targeted manner to achieve its goal which is to raise public awareness for this unique site.

Akrotiri Marsh is just a click away. Visit www.akrotirimarsh.org to find out more.

For more information on project DPLUS034 click here or contact Project Leader Clairie Papazoglou, Clairie.papazoglou@birdlifecyprus.org.cy

The project leaflet, available on the project website in elecronic form, Credit: BirdLife

Man's new best friend? *Cellarinella watersi*, a bryozoan showing annual growth lines at the South Orkney Islands, Credit: DKA Barnes

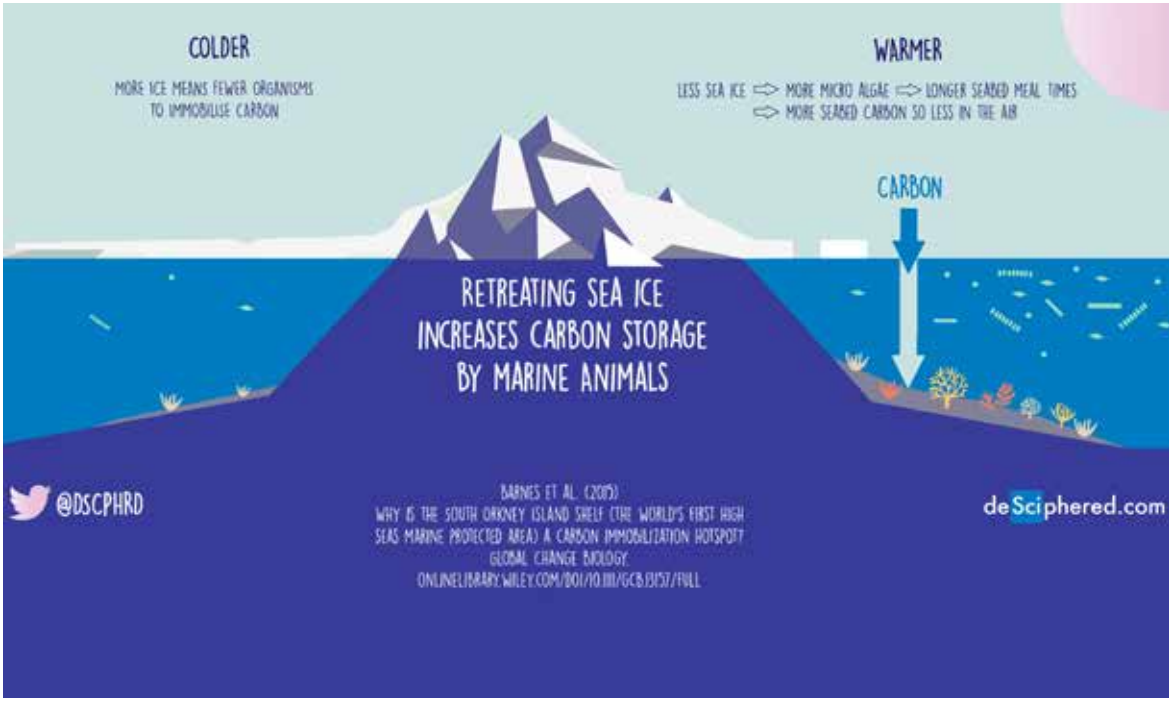
South Atlantic Darwin Projects Lead to Discovery of Growing Carbon Sinks around Antarctic Islands

Darwin Initiative grants pairing British Antarctic Survey with the Government of South Georgia and South Sandwich Islands (2011) and Tristan da Cunha Conservation Department (2013) led to the ship RRS James Clark Ross exploring the marine biodiversity of the continental shelves around the remote archipelagos of Tristan da Cunha, Gough Island, South Georgia and the South Orkney Islands. The international science team on board from UK, UK Overseas Territories, German and French universities and research institutes found that seabed animals (benthos) are accumulating significant and increasing amounts of carbon. Their latest findings, published in the journal Global Change Biology on the 18th December 2015, show that this 'blue carbon' capture and storage is greatest in a Marine Protected Area.

The new research brought together data collected over 20 years from around West Antarctica and the South Atlantic. The remote South Orkney Islands, recently designated as the world's first entirely high seas marine protected area, may be far from anywhere but appears to be a key carbon sink hotspot. It seems that cold water benthos is a powerful natural ally in combating rising CO2 as its carbon capture has increased considerably over the last 25 years.

As seasonal sea ice shrinks in time and space, seabed life is growing longer each year taking more carbon to the seabed where it is buried when animals die.

The vast majority of species known around these remote islands live on the seabed and some of them leave a record of their growth as lines, like tree rings. Analysing the amount of carbon in this growth over time showed that tiny seabed animals such as bryozoans have consistently increased since the 1990s. How does carbon get to the seabed? Atmospheric CO2 dissolves into the sea and is taken up by micro-algae (phytoplankton). The algae are then eaten by the benthos. Benthos get carbon for their tissues from eating the algae and for their skeletons from the dissolved carbonate that is in the sea. The Darwin funded work found that both remotely sensed (by satellite) and directly measured (by researchers at remote field stations) micro-algal blooms last longer as a result of less sea-ice.

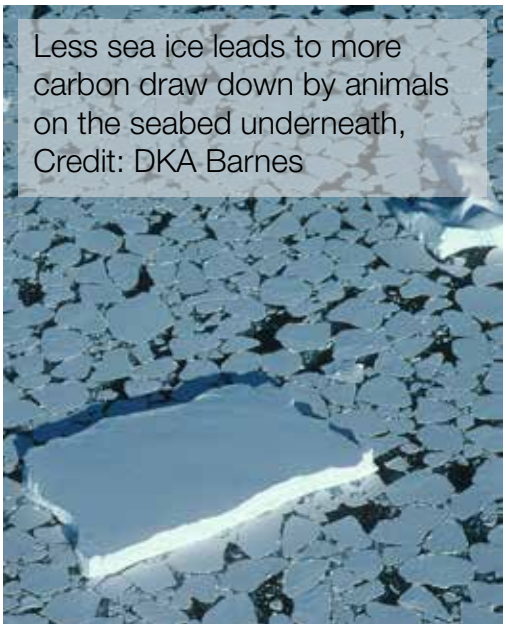


Artstract shows how micro-algal blooms last longer as a result of less sea-ice, Credit: deSciphered.com

Meal processing time is very slow in the cold so longer algal blooms means longer meal times for animals, which are therefore growing more. An artstract from www.deSciphered.com shows how.

It was an exciting find, to uncover the cause of recently discovered polar seabed carbon gains (Barnes 2015 Current Biology). This removal of carbon from cycling is a key negative feedback working against climate change. As climate change gets stronger, benthos take up more carbon, ultimately reducing atmospheric CO2 which reduces climate change. 'We've used remote-sensed and direct measurements at two research stations and many ship voyages to piece together this complex puzzle' said PhD student Oliver Hogg, one of three team members joining the international team voyaging back to the South Orkney archipelago in February 2016.

As a backdrop to this, discussions at the recent international climate conference Paris COP21 clearly demonstrate a determination to progress carbon capture and storage. This new science suggests that we should investigate whether we can aid and maximise natural carbon capture, such as by seabed life, as part of the means to achieve our global CO2 reduction goal.



Less sea ice leads to more carbon draw down by animals on the seabed underneath, Credit: DKA Barnes

This article discusses research carried out during two different closed Darwin projects – EIDCF013 and DAR18-019. For further information contact Project Leader David Barnes, dkab@bas.ac.uk

Teacher training, Credit: L Fowler

‘Bugs on the Brink’ in St Helena

Over the last three years the ‘Bugs on the Brink: Laying the Foundations for Invertebrate Conservation on St Helena’ project has seen Buglife working in partnership with St Helena National Trust, St Helena Government and the Centre for Ecology and Hydrology to set up invertebrate conservation on St Helena. St Helena is home to a staggering 455 species of endemic invertebrate, with new endemics continually being discovered. These endemics once included iconic invertebrates such as the giant earwig (*Labidura herculeana*), giant ground beetle (*Aplothorax burchelli*) and St Helena darter dragonfly (*Sympetrum dilatatum*); these species are all now considered extinct. There are still many spectacular species remaining such as the bizarre spiky yellow woodlouse (*Pseudolaureola atlantica*), the colourful blushing snail (*Succinea sanctaehelenae*) and the glinting golden sail spider (*Argyrodes mellissii*) but these species are in need of rapid and focused conservation work to ensure their long-term survival.

This project has developed a range of capacity building tools and resources to establish invertebrate conservation on island, and a number of achievements have already been made. A comprehensive invertebrate dataset has been assembled. 32 local staff have been trained on invertebrate conservation management, an invertebrate identification guide for the island has been developed and a reference collection established. Invertebrates and their ecological requirements have been integrated into habitat management plans and proposals and over 100 threatened invertebrate species have been included on the new draft species ordnance list. The restoration of native habitats to benefit invertebrates is being facilitated by the Centre for Hydrology and Ecology which has conducted research and provided knowledge and tools.

Extensive education work has occurred with over 1000 of St Helena’s school children benefiting from activities teaching the importance of invertebrates. Pupils have also been given the opportunity to explore the invertebrates around their schools. An education kit and loan box have also been developed that can be used by teachers to lead a wide range of different lessons. The project has also undertaken extensive public awareness-raising to all islanders, highlighting St Helena’s special and unusual invertebrates via local events, news and radio.

Many of St Helena’s endemic species are under threat from extinction but this hasn’t been recognised at an international level. The project is working towards getting these species listed on the IUCN Red List; the rating of 90 endemic invertebrate species is in progress, with 16 already completed. This has also resulted in the establishment of an IUCN invertebrate specialist group for the Mid-Atlantic tropical islands. This is a group of 22 international invertebrate experts, who have knowledge of this region, and will drive forward invertebrate conservation work for these diverse and unique islands. This group will cover the UKOTs of Ascension, St Helena and Tristan da Cunha. A final important milestone for the project has been working with all the partners and IUCN to develop a five year conservation strategy for the island’s terrestrial invertebrates. This will see the work of the project sustained in the long term and ensure an ongoing invertebrate conservation program.

The project has increased knowledge and understanding of St Helena’s vibrant and amazing invertebrates, bringing them to a much wider audience both on island and internationally. It has established and embedded invertebrate conservation on island and has successfully provided a more secure environment for this unique and globally important invertebrate fauna.

For more information on project 19-029 click here or contact Project Leader Vicky Kindemba, vicky.kindemba@buglife.org.uk

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Two Spiky Yellow Woodlouse, endemic to St Helena, Credit: L Fowler

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Secretariat is based in Defra and includes Clare Hamilton, Sally Cunningham and Stacey Hughes.

If you have any general queries about how the Darwin Initiative operates please e-mail us at

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For any queries on project applications or existing projects please contact our Darwin Administrators (LTS International) at

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This newsletter is produced quarterly. To include an article on your project please contact us at

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