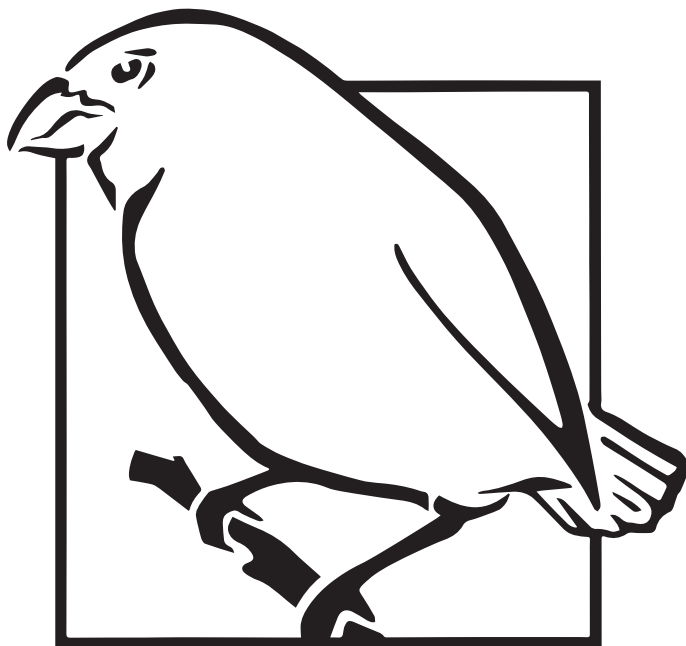


Newsletter

November 2017



Processing of high quality washed coffee at Yayu, Ethiopia, Credit: Alan Schaller



**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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Credit: Garth Cripps, Blue Ventures

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*Irrigated thyme in Morocco,
Credit: Global Diversity Foundation*

Publicity and information about the Darwin Initiative

For more information on the Darwin Initiative please visit [gov.uk/government/groups/the-darwin-initiative](https://www.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 darwininitiativeuk.wordpress.com

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.



Madagascan mangrove,
Credit: Blue Ventures

A word from Darwin

This year, the 23rd session of the Conference of the Parties (**CoP23**) to the UN Framework Convention on Climate Change is being held in Bonn between the 6th and 17th of November. To mark the event, our latest newsletter is themed on how the Darwin Initiative is contributing to the international community's commitment to climate action.

We know that many projects are making a positive contribution to climate change mitigation, adaptation and resilience building efforts, and these articles really highlight the importance of these approaches for the sake of both biodiversity and human communities. In this edition of the newsletter, we hear about the power of reefs to provide coastal protection in the Caribbean, the danger posed by the “deadly duo” of climate change and alien invasive species in Cyprus, and how to tackle this issue, and the success of climate-resilient coffee production in Ethiopia. Let us know what you think on **Facebook** or **Twitter**!

The last few months have been busy in the Darwin Initiative Team, with application rounds coming to a close for Darwin Main Projects and Darwin Plus.

We received 350 Stage 1 applications for Darwin Main projects, and these are currently under review by the Darwin Expert Committee – feedback letters and invites to Stage 2 are due to be shared with applicants by the end of November.

Darwin Plus projects were received on our new application portal, **Flexi-Grant**[®], for the first time – we received 26 applications which are currently being reviewed by the Darwin Plus Advisory Group. Applicants will receive their result early in the New Year.

Also, in case you missed it, be sure to check out the **previous edition of the newsletter** which celebrates Darwin's 25th Anniversary which we are celebrating this year!



*Parrotfish grazing,
Credit: ReefResearch*

Protecting coasts and communities

Harvey, Irma, Maria, Nate...

These names are all too familiar this year.

It was predicted that with increasing temperatures, we would see an increase in category 4 & 5 hurricanes and this certainly seems to be occurring. With such violent storms comes extensive damage to the shoreline and to coastal infrastructure, along with potential loss of life. Afterwards, the affected communities are faced with rebuilding their homes, often without power, communication networks or supplies. They may even have to deal with a loss of revenue from reduced tourism and trade. The effects of such catastrophes are both immediate and protracted.

Now more than ever, we need to understand how to protect these coastlines and communities effectively. Thanks to the Darwin Initiative, one project in the Cayman Islands is aiming to do just that.

One of the first lines of defence to buffer against such storms and wave action is a topographically complex coral reef. As the name 'coral reef' implies, corals are the basis of this system and it is their growth and reproduction that maintains and builds the reef - a healthy reef needs healthy coral.

A major stressor that corals face is an increase in the amount of seaweed. Seaweeds can kill corals, reduce both their growth and reproduction, increase the prevalence of disease, and occupy reef real estate meaning that new corals have nowhere to settle and grow. So, it follows that healthy corals need lots of herbivores to eat the seaweed.

One complication to this is that as human populations grow, many of these herbivores are now being caught for food. So how do we protect the herbivorous fish while at the same time support the local communities who use the reef? Well, if we can determine which herbivorous species have the strongest positive impact on the reef, then we can prioritise their protection. As a result, we will be able to give the coral the best conditions to grow and build the reef, which in turn supports the multitude of other species that rely on it; ourselves included. Our Darwin project is investigating this critical component of reef health and the support could not come at a more opportune time. As temperatures increase and storms become more frequent and more severe, the healthier our reefs, the better we will be able to withstand the consequences.



Now more than ever, we need to understand how to protect these coastlines and communities effectively



Increasing temperatures are a global issue, yet response at an international level has been slow. This means it is essential that we do all within our power at the local level to mitigate the effects and programmes such as the Darwin Initiative empower this action.

Yes, the climate is changing. Thanks to the Darwin Initiative, we will be better prepared.

For more information on project DPLUS061 click [here](#) or contact Project Leader Carrie Manfrino, manfrino@reefresearch.org



Credit: Miguel Leal, WCS

The Murchison-Semliki REDD+ project in western Uganda, saving forests, saving wildlife and saving vulnerable communities from climate change

Last year El Niño hit Uganda, the horn of plenty in east Africa. Although Uganda is endowed with two fertile seasons, it saw its maize dry up and its banana trees damaged. Posho and matooke - the staple food for Ugandans - diminished and prices went up, and people went hungry across the country. For poor communities in particular, climate change is very real and painful.

Yet in a small corner of the country, things were not as bleak as elsewhere. Around 1,000 Private Forest Owners in the district of Hoima, western Uganda were better off. Their maize was still green plus they reaped the benefit of a doubling in maize prices – they didn't go hungry and they earned extra income. These are the small holder farmers participating in the Murchison-Semliki REDD+ project.

REDD+ projects are designed to mitigate climate change by reducing emissions of greenhouse gasses from deforestation and forest degradation. These emissions make up around 18% of all greenhouse gas emissions worldwide. Burning one tree 15m tall and with a diameter at breast height of 30 cm produces the equivalent carbon emissions as 10 return flights between Heathrow and Uganda.

We calculated that between 2005 and 2010 on average 8,000 hectares of forest were slashed and burned annually for agriculture in the Murchison-Semliki Landscape, the equivalent of 2 million tonnes of CO₂ per year. A group of conservation NGOs, the Northern Albertine Rift Conservation Group, decided to join forces and set up a REDD+ project to save these important corridor forests.

When the initiative began in 2010, the group had difficulty securing funding to start implementing measures to stop deforestation. The two main factors driving deforestation were the lack of knowledge about better farming practices and the lack of capital to invest in better farming practices.

However in 2015, the Wildlife Conservation Society managed to secure funding from the Darwin Initiative to develop and roll out their conservation farming programme with the intention of reducing pressure on forests. Over five seasons we were able to double their harvests and increase their income 15 fold – a success we never anticipated.

Meanwhile, we had also set up 60 small saving and loans associations with roughly 30 members each, with the aim of overcoming the general lack of capital for other agricultural inputs. The farmers grasped this opportunity with two hands. We were hoping that they would pool some £100 in their groups, but on average it was closer to £600!

But have we met our primary objective of saving the forest? Even here we have been very successful. We have 30 community based monitors on the ground regularly checking if the farmers are complying with their part of the deal: conserving the forest on their land.

We also rely on the Global Forest Watch App developed by the World Resource Institute and rolled out by the Jane Goodall Institute. We receive and verify tree cover change alerts on tablet computers. Despite a few individual exceptions, most farmers are successfully protecting their forests. Our next challenge is to upscale these interventions across Uganda!

For more information on project 22-011 click [here](#) or contact Project Leader Miguel Leal, mleal@wcs.org



Graciano Cruz (HiuCoffee) a coffee farmer from Panama advises on drying bed construction, essential equipment for producing high quality coffee, Credit: Emily Garthwaite

Mainstreaming biodiversity conservation and climate resilience at Yayu Biosphere Reserve, Ethiopia

Effective mainstreaming is about actively seeking positive outcomes for the environment and people, and particularly for the local community where the mainstreaming activities are being undertaken. These benefits include sustainable development, poverty reduction, and climate change adaptation/mitigation.

Yayu Reserve in Ethiopia covers 167,000 hectares and is home to around 450 higher plants, 50 mammal, 200 bird, and 20 amphibian species. Notably, it is one of the most important storehouses of wild genetic resources for Arabica coffee (*Coffea arabica*). Given that these forests are suitable for wild coffee, it may come as no surprise that coffee farming occurs within the forests of the buffer zone and transition areas of the reserve, generating up to 70% of the cash income for over 90% of the local population.

Despite the popularity of Ethiopian coffee, most farmers at Yayu are struggling to make sufficient income from this crop, which can cause a conversion away from forest-based coffee production to non-forest crops. This conversion leads to forest loss, a reduction in biodiversity, deterioration of ecosystem services (including climate services), and a narrowing of income diversity. The most important factors restricting coffee income at Yayu are quality and access to the export market. In the longer term, coffee farming at

Yayu has been identified as climatically sensitive and thus low coffee prices are also problematic, because farmers have a reduced capacity to adapt to climatic perturbations and climate change.

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Despite the popularity of Ethiopian coffee, most farmers at Yayu are struggling to make sufficient income from this crop, which can cause a conversion away from forest-based coffee production to non-forest crops

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The overarching model of the project is to increase the income for the farmers who grow, harvest and process the coffee at Yayu, via improving coffee quality and providing sustainable access to market. One of the ways the project is working towards this is by training farmers in coffee harvesting and processing techniques, as well as installing the appropriate equipment, to improve the quality of coffee they produce. If the value of the forest-based coffee production improves, this will serve to preserve the forest at Yayu. In turn, this brings benefits for coffee production, from the ecological services (including pollinator services) provided by the forest. With improved coffee prices, farmers also have the potential to invest in coffee-farming, including adaptation to climate change.



A coffee seedling nursery at Yayu, with forest coffee production in the background and showing the intimate connection between forest and coffee at Yayu, Credit: Emily Garthwaite



Teachers from the local school are themselves from coffee farming households, which in combination with excellent language skills makes them ideal as project Coffee Trainers, Credit: Alan Schaller

Early on in the project it became evident that farmers knew how to improve climate resilience, but there was simply not enough value in their coffee crop to pay for it. This project has supported the Yayu cooperatives by both providing them with what they need to improve their coffee quality and making direct links to the markets where they can sell this coffee.

As a direct result of the project, more than 130,000 kg of high quality project coffee has been purchased from the five Yayu cooperatives, tripling the income from coffee for several hundred households across the community.

With improved and stable prices it is now possible to put climate resilience experiments into practice. If farmers invest in climate adaptation measures (such as soil mulching, pruning, and better shade management) what will this mean in terms of improved resilience, coffee productivity, quality and income? Following this, farmers will be in a much better position to quantify the precise value of climate adaptation measures and target their limited resources more effectively.

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Better coffee means better prices for farmers

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For more information on project 22-006, click [here](#) or contact Project Leader Aaron Davis, a.davis@kew.org



Yayu Forest Coffee - which has tasting notes of citrus fruit and bourbon biscuits - is now on sale in Waitrose in the UK, with 25p from each packet sold going directly back to the project, Credit: Union Hand-Roasted Coffee



Compensation in the Chaco, Credit: Natura Bolivia

***Watershared*: adaptation, mitigation, watershed protection and economic development in the Bolivian Chaco**

Bolivia's Gran Chaco encompasses swamps, salt flats, scrublands, and the largest virgin dry forest on earth. Although the region offers high soil fertility, it receives minimal rainfall. Most of the economic activity in Chaco requires water, so there is an urgent need to increase water efficiency and, most importantly, ensure that the water arrives in the lowlands in the first place.

The Chaco is home to more than 3,400 plant species, of which 400 are endemic, and 150 mammal species, 12 of which are endemic, including eight different types of armadillo. Nevertheless, upper watershed farmers often have no economic alternative other than to deforest their land for agriculture. Forests are destroyed and cows enter streambeds to drink, forage, urinate and defecate. The subsistence agriculture of upper watershed farmers is unproductive, while downstream water sources are contaminated. Children miss school with diarrhoea as a result of contaminated water, and waterholes dry up.

“**Reciprocal watershed agreements – otherwise known as *Watershared* agreements – are simple, grassroots versions of incentive-based conservation**

Reciprocal watershed agreements – otherwise known as *Watershared* agreements – are simple, grassroots versions of incentive-based conservation. They help upper watershed forest and land managers to

sustainably manage their forest and water resources to benefit both themselves and downstream water users. *Watershared* agreements focus on changing behaviour through economic and non-economic incentives and building institutional capacity: in other words, by showing local authorities and water users that watershed protection is in their own interests, and then facilitate the creation of the institutional framework needed to plan and implement it.

“**Watershared agreements focus on showing local authorities and water users that watershed protection is in their own interests**

The *Watershared* model was first developed in 2003, in the Bolivian village of Los Negros. Six downstream irrigators negotiated a ground-breaking deal with their upstream counterparts. “For every 10 hectares [ha] of forest you conserve for a year,” Andrés Rojas told Serafín Carrasco, “we will give you a beehive and training in how to produce honey.” And so the first reciprocal watershed agreement was struck. By 2017, 50 Bolivian municipalities had appropriated the *Watershared* model and had changed the behaviour of more than 250,000 people; 5,500 upstream farmers were conserving 250,000 ha of water-producing forest, and 245,000 downstream users were paying them approximately £400,000 a year to do so.



Handing out conservation incentives,
Credit: Natura Bolivia

Darwin Project 21-008 *Reciprocal Watershed Agreements: Conserving Bolivia's Chaco through Improved Livelihoods* helped another six municipal governments to create and consolidate Local Water Funds. These funds were designed to catalyse local investment in the upstream “Water Factories” of the Chaco and thereby simultaneously:

- 1) mitigate climate change (conserve old growth forests)
- 2) adapt to climate change (maintain water sources)
- 3) increase food security (maintain quantity of irrigation water and diversify upstream production systems), and
- 4) improve human health (enhance water quality).

Most importantly, by having water users and municipal governments pay for the conservation activities, the project developed the institutional framework for sustainable financing of climate change mitigation and adaptation activities.

In addition to the 96,510 ha that the project conserved under *Reciprocal Watershed Agreements*, there was a high demand from local authorities for the creation of new municipal protected areas. The project used Darwin Initiative funds, along with counterpart support, to help create three new municipal protected areas. The creation of these areas—an unexpected “bonus” for the project—protected another 500,000 ha of the Chaco's forests. However, while Darwin support has helped with reserve creation, this is simply the first step in a long process. *Watershed* managers are now working with local authorities to develop protected area management plans.

For more information on project 21-008, click [here](#) or contact Project Leader Nigel Asquith, nigelasquith@naturabolivia.org



The participants of the Horizon Scanning workshop, Credit: Katherine Turvey (CEH)

Increasing knowledge about alien species on Cyprus OT

Invasive alien species are non-native species that have been introduced by humans, either accidentally or deliberately, and which negatively impact biodiversity, economies, or society, including ecosystem services and human health.

The rate of alien species arrivals worldwide is increasing and there is no sign of saturation. It is widely accepted that climate change is likely to facilitate invasions and as such climate change and invasive alien species have been described as a “deadly duo”. So there is a critical need to improve understanding on patterns of invasion to ultimately implement approaches for management or mitigation. A new Darwin Initiative Project began in April 2017 with the overarching aim of improving information about invasive alien species on the Cyprus Overseas Territory.

The two year project is a collaboration between the Centre for Ecology & Hydrology, the Joint Services Health Unit, Akrotiri, and the University of Cyprus. Our first priority was to document the invasive alien species that are currently threatening biodiversity, ecosystems and human health, across Cyprus but with a specific focus on the Overseas Territory, and to attempt to predict future new arrivals. To achieve this we convened a three day “Horizon Scanning” workshop (26th -28th April 2017) at the Akrotiri Environmental Education Centre (AEEC) in Akrotiri village, Cyprus.

Many experts from government departments, universities, research organizations and NGOs in Cyprus joined others from the UK, Greece, Israel, Belgium and Italy. The experts produced a list of species that are most likely to be introduced to Cyprus within the next 10 years and this list was prioritised on the basis of potential impact on biodiversity and human health. This list will be published in a peer-reviewed journal and will be communicated through social media and press releases to all relevant stakeholders and the public in the next year.

One of the many highlights of the workshop was the time we spent with school children visiting the Environment Centre. We discussed the invasive alien species that the young students encounter or might encounter in the future around Akrotiri wetland and asked them their opinions on the invasive alien species and native species. Understanding human perceptions regarding invasive alien species as well as raising awareness of their potential impacts is vital for conservation managers as well as public health authorities.

The students also had the opportunity to meet experts from Israel, Italy and the UK to discuss different invasive alien species, and consider the importance of native biodiversity of Akrotiri such as butterflies and moths. A key output of this project is engaging with people who live in Cyprus on the importance of surveillance and monitoring invasive alien species and we are working with the AECC to develop a work package for the school to encourage just that. People can greatly help the work of scientists through citizen science initiatives in which they contribute as volunteers to science.

We have had an exciting start to our Darwin Initiative Project and we are looking forward to taking forward our work plan including:

- Systematic surveys in marine, freshwater and terrestrial habitats throughout the two years
- A capacity building workshop on surveillance and monitoring in August 2017
- A public health workshop in March 2018
- Continued public engagement with the diving, fishing, and military communities and the wider the SBA community.

For more information on project DPLUS056 click [here](#) or contact Project Leader Helen Roy, hele@ceh.ac.uk



Coriander seeds, Credit: Global Diversity Foundation

Conserving threatened plant species to support community adaptation and resilience to climate change in the High Atlas, Morocco

The Mediterranean ecosystem of the High Atlas in southern Morocco is home to significant plant biodiversity – including endemic, endangered and economically important species – that has been sustained for millennia by Indigenous Amazigh communities.

High Atlas cultural landscapes, and the biodiversity they harbour, are under increasing threat from interrelated socio-ecological problems that include overharvesting of endemic useful plants, intensive grazing, inadequate water management and the erosion of cultural practices of conservation and sustainable land use management. The effects of climate change, heightened in fragile montane ecosystems, are compounding the impact of all these factors.

In April 2017, Global Diversity Foundation began implementing a three-year Darwin Initiative project entitled *Mobilising useful plant conservation to enhance Atlas mountain community livelihoods*. We are seeking to improve the resilience and adaptation of local communities to climate change by:

1) **Establishing community seed banks** to secure improved availability of locally adapted plant species, both wild and domestic. By conserving this plant genetic diversity, and especially agrobiodiversity, community seed banks can act as a form of insurance for communities, allowing them to access seeds adapted to different climatic conditions. Community seed banks are thus part of a broader strategy for climate change adaptation and resilience in communities that sustain unique High Atlas cultural landscapes.

2) **Building and restoring water management infrastructure** to provide more efficient irrigation of large tracts of agricultural land and community nurseries in partner communities. This contributes to climate change adaptation in partner communities whilst also ensuring that precious water resources are used wisely and can therefore continue to sustain the broader ecosystems within which these agricultural terraces are embedded. To support this work, we collaborate with diverse partners – such as the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Institut Agronomique et Vétérinaire Hassan II – to provide training courses for local communities and associations on cultivating drought resilient crops and using water economically to improve resilience to climate change and increasingly arid conditions.

This Darwin Initiative project is a core component of our *High Atlas Cultural Landscapes Programme*, aimed at strengthening traditional practices of conservation and enhancing sustainable land-based economies and wellbeing. As part of this programme, we are carrying out research on the impact of climate change on the High Atlas flora to identify potential new climate change refugia (i.e. areas that can ensure the survival of diverse species under climate change conditions) for target endangered or endemic plant species. The results of this research will inform our ongoing conservation actions in the High Atlas. All of these activities enrich our partnership with Amazigh people, who continually assess the impacts of climate change on their cultural landscapes and devise further strategies to lessen its effects on their socio-ecological wellbeing.

For more information on project 24-010 click [here](#) or contact Project Leader Gary Martin, gary@global-diversity.org



An old black cabbage tree covered in epiphytes gives an indication of height of the original cloud forest vegetation. The surrounding ferns have regenerated after New-Zealand flax removal, Credit: Lourens Malan

Restoring and conserving unique genetic diversity on St Helena

St Helena is a small (121km²) remote island that has to be self-sufficient for its water resources. With a newly established air link and projected tourism development this need will become more demanding.

It is highly unlikely that the topographic effects alone would be sufficient to provide the water required for the island's community; located in the South Atlantic Ocean, the island's central ridge interrupts the airflow over the island and causes condensation of its moisture content. The native cloud forest vegetation on the central ridge has evolved over the island's 13 million year existence and is well adapted to intercept the mist which regularly forms over the island's peaks.

Human occupation of the island over the past 500 years has had serious negative impacts on the diversity, continuity and ultimately resilience of this unique habitat. Much genetic diversity has been lost, with habitat destroyed for flax plantations, and the portions that remain are heavily fragmented. The value of the essential ecosystem service provided by the cloud forest is gradually being realised, but has not yet been quantified economically. A comparison with Ascension Island (St Helena's nearest neighbour), which is a geologically much younger island, being around 1 million years old, shows a much less evolved and diverse vegetation on its peaks. Consequently, natural moisture capture is much lower and the human community it can successfully support is much smaller. Indeed, Ascension's community is almost wholly reliant on desalination for its water needs.

St Helena's cloud forest components comprise a number native ferns and small tree species. However, the impact of human occupation has reduced their status considerably. Of the four principal cloud forest tree species - black cabbage, he cabbage, dogwood and whitewood - the latter three are critically endangered. Our Darwin Plus cloud forest project has prioritised efforts to begin safeguarding these species. Their long term survival relies on improving the robustness of the remaining habitat and restoring areas lost to flax plantation and invasive species, species which demonstrably lack the evolved physiology for moisture interception.

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Human occupation of the island over the past 500 years has had serious negative impacts on the diversity, continuity and ultimately resilience of this unique habitat

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The rate of change both at a global level, with planetary warming, and locally, with species decline, is a major issue. With polar ice reserves melting and consequent weather patterns in flux the future of St Helena's climate is not certain; a reduction in the island's annual precipitation is likely to be catastrophic for the human community. Effective local mitigation against such changes, to safeguard the island's water supply economically



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

and sustainably, will take time, perhaps decades, to implement. The cloud forest project contributes to managing the surety of this vital resource in a number of ways.

We have established living gene banks by cloning all the remaining endangered trees in the cloud forest. By condensing these individuals into ex-situ orchards, we have captured the remaining genetic diversity of each species and re-established the possibility for cross pollination which has been lost by tree destruction and habitat fragmentation. Progeny from these newly established orchards will have the best genetic fitness of any plants ever used in conservation on St Helena.

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With polar ice reserves melting and consequent weather patterns in flux the future of St Helena's climate is not certain; a reduction in the island's annual precipitation is likely to be catastrophic for the human community
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The project has also observed and recorded the composition and relative strength of remaining fragments of native habitat. By surveying the breadth of the cloud forest we have gained experience of the impacts of invasive species in different situations. We also have an appreciation of which native plant species or communities best exploit particular micro-habitats and our management plans have evolved in light of these data. From the clear fell and replant approach which dominated island conservation at its outset forty years ago, we now employ a more holistic ecological approach. Species mix, age profiles and planting and removal plans are now practically employed in our conservation activities. We are able to regenerate the vegetation characteristics of native habitat relatively quickly; by focussing restoration work on the perimeter of existing native habitat we allow for migration, particularly invertebrates, to complete the habitat restoration process.

For more information on project DPLUS029 click [here](#), or contact Project Leader Lourens Malan, lourens-malan@enrd.gov.sh



A woman camps on the Barren Isles, where fishers from all over the west coast still free dive for sea cucumbers Credit: Garth Cripps

General project updates



The extensive reef ecosystems include at least 39 coral genera and 150 species of fish, Credit: Garth Cripps, Blue Ventures

The Barren Isles archipelago receives recognition for its international importance for biodiversity

The Government of Madagascar has recently designated the Barren Isles archipelago as a wetland area of international importance, in a process supported by WWF Madagascar. This designation, under the international wetlands convention, was celebrated by local government and project partners at the Melaky Economic Fair in Maintirano this month.

The convention, otherwise known as the Ramsar convention, is an intergovernmental treaty that identifies wetland sites of global importance. One of the five new sites in Madagascar is the Barren Isles archipelago, which extends between 15 and 65 kilometres southwest of the town of Maintirano on the west coast of Madagascar.

Shallow marine areas up to 6m depth at low tide qualify as Ramsar wetlands, and the Barren Isles archipelago is made up of nine low-lying islands and many more sand banks scattered across 40km.

These islands are home to nesting seabird and turtle populations, while the waters surrounding them host an abundance of threatened marine species, and the extensive reef ecosystems include at least 39 coral genera and 150 species of fish. Over 4,000 fishers also use these islands as part of their traditional fishing grounds.

Blue Ventures is working to develop a model for locally-led fisheries management that protects the Barren Isles'

ecosystem while securing the rights of traditional fishers. Recognition of the area's global importance under the Ramsar convention will reinforce the efforts led by local communities, and supported by Blue Ventures and partners, to defend this area and its resources from threats such as over-fishing and extractive industries.

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Over 4,000 fishers also use these islands as part of their traditional fishing grounds
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As well as Ramsar certification, the Barren Isles archipelago has already been designated as a future permanently gazetted marine protected area (MPA) under local management, with work underway to secure definitive status. This process began when Blue Ventures and partners successfully secured temporary protected status for the Barren Isles archipelago in 2014, after seven hard years of work.

Covering 4,300 km², it is the western Indian Ocean's largest marine protected area, from which all industrial fishing has been excluded and small-scale fishing will now be regulated with the use of licenses and gear restrictions.

Through their Darwin Project, Blue Ventures has been working with the government of Madagascar to support sustainable fisheries management across the entire



Credit: Garth Cripps, Blue Ventures

Melaky region. This process has so far led to the national shrimp trawling association's recent decision to cease trawling in the 'sensitive corridor' between the Barren Isles and the mainland over the 2017 fishing season.

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The extensive reef ecosystems include at least 39 coral genera and 150 species of fish

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During the opening ceremony of the Melaky Economic Fair, an annual event showcasing the region's economic opportunities, on September 8th, the Ramsar certificate was officially given by the Regional Prefect to the parties involved in the achievement. This included heads of regional and district administrations, mayors, representatives of government ministries, representatives of the community management association for the Barren Isles MPA, and Blue Ventures as the primary support partner for the Barren Isles MPA.

At the Economic Fair itself, the Ramsar certificate was displayed at a booth showcasing the Barren Isles, organised by Blue Ventures, where the local team was on hand to explain and discuss all aspects of the work to protect the Barren Isles.

Blue Ventures also took part in a conference on developing sustainable tourism in the wider region of Melaky. This conference was led by the Regional Office of the Environment, who asked Blue Ventures to present on the new Ramsar certification. During this presentation Blue Ventures was able to emphasise the importance of sustainably managing resources to mitigate poverty.

For more information on project EIDPO048 click [here](#) or contact Project Leader Al Harris, al@blueventures.org



Setting up a Malaise trap for surveying insects, Credit: Mike Pienkowski

Maximising long-term survival prospects of Montserrat's endemic species and ecosystem-services

Although two-thirds of Montserrat is designated as restricted zones due to volcanic activity, the island remains hugely important for endemic species. Previous work on this topic has focused exclusively on the Centre Hills, but a current Darwin Plus project takes a strategic view of the whole island. It aims to identify and minimise pressures on this unique biodiversity, to ensure that the island's natural resources are safeguarded, thereby underpinning economic recovery.

This project, led by the UK Overseas Territories Conservation Forum (UKOTCF), received a Darwin Plus grant in 2016 for a project in partnership with the Montserrat National Trust (MNT), Department of Environment, Montana State University (MSU) and Treweek Environmental Consultants.

"The linking rationale of the project is both to help increase this local capacity and to give the best chances possible for Montserrat's unique and rare species of wildlife to survive in the long term. This is done most effectively by allowing the range to be as extensive as possible – something of a challenge in a small island, especially one which has lost a great deal of its vegetated area to the volcano. The [island's] wildlife is important, not only in its own right and for the quality of life of Montserratians, but also as a major draw for tourists" said Dr Mike Pienkowski, UKOTCF Chairman and project leader.

Over the 2 years of the project, a series of stakeholder consultation meetings are taking place to develop a widely shared vision and initial plan. This plan will cover the future use of the southern two-thirds of the island, where permanent human occupation is no longer possible due to volcanic risk. This area is thought to be ecologically rich in endemic species, and the plan will emphasise, but is not limited to, restoration of natural ecosystems. The stakeholder meetings have identified how the south could provide opportunities which contribute towards the island's economy, including ecotourism and scientific research.

"Adopt a Home for Wildlife", an initiative created with MNT, allows individuals, organisations, community groups and businesses to maintain and protect a public/private space, in partnership with the MNT. This is one realistic mechanism for safeguarding pockets of habitats, e.g. tropical dry forest across the island, and this initiative will continue beyond the project end.

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Most of the Casuarina trees have been removed from this land, however some have been left temporarily to provide shade pending the planting and growth of suitable shade-providing native species, Credit: Mike Pienkowski

Nicolas Tirard, Project Officer at MNT, has been working with several land-owners with some immediate and positive outcomes. For example, the large stand of Casuarina (a highly invasive Australian species found in the Caribbean) was removed from much of the Belham Valley area, whilst ensuring native species were retained as these provide important coastal defence and natural shade for a recreation area.

For over 20 years, MSU has been involved in collecting information on invertebrate species found on Montserrat. They have found over 700 species of beetles, of which 80 are endemic to the island. In 2017, a team from MSU visited the island to demonstrate the newly developed Montserrat-centred access to database systems and the previous insect survey records that they have captured for the database.

The team also continued the insect fieldwork in understudied locations, such as coastal and agricultural areas. Furthermore, local people were able to participate in the fieldwork as a training exercise, and the team provided public lectures attended by 1% of the island's population.

For more information on project DPLUS049 click [here](#). For copies of the newsletters produced as part of the project, contact Catherine Wensink, cwensink@ukotcf.org



Ant-loving weevil found in Montserrat has South American relatives, Credit: Mike Ivie



Credit: Martin Muir

From Ataúro to Raja Ampat: a homestay exchange

Timor-Leste is located at the heart of the Coral Triangle, a region home to the world's highest levels of marine biodiversity. Fisheries underpin the livelihoods and food security of Timor-Leste's coastal communities and environmental sustainability is deeply enshrined in Timorese culture through traditional environmental management practices such as Tara Bandu.

Yet recent decades have resulted in decimation of Timor-Leste's critically important marine ecosystems by overfishing and a proliferation of destructive fishing techniques, which threaten the resilience of the fragile marine ecosystems upon which the country's coastal communities depend.

Declining catches, rapid population growth, and a lack of livelihood alternatives have pushed traditional fishers into deepening poverty. This has forced communities to adopt increasingly unsustainable fishing practices to support dwindling catches, perpetuating the low socio-economic development and high rural poverty seen in coastal zones.

A new Blue Ventures Darwin project entitled *Incentivising community-led marine biodiversity conservation on Ataúro Island* is seeking to empower traditional fisher communities in Timor-Leste to manage their marine resource, rebuild their fish stocks and attain more sustainable livelihoods. One of the approaches to diversifying local incomes taken by the project is to introduce homestay tourism.

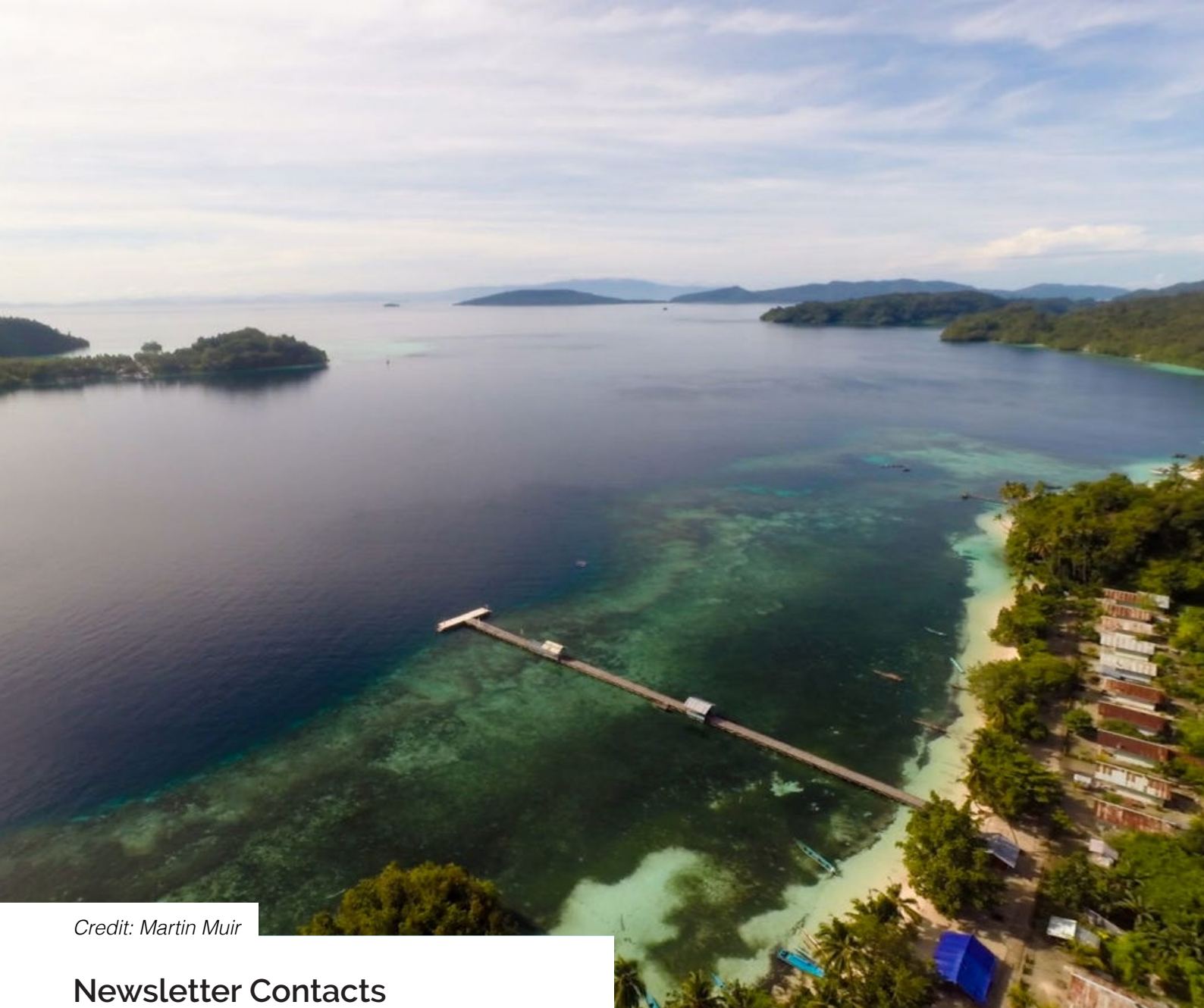
A **new short film** released in August 2017 explores the successes and lessons learned from a recent knowledge exchange visit that took fishers from **Ataúro in Timor-Leste to Raja Ampat**, in Indonesia as part of this Darwin project.

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The Raja Ampat Homestay Association are renowned leaders in the homestay game

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We've been helping set up a new homestay association on Ataúro where our **volunteers spend part of their expedition time**. The **Raja Ampat Homestay Association**, winners of the 2017 **UNDP Equator Prize**, are renowned leaders in the homestay game, and the people in Raja Ampat are subsistence fishers and share many similarities to the communities we work with on Ataúro. The homestay association has offered a way for community families to access the international tourist market, diversifying and strengthening alternative livelihoods, providing a clear and measurable link between protecting the environment and the economic benefits that tourism can bring.

For more information on project 24-012 click **here**, or contact Project Leader Al Harris, **al@blueventures.org**



Credit: Martin Muir

Newsletter Contacts

The Darwin Initiative Secretariat (Defra)

The Darwin Initiative Secretariat (Defra) The Darwin Secretariat is based in Defra and includes Claire Millar, Fiona Charlesworth, Duncan Robertson, Siriol Leach and Shaluki Perera.

If you have any general queries about how the Darwin Initiative operates please e-mail us at darwin@defra.gsi.gov.uk

For any queries on project applications or existing projects please contact our Darwin Administrators (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 £140 million to 1,055 projects in 159 countries.