

# Ascension Conservation Quarterly

## ISSUE 36 OCT-DECEMBER 2011

Hi Everyone,

Another exciting issue for you from the conservation team.

New OTEP Projects for the plants and the Green Turtles are off to a good start, with new members to the team.

Visitors from RSPB working with our seabird restoration team—more information of the exciting work they have been doing inside.

Thank you, and enjoy reading about our continued work towards conservation of the unique environment of Ascension.

We wish you all a very Merry Christmas and a Happy New Year!

Stedson, Jolene and Natasha

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# Seabird Restoration Project

Contributed by Nathan Fowler and Dane Wade



Hi everybody,

Here is our update from the Seabird Restoration team for over the past 3 months. At **Letterbox** the Masked Boobies have now returned to nest. We have found 22 new nests, mainly on Mandela Ridge. Frigate bird decoys were placed upon Mandela Ridge to attract Frigate birds to return to nest on the mainland. Productivity plots have been set up around Mandela Ridge to count the number of Masked Boobies nesting in this area. We helped the visiting RSPB team to place GPS Loggers on 15 Masked Boobies that were nesting on the Letterbox plateau. Once the loggers were attached we measured, weighed and assisted with ringing the Boobies. The RSPB team returned to the plateau a few days later and retrieved all GPS Loggers, this was a great success! Frigate bird monitoring plots have now been selected on Boatswain Bird Island—we monitor these plots from Louis Ledge by digiscope.



Picture of Frigate bird decoys at Letterbox



Attaching GPS loggers to Masked Boobies



Digiscoping Frigate birds on Boatswain Bird Island



Photo of Frigate bird decoys at Crater Cliff.

There are several Frigate bird decoys at **Crater Cliff**, these decoys are also in place to hopefully attract the Ascension Frigate birds to nest back on the mainland. Yellow Billed Tropic birds can also be found nesting near this area.

At **Stack 8**, the Brown Noddies have returned to nest . There are now 18 Brown Noddies nesting in the area, with more still checking for nesting sites.

We have numerous Brown Boobies and Yellow Billed Tropics nesting at **NW Point**. Brown Noddies are also roosting on the 4 main Headlands, looking for nesting sites.

The **Sooty Terns** were heard on the 26<sup>th</sup> November 2011, which means they are in the area.

And finally the new track starting at Cricket Valley has now reached under White Horse Hill, this will allow us safe access to seabird nesting areas, and enable us to carry out important monitoring. The road is nearly completed, and its final destination is Benji Hill (Letterbox area).



Road clearing near White Horse hill.

*Contributed by Ian Fisher*

Sometimes I think I am one of the luckiest guys in the world – I've been to Ascension Island twice before, and didn't expect to get another chance to come back. When I was asked to provide maternity cover for the RSPB's Ascension programme, I jumped at the chance to be able to work again with the Conservation Department on their Seabird Restoration Project.

Since cats were eradicated in 2003, the boobies, noddies and terns have started to come back, and it's now time to adjust the monitoring regime – it's just not possible for the seabird team, Nathan Fowler and Dane Wade, to follow each nest as we have done in the past. They would have to work 25 hours a day. Along with my colleague Liz Mackley and an RSPB volunteer, Richard Hesketh, we also decided to track where the masked boobies go when not at the breeding sites, which involved catching 15, attaching data loggers beneath their tails, and (this is the difficult part) re-catching the same birds to take the logger off later in the week.

We're also trying something exciting that, if successful, could at least double the global distribution of the endemic Ascension Island frigatebird. Currently they only breed on one offshore islet – Boatswainbird Island, covering 3 hectares. That's it, that's the total area on the entire planet! They used to breed extensively across Ascension, and we're not really sure why they aren't spreading back – even though there are no feral cats to make a tasty meal of their chicks.

We want to tempt them back with some sexy decoys – it's a gamble, but it just might work. By setting up two areas of fake birds at Letterbox and Crater Cliffs, with sound recordings of bill clacks, we may encourage a few pairs to select the new venue for raising their young...in turn making the place more attractive to other birds. Liz and Richard have been the devious architects of the decoys. Not surprisingly, plastic Ascension Island frigatebirds are not readily available from the local garden centre in the UK, so they have been mutilating model herons, spraying them black, and adding breeding pouches.

Our first trip down to Letterbox was amazing and mainly involved behaving like a mountain goat most of the way. The first glimpse of Boatswainbird Island was tantalising, and took the mind off the steep drops on either side. We were lucky as it was not too hot and there was a stiff breeze. Eventually we arrived at the decoy site, on the cliffs above an area where the frigatebirds lounge about on the rocks. Construction started – attaching wings and tails, filling the models with rocks, and hammering iron stakes into the ground. Our one disappointment was blowing the fuse on the sound system, but that can be sorted out later.

Then all of a sudden we were finished - the decoys look amazing and if they don't work, then nothing will. We were all elated with the outcome, although this was slightly tempered when we realised that we now had to do the whole trip in reverse, and the majority of it was now uphill.



*Nathan Fowler, Dane Wade, Richard Hesketh and Liz Mackley with new frigate bird decoys. Liz is holding a decoy that had been used in the past.*

Later in the week we returned to attach data loggers to masked boobies - this time almost all of the Conservation Department came so that we could learn from Liz and do some scouting to determine future population count areas.

Unaware of their pending stardom, Liz would nab a booby as it sat at its scrape, and it would end up pushed unceremoniously head-first into a canvas weighing bag. We also took measurements of bill, leg and wing, Liz ringed them and then attached the small data logger underneath the tail where it is protected by the feet when the bird dives into the sea. Once freed, the boobies made a bit of a fuss and then quickly settled back down on their own eggs – females honking, and males sounding like they are wheezing at the other end of a long cardboard tube.

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*Liz Mackley and Richard Hesketh attaching a GPS Logger*



*Nathan Fowler weighing a Masked Booby*

The loggers record a location every 2 minutes for 3 to 4 days, so the plan was to retrieve as many of them as possible later in the week and download the collected co-ordinates for plotting. Amazingly, four days later Liz, Richard and Catherine managed to retrieve all 15, including one on Rocky, a male who was intent on incubating a rock. The data collected will help us understand better where the birds forage and give insight into areas that should be protected from over-exploitation in the future.



*Rocky—Masked Booby*



*Rocky's track*

Back up on Louie's Ledge, we used the telescope to count frigatebirds on Boatswainbird Island. Every other week, Nathan and Dane will come to the same spot and count the same sample areas on the island. To do a full survey requires a trip onto the island, which is expensive and very time-consuming, and while a representative sample won't tell us how many birds there are in total, it does provide a consistent marker to enable us to follow the fortunes of the population as a whole – full surveys will probably be done every ten years or so. There was plenty of action, with males puffing up their bright red neck pouches in the hope of catching a female's eye.

The birds here are very curious, and even the little fairy terns come almost close enough to touch, hovering just out of reach above our heads. While we were on the ridge, frigatebirds used the thermals to rise up and check us out. I like to think this was a fitting acknowledgement of the hard work we are putting in on their behalf!

We also had time to learn about the OTEP (Overseas Territories Environment Programme) project from Catherine Supple, the project officer. This work focuses on key plants that are under threat from invasive species or have restricted or uncertain populations, and will include restoring endemic and native plants on sites located on the lava plains and in the Green Mountain National Park. Stedson Stroud is the pioneer of plant conservation on Ascension, and hopefully this OTEP project will be one of many more steps in the recovery of the native ecosystems.



*Dane Wade—digiscoping, counting frigates on Boatswainbird Island*

One of the great things about the team here is that everyone has a chance to be involved in several work areas – Nathan and Dane watch out for endemic plants as they go about their bird monitoring, and Catherine came out to Letterbox to learn about tagging, ringing and bird surveys. Jolene Sim and Natasha Williams manage to be involved in everything! I come away from Ascension filled with hope and inspired, as always, by my colleagues here. I'll keep my fingers crossed I make it back again sometime.

Contributed by Catherine Supple and Liza White, Project Officers

I have recently arrived on Ascension from the UK and I am starting the Overseas Territories Environment Programme titled 'An Ecosystem Approach to Plant Conservation on Ascension Island'. The project has so far been funded for two years and all being well the good work will continue to build on previous OTEP projects such as the Green Mountain national Park (2004-2006) and the Ascension Island Endemic Plants Conservation project (2008-2009).



Before joining the conservation team on Ascension I have studied plant conservation for several years achieving a BSc in Plant Biology and an MSc in Botanical Conservation. I have worked with and studied plants in Kirstenbosch Botanical gardens South Africa, Seychelles and Mexico. My previous job was a countryside ranger on the Suffolk coast UK, which included habitat restoration, although very different habitats compared to that of Ascension!

The main aims of the project are to look at restoring native and endemic plant communities that have restricted distributions, uncertain population dynamics and are faced with extinction primarily caused by the threat of invasive species. This will involve looking at keystone species, training and restoring endemic and native plant species on sites located on the xeric larva plains and the Green Mountain.

The keystone species on Ascension are the Green Mountain bryophytes as they form the main micro-habitat for endemics such as *Xiphopterisascensionense*. Bryophytes are ecologically important as they play a role in creating a niche in which higher plant species may take advantage of such as on the bamboos of Green Mountain. They also aid in preventing run off and are adaptive bio-indicators signifying air quality, water pollution and substrate composition. Current knowledge of Ascensions bryophytes is poor with a proposed number of approximately 15 endemic species which is significantly higher than other island bryophyte flora. This project proposes to implement surveys, produce checklists, create action plans and produce an ex-situ collection which will hopefully ensure their survival.





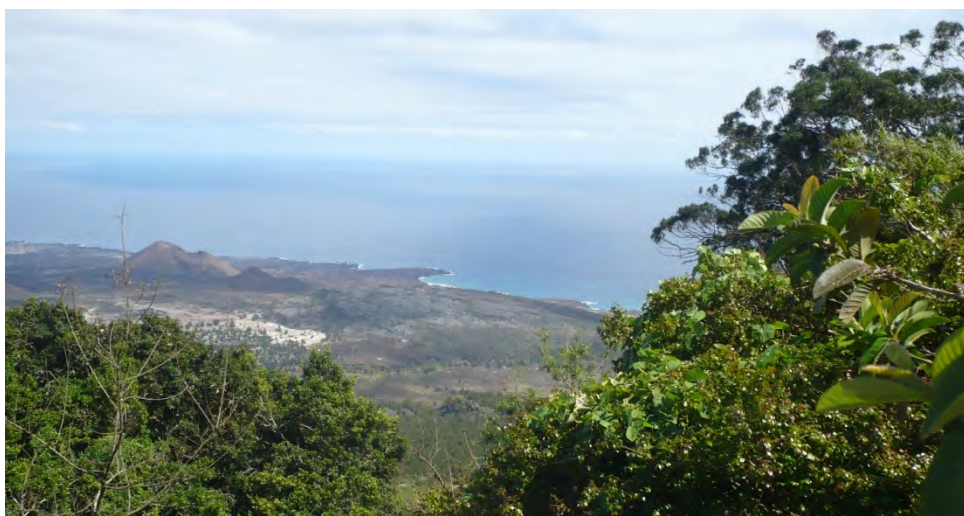
The endemic plant species we will be focussing on are: *Euphorbia origanoides*, *Pteris adscensionis*, *Sporobolus caespitosus*, *Marattia purpurescens*, *Asplenium ascensionis*,

*Xiphopteris ascensionensis* and *Anogramma ascensionis*. Currently we are collecting seed from local plant populations and propagating them, they will then be included in Stedson's (Conservation Officer) already impressive nursery stock. It is fantastic getting to visit remote parts of the island with the team and being able to learn from them about the history and geology. Restoration sites are being located around the island and ecological factors are being monitored such as light intensity, temperatures, soil properties, plant and insect species present. Community assemblages will be developed including both indigenous and endemic species and the plants will be planted in both grazed and fenced off plots to monitor the effect of grazing. Continued care, watering and monitoring will be taken over the next two years to ensure the plants have the best chance of survival. Monitoring will include plant growth, production of flowers and fruits, presence of new plants, and any decay or death of plants.

In addition to the OTEP plants project I have also been helping with the RSPB who are working on the Masked Boobies and Frigate birds. We have been to Mandela's Ridge to help with the weighing, measuring and tagging of the Masked Boobies which is really interesting as it will help us find their whereabouts and also will aid in long term monitoring.

In the next few months I will also be helping out with the turtle monitoring which I am really looking forward to.

From the OTEP project we hope to develop a comprehensive checklist of ecologically and endemic bryophyte species on the island which will hopefully be maintained and managed throughout the years. Also we hope to develop a successful method of restoring indigenous and endemic plant species on a range of sites over the island. These communities will hopefully have the ability to regenerate and be self sustainable, or with the minimal of input from the conservation team and flourish therefore saving endemic and endangered species of Ascension to continue into the future!



**How many turtles nest on Ascension Island?**

*Contributed by Nicola and Sam Weber*

As many people know, Ascension Island hosts one of the world's largest nesting populations of green turtles (*Chelonia mydas*), and is one of 32 indicator sites used by the International Union for Conservation of Nature to assess the global threat level for this species. But exactly how many turtles currently come to nest on Ascension's beaches is unclear. For the past 10 years a regular monitoring programme has been in place to estimate numbers of nesting turtles at Long Beach and Pan Am Beach from counts of the tracks that they leave. However, a full assessment of nesting activity on all of Ascension's 32 sandy beaches hasn't been conducted since 2002. Also, since marine turtles nest several times within a single nesting season, the number of clutches laid per female (or 'clutch frequency') must be known in order to convert track count data into a population size estimate. Currently, clutch frequency for the Ascension Island population is unknown and a 'species average' has been used instead.

Our project aims to establish the number of clutches laid by individual green turtles nesting at Ascension Island. To do this, we will be deploying radio-transmitters on 40 female turtles at the start of the nesting in December and will track these individuals throughout the season until they stop returning to lay further clutches (around June). This will be done on Long Beach during the night when the females come up to nest. During the daytime, we will also be monitoring all other beaches on the island by counting the number of turtle tracks. At the end of the project we will combine the clutch frequency estimates and the track count data to calculate a revised population size estimate for the number of turtles nesting on Ascension Island. Also, using beach monitoring data collected on the island over the past 10 years we hope to look at how the population size of green turtles is changing over time.

As part of efforts to raise awareness of marine turtle conservation there will be lots of opportunities to come out on a night and see the turtles. At present, tours are expected to commence at the start of January— details available from the Conservation Office. Also, any volunteers interested in getting involved with the work are very much welcomed!

*This project is collaboration between Ascension Island Government and the University of Exeter – we are grateful to OTEP (the Overseas Territories Environment Programme) and JNCC (Joint Nature Conservation Committee) for the funding that has made the project possible.*

*A photo of us raking turtle tracks on Long Beach to allow fresh tracks to be counted the following day.*



Contributed by Jolene Sim, Assistant Conservation Officer

I started working as the Assistant Conservation Officer with AIG Conservation Team in October 2011. I have lived on Ascension Island for 5 years, and since 2003 on my visits to Ascension Island I have worked with the conservation team as a volunteer. My first 2 months working as the Assistant Conservation Officer have been extremely interesting. Every day there is important and exciting conservation work to be done. I consider myself very fortunate to be working on a remote Island with such unique, rich biodiversity!



I have been involved in the OTEP funded plant project, where the assistant ecology officers and myself observe areas around the Island to evaluate which are most suitable to have endemic and indigenous plant restoration sites. We have started collecting and propagating seeds from various parts of the Island. Whilst seeds are propagating and being sewn, the new restoration sites will be prepared by removing the invasive species and constructing fencing to keep out rodents. There will also be a few unfenced sites that we choose not to weed, this is so endemic plant behaviour and survival comparisons can be made. *(For more details on the OTEP Plant Project please see article by Catherine Supple and Liza White on pages five and six).*

In November we were visited by a RSPB team - Ian Fisher, Liz Mackley and Richard Hesketh. During their stay the team worked together with the seabird monitoring. This work included deploying and retrieving GPS loggers to Masked Boobies at Letterbox. We also took biometrics of the Masked Boobies – this type of continuous monitoring will give us valuable information to what is happening with the seabirds of Ascension. Frigate Bird decoys were placed near Crater Cliff and on Mandela Ridge. The feral cats (now eradicated) caused our endemic Frigates to leave Ascension's mainland to nest on Boatswain Bird Island. These decoys will hopefully attract Frigate Birds to return to the mainland to nest. There have already been sightings of curious Frigates flying over the decoy sites. Thank you to the RSPB team for your time, assistance, making the impressive Frigate Bird decoys, and to Richard for giving us First Aid training with injured seabirds.

I conclude by saying a big thank you to the conservation team for making me feel very welcome. Your team work and dedication is inspiring, and I am pleased to be part of the AIG Conservation Department.

### JNCC, OTEP and AIG funded project - Evacuation of track

During the last few weeks the AIG Plant and Transport Team, managed by Stuart Harris, have continued excavation work to the track on the SE side of the Island. The track starts at Cricket Valley and leads under White Horse Hill towards Benji Hill.

A big thank you goes to the Plant and Transport team Martin Henry and Kevin Wade for your brave and extraordinary work you have undertaken. The terrain which the team works with is a mixture of soft eroding stone and hard rock. This makes the track excavation task very difficult and time consuming. Over the last month outstanding progress has been made with the track, and it is hoped to be completed in the very near future.



We would also like to thank OTEP, JNCC and Ascension Island Government for your funds which support this important project. This track will allow safe rescue access, and access for AIG Conservation to carry out important monitoring, seabird observations and endemic plant restoration work.

Once this project is completed eco-tours can be booked through the Conservation Centre.





One of the things I was most keen to do when I heard that I was going to be in Ascension for 4 weeks, was to see as much of the island as possible and also to learn as much as I could about the conservation effort being carried out. Thanks to Stedson and his conservation team, I was able to do both at the same time.

My interest in conservation stems from working in the Overseas Territories Directorate of the Foreign & Commonwealth Office. The Overseas Territories have long been acknowledged as being rich in biodiversity and host to a large number of endemic species of flora and fauna.

My first field trip with the Conservation team was scheduled a few days after I arrived in Ascension and it was to go and look at the birds nesting. However, as most people who know me will tell you, I don't cope with heights particularly well and I think the prospect of having to prise me off whatever rock I was hysterically clinging to at the time made Stedson re-consider. So instead we went off to Mars Bay and Shelley Beach to see the rock pools and the endemic shrimp. As those of you who have visited this area know, it involves a bit of a scramble over the lava flows. We were managing quite well until Stedson warned me not to fall over as the rocks were sharp. Well, that was all it took, I promptly fell over but at least it was only the once although I have to admit wobbling a bit on occasion.

En route to the rock pool where the shrimp live, we came across a squid. Stedson pulled this out to show me (usually the only squid I see are in seafood risotto). One minute it was just sitting placidly on his arm. The next minute its defence mechanisms came into play and we were both standing there soaked in black squid ink & looking a bit surprised! Having washed it off, we made our way to the endemic shrimp rock pool. The shrimp were all present and correct despite the presence of a conger eel which would have to be removed on another occasion before it had a chance to eat all the other inhabitants of the rock pool.

Having not been put off by the squid ink experience, the following week I headed out with the team to Green Mountain to visit the garden nurseries where the team were propagating Euphorbia, endemic ferns and grasses. I hope that my Euphorbia seeds will flourish so I can say that I helped the future of Euphorbia-kind on Ascension. Next stop was right at the top of Green Mountain where the team were planting the seedlings of endemic plants. This gives the plants a space to grow away from the, usually larger and stronger, invasive species that are threatening their future. Both the nurseries and the planting area at the top of the mountain have been funded by the FCO's Overseas Territories Environment Programme so it was an excellent opportunity to see the money being put to such a good use. On the way back down the mountain, Stedson, Keisha and Natasha collected a few wild bananas. To the UK-eye, the appearance of these is a bit off-putting. We are too used now to seeing perfectly uniform bananas – all the same size and the same shape. The uniform bananas look good on shop shelves but they don't compare to Ascension wild bananas which are much softer and much sweeter (they also taste extremely good having been cooked on a BBQ and covered in rum and sugar – but that's another story)!

The next trip was out to Hummock Point to bird-watch as you can view the nesting sites on Boatswainbird Island without having to scale any scary peaks. However, before doing this we did need to go fishing off the Point to get some fish for the injured juvenile frigate bird that Stedson is nursing back to health. We got distracted by the fishing. I'd been out fishing for a couple of hours the day before with friends in the hope of catching tuna but had failed miserably. I didn't have high hopes of being able to catch anything using a nylon trace, weight, hook and bait off a rock when I hadn't been able to catch a thing with professional fishing equipment the day before. However, we pulled in a gruper, black jack, soldier fish and a couple of conger eels. On the last go, my line tightened and wouldn't budge. I assumed this was another conger eel that had curled itself around a rock in a bid to avoid being hauled to shore. However, suddenly the line whipped through my fingers (ouch). I shrieked for Stedson, stamped on the line by my feet and lo and behold, we hauled in a juvenile thresher shark! Behaving like paparazzi, we took about a zillion photos of the shark and then put it back in the sea where it swam away thankful that it was not going to end its days in shark fin soup. None of my friends believed my shark tale until photographic proof was provided.

My last trip was up Green Mountain again to plant some more ferns/grasses. Although it was hot and relatively sunny in Georgetown, the Green Mountain has a whole climate of its own and it was damp and miserable which oddly enough suited my mood as the next day I was due to leave Ascension and knew that my conservation field trips would soon be over.

Personally, I think that those involved in conservation on Ascension have one of the best jobs in the world and I definitely prefer the outdoor work experience to the confines of a stuffy office in London! I'd like to offer my praise to Stedson and his team for all their hard work and extend my thanks to adding to what was a wonderful 4 weeks in Ascension.

You are all much missed!

## Volunteering with Conservation

*Contributed by Kitty Cook, Volunteer*

Hello I'm Kitty, I'm 10 years old and I came to live on this fascinating Island 10 months ago. I consider myself very lucky to be able to spend time with the conservation department, on one of the world's remotest Islands.

I've been helping with various ongoing conservation projects, such as potting endemic ferns and weeding in the polytunnels on the Green Mountain. I am also helping with the restoration site on the mountain, where we are clearing the invasive ginger trees and encouraging growth of Ascension's endemic plants again.

I have been out with the team to do their regular plant census in such interesting places as Mars Bay and Elliott's. This has allowed me to see some places on the Island which I may not otherwise have seen. This is great because I already enjoy walking in some of the remotest parts of the Island like Weather post and Middleton's.

Recently we did a beach clean-up, to remove invasive plants from taking over our lovely beaches, and to help the turtles to find a good spot to lay their eggs when they return again.

The conservation team here are really friendly too, and it is good to talk with them when we have a lunch break – usually in a lovely spot somewhere on the Island!



## Thank you and Farewell

*Contributed by Natasha Williams*

We would like to say thank you and farewell to another of our volunteers Louise Short. Louise came to Ascension accompanying her husband when he took up the post as the Two Boats School Head teacher.

Louise has been volunteering with us this past year, helping in the restoration site and assisting staff with admin duties.

Thank you Louise for all your help and support and we wish you and your family all the best for the future!



*Louise Short being presented with a parting gift*

*Contributed by Kayshai Reynolds*

To work at the Conservation Department is not for the faint hearted, but for those who truly care about our environment and how it can be preserved. I have found my time with AIG Conservation really inspiring, as it was the perfect opportunity to see the care and attention that goes into preserving and maintaining the fragile environment and wildlife of Ascension Island. Working with the team has helped me to become more interested in the critically endangered plants and indigenous animals as they have made learning about them very fun and enjoyable, which I found wouldn't have been possible without the Conservation team. Learning about all the endemics and invasive species has actually been very interesting, which is surprising as I thought that it would be a little boring but without even realising it I found that I had learnt all of the names of the endemics and can now identify them easily within the first month. For any trainee who would like to work with conservation I'd say give it a go as you never know until you have tried it. Also working up close with some of the wildlife such as the birds has been a great experience which has allowed me to appreciate more of the islands beauty.

This is my last week with the conservation team. I would like to say thank you to Stedson Stroud (Conservation Officer) for allowing me to help him and also for teaching me the wonders of Ascension Island, as well I would like to thank Natasha Williams (Conservation Assistant) for showing me the administration part of the job and for making my time here at the conservation the best it could be. I would also like to thank Olivia Renshaw (the previous Conservation Assistant Officer) though she has moved back to the UK she still helped me to get more accustomed to the workings of the conservation office, and finally I would like to thank Nathan Fowler and Dane Wade, RSPB seabird restoration fieldworkers, for showing me their enthusiasm and pure joy for the job which has rubbed off on me and made my time here most enjoyable. I am glad that I had the chance to experience the conservation of Ascension and would like to say farewell to the team and good luck with your future projects.

This will be my last write up for the islander from the conservation office but hopefully this will not be the last you hear from me. If asked or required I will be back informing you all on my progress throughout my last year in my youth scheme.



*We would like to say thank you and good bye to Kayshai Reynolds, who has been with us for a few months training along side our team. Whilst with us Kayshai has been involved with all aspects of Conservation on Ascension and she is now moving to Babcock at English Bay. Thank you Kayshai for all your hard work and support during your time with us. We wish you all the best with your future employment—from the Conservation Team.*

Contributed by Dr. Chris Hillman

The St Helena Wirebird (or St Helena Plover – *Charadrius sanctaehelena*) has been the subject of conservation attention for several decades now, but most of it has been concerned with the understanding of the feeding and nesting requirements, and monitoring the population size and how this is changing. The St Helena National Trust (SHNT) has succeeded in attracting funds this year to move from observation to action to address the problems facing the Wirebird in a practical way, and a start was made in August this year.

Internationally the species is currently categorised as “Critically Endangered” under the IUCN (International Union for the Conservation of Nature) threat assessment Red Data system. Working with SHNT, the RSPB (Royal Society for the Protection of Birds) secured funds from DEFRA (Department for Environment, Food and Rural Affairs) for two years, and from OTEP (Overseas Territories Environment Programme, a funding programme of the Department for International Development) for three years. The DEFRA funding is aimed at research into the efficacy of predator control action, while the OTEP funds are aimed at expanding the predator control effort to encompass additional important Wirebird breeding sites. Staff support is a major part of the funding through which Saints will be enabled to carry on the process into the future.

Island-wide censuses of the numbers of adult Wirebirds have averaged around 350 birds over the past three decades. Previous estimates prior to that suggested figures from as many as a thousand, down to as few as 250 birds. Clearly, a population of around 300 birds is not a safe situation for a species confined to one island of only 120 square kilometres, particularly in the face of major development and urban spread. The situation is exacerbated by a declining livestock industry that affects the state of pastures on the island – a favoured Wirebird habitat provided it does not grow too tall. Wirebirds favour short vegetation (<5cm tall) in which to feed and nest. Clearly the more favourable areas are, the more chicks have a chance of surviving and joining the adult population.

Recent research by Fiona Burns from the University of Bath, together with long-term field observations by “Saint” Eddie Duff, has helped us to understand the situation better. Habitat management, improving pastures through grubbing up and destroying invasive and alien shrub species, as well as improved fencing, has been possible with funds linked to the new airport development, through the St Helena government’s ANRD (Agriculture and Natural Resources Department).

The use of nest cameras by Fiona and Eddie has indicated that cats are a significant predator, together with rats, Myna birds and on one occasion a sheep was also “caught” eating eggs! Because neither cats, rats, nor Mynas are native to St Helena, the predation of Wirebirds or their nests is not a ‘natural’ cause of mortality for the species, and the conservation of the Wirebird therefore requires that alien predators are reduced. But, of course, the natural world isn’t simple, and the solution isn’t easy - take away one predator and another may do even worse damage – cats and rats for example. Cats may eat Wirebird eggs, but they also eat rats. Rats will also eat Wirebird eggs and in the absence of cats may become so abundant that the ultimate effect on Wirebirds is increasing nest losses from rat predation. Livestock grazing at sufficient intensity keeps pasture sward height down, but the advent and ease of obtaining cheap foodstuff imports and the changed expectations of fieldworkers in the livestock industry have made farming uneconomical, or a less than sought-after position in the labour market.

The first phase of the current programme, under the new funding, was the establishment of a predator recording system with the aid of Steffen Oppel, a senior scientist at the RSPB, together with Fiona Burns, an experienced Wirebird biologist. New staff have been employed by the Trust, including Dennis Leo as a Project Fieldworker, Martina Peters as part-time Assistant for data entry and myself as Programme Manager. Two further additions to the team have been Kevin George as Field Crew Supervisor since September, and Eddie Duff as Wirebird monitoring officer since October.

The focus is on three of the most important breeding areas for the Wirebird - the pasturelands of Deadwood Plain in the north-east, Man and Horse in the south-west and the arid Prosperous Bay area in the east - the location for the airport and its associated facilities and access roads. A fourth area – Broad Bottom - will serve as a ‘scientific control’ area, where the current status quo is maintained and observed with no predator control.

Monitoring of predation and the Wirebird population prior to any predator controls is already well underway, with 32 camera “traps” monitoring the presence of cats, rabbits, rats and other species. These are moved to different locations every two weeks, such that by the end of the initial phase we will be able to estimate how abundant and active these mammals are in the different areas. Additional data is obtained on a monthly basis from 220 tracking tunnels that provide an index of abundance of rodents and other small ground-dwelling species. This is augmented and contrasted with the “chew” record obtained from chocolate and fish-oil flavoured wax blocks placed in the same locations. These are made for us on-island by the employees at SHAPE – “St Helena Active Participation in Enterprise”.

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Contributed by Dr. Chris Hillman

A public communication exercise is now being established whereby islanders will be informed of the activities taking place and how this affects them – and of course their pets. This will take the form of house-to-house visits near areas targeted for the control of feral cats, as well as leaflets, newspaper and radio articles. While few people will object to reducing the rat population, many people are rightfully concerned about the intention to reduce the number of cats. However, the Wirebird Conservation Programme does not intend to harm domestic pet cats, although pet cats can also venture into Wirebird areas and consider them as food or toys (much to the detriment of Wirebirds!).

Control methods for the cats will be based solely on live-trapping, and based on the negative experience with poison on Ascension we will not use poison to control feral cats on St Helena. Poison to kill rats (rodenticide based on the anti-coagulant difethialone) will only be used in protected rodent bait stations that are not accessible for cats and dogs. Initially the hope is to “ring-fence” important Wirebird breeding areas and to reduce predator numbers within it. This will mean establishing an ongoing control system for these areas, because island-wide eradication of feral cats and rats is currently not feasible. Trapped cats will be assessed by the government vet to decide whether they are feral or domestic. Domestic cats will be returned to their owners, and owners are encouraged to microchip their pets so that it will be easier for the vet to find the owner of pet cats unfortunate enough to have wandered into a trap. Obvious feral cats will be humanely euthanased.

New legislation requiring pets to be registered and micro-chipped will greatly increase the ease with which domestic cats can be identified and returned to their owners. A parallel programme to encourage owners to have cats neutered will also reduce the release of unwanted cats or kittens. This practice has led to a substantial free-roaming population of ‘feral’ cats on St Helena. These cats are often in poor condition, carry parasites and diseases, presenting risk to domestic cats and, of course, to Wirebirds. They breed prolifically, wander over very large home ranges and are voracious predators of all smaller mammals and birds. The feral cats are our greatest concern on St Helena, occupying the top predator niche and found in even the remotest and most rugged locations.

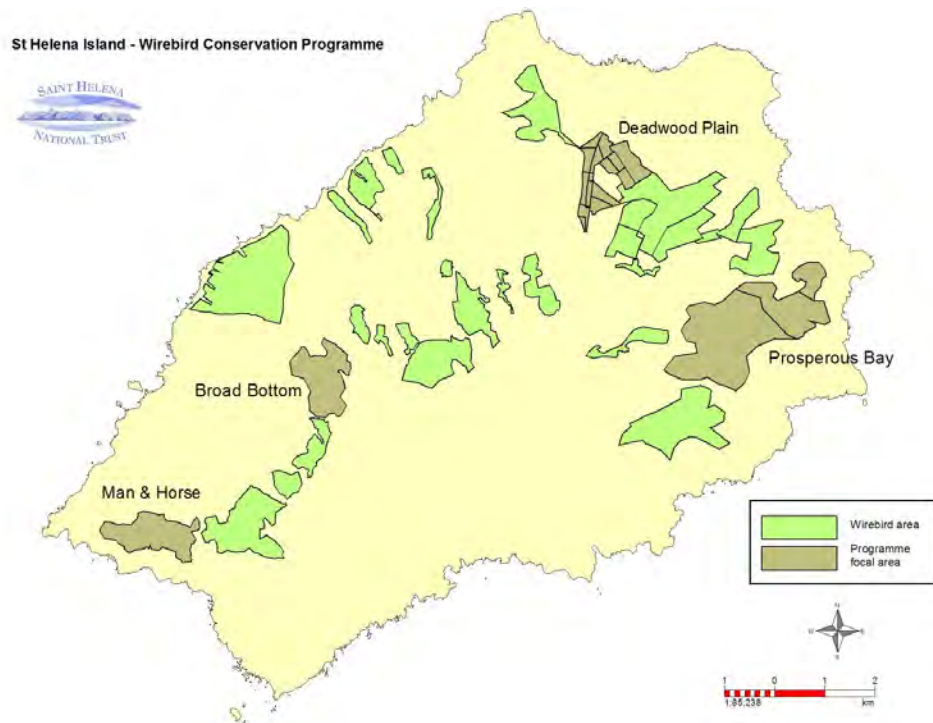


Figure 1 St Helena Island, the known Wirebird localities (green) and programme foci (grey)

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The activity of cats, rabbits and rats will be monitored throughout the first year of the work, as will be breeding success and survival of the Wirebirds. This will provide a ‘baseline’ measure of predators and prey that we can compare with a second year during which cats will be removed from some areas. The comparison will allow us to assess just how much difference the removal of cats may make to the future of the Wirebird and the practicality and cost of such an operation.

The project will benefit from a great start thanks to a lot of previous hard work by SHNT and partners in terms of ensuring long term monitoring data on the Wirebirds themselves. For some years now an annual census has been conducted of all Wirebird localities, and of potential breeding areas. Some individual birds have been ringed with colour ring combinations, allowing recognition in the field and providing information on their fidelity to partners and sites and their survival. Under this programme the monitoring will continue and the team will also follow the fate of around 30 nests in each area, then monitor losses at egg or chick stage and the number of young birds that successfully fledge. The results of this work will provide vital insights into the impact of cats and cat removal on this unique and iconic bird. We hope to ensure that future generations of Saints and their visitors will recognise the Wirebird as a living thriving entity, and not just the image inscribed upon the coat of arms and the harbour arch in Jamestown, through which everyone arriving or departing must pass. The Wirebird is the one not departing – of that we are convinced!

Funding for the current programme is gratefully acknowledged from the RSPB, DEFRA UK (project code CR0511), OTEP, DfID UK, together with the kind help and assistance of the St Helena Government Agriculture and Natural Resources Department (ANRD).



Figure 2 Wirebird adult with two chicks in pastureland



Figure 3 Wirebird on the nest in an arid habitat



Figure 4 Wire Bird & Nest Camera

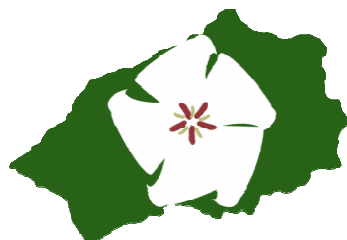
*Photos by Eddie Duff & Chris Hillman*

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## Weed bio control on Ascension Island

Simon V. Fowler, Land care Research, Lincoln, New Zealand (previously with CABI, UK)

Many readers may be aware of the biological control attempt against the invasive Mexican thorn, *Prosopis juliflora*, on Ascension Island, which involved the release of two species of seed-feeding beetles in 1997. Here I present an update and review of that programme, also covering the other inadvertently arrived biocontrol agents that are clearly causing some damage to this aggressive weed. However I start with a brief explanation of biological control of weeds and outline the sustainable benefits that Ascension Island has gained from earlier, now generally forgotten, weed biocontrol projects.

### Introducing weed biocontrol

Biological control introductions can offer major assistance to some alien weed problems by introducing host-specific natural enemies from the weeds original native range. The ecological underpinning to this form of biological control is that the vigour of plants can be reduced by the attack of their natural enemies, and that some of these natural enemies are highly host-specific. For environmental weeds, biological control can have several major advantages over other control methods, but there are also drawbacks. The main advantages are that biocontrol agents can be highly specific to the target weed, they can provide sustainable, low-cost and continuous weed suppression, and the agents are self-dispersing even into terrain we humans find challenging. On the negative side, there can be high initial research costs, there is often a protracted period until success becomes apparent plus there is uncertainty over the ultimate levels of success that will be achieved. Finally, there are concerns about risks to non-target species, and perhaps about knock-on effects in ecosystems including new 'replacement' weed species appearing.

Weed biocontrol agents considered for introduction are nearly all insect herbivores or plant pathogens because it is common for these to restrict their attack to one (or a few closely related) plant species. The pitfalls of using generalist natural enemies are well illustrated by the release of cats to control rats on Ascension Island – cats are now thankfully eradicated. In contrast, introduced weed biocontrol agents are rigorously tested to minimise any risk they might pose to non-target plants on their release. Host specificity testing is one of the most time-consuming and expensive parts of any weed biocontrol programme – a major component of the high up-front research costs, but the resulting safety record has been excellent. The beetles released on Ascension Island are an example of this, restricting their attack to seeds of Mexican thorn even when pods are scarce. Reports of the beetles attacking related plants species e.g. "Acacia" *Leucaena leucocephala*, were a result of seeing attack by a related, accidentally arrived beetle, *Acanthoscelidessuramerica*. This beetle probably arrived accidentally on Ascension Island from the Caribbean in 1997 as the highly characteristic exit holes in *Leucaena* pods had never been noted on Ascension Island before.

The high initial costs of biocontrol programmes means that biocontrol introduction usually target exotic weeds that are proving intractable to control – typically because the weed is already too widespread and costs of mechanical or chemical control are too high.

Here Mexican thorn represents an excellent target species for biocontrol: it has already spread widely (Figure 1) and forms large thickets on the island. On the positive side we can make use of the substantial research investment by South Africa and Australia in their own weed biocontrol programmes against this weed. On Ascension Island it also seems unlikely that biologically-controlled Mexican thorn would be rapidly replaced by other weeds, so ecological benefits to, for example, nesting sea birds and rare endemic plants, should accrue. In contrast, biocontrol of exotic plant species on Green Mountain would probably serve little function, as this area is now dominated by a wide range of exotic plant species, many deliberately introduced in the past to ecologically transform the mountain.



Figure 1. Mexican thorn invasion from Cross Hill, 1997

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### *A history of weed biocontrol on Ascension Island*

Most people are probably unaware that weed biocontrol has been used successfully before on Ascension Island. In the 1970s two serious tropical weeds were tackled, Lantana and prickly pear cactus. *Lantana camara* appears to be under successful biological control on Ascension Island from attack by the deliberately released tingid bug *Teleonemiascrupulosa* and hispid beetle *Uroplatagirardi*, and the accidentally introduced 'Jacaranda bug' (Figure 2). The infamous 'Jacaranda bug', *Ortheziainsignis*, nearly caused the demise of the endemic gumwood trees on St Helena before its successful biological control in 1993-4. However, it does not appear to attack any other plant species on Ascension Island to any great extent, so its present role seems beneficial.



Figure 2 'Jacaranda bug', *Ortheziainsignis*,

.....continued on from bio control on Ascension Island



Figure 3. *Neltumius arizonensis* adult on pod with exit hole. Photo: B. Grobbelaar ARC, Biosystematics Programme, South Africa)



Figure 4. Adult *Algarobius prosopis* covering exit hole on Mexican thorn pod. Photo: Tony Cross, CABI Bioscience

Probably more significant has been the impact of two inadvertently introduced biocontrol agents that suck the sap of Mexican thorn – a mirid bug (*Rhinocloasp*) and a psyllid (*Heteropsylla reducta*) (Figure 4). White (2009) recorded stunting from these insects on 98% of Mexican thorn trees she sampled, with 30% showing heavy dieback. High levels of damage from these insects was not apparent in visits to the island in 1993 and 1995, but were very obvious in 1997 (Fowler 1998) (Fig. 5 & 6), 2000 (Jewsbury 2001) and 2009 (White 2009). These insects join the list of beneficial probable-stowaways on US Military flights to Ascension Island (some at least stop-over in Antigua – within the native range of *Prosopis juliflora* and many of its associated insect herbivores).



Figure 4. Sap-sucking psyllid (adult and nymphs) on Mexican thorn on Ascension Island

## .....continued on from bio control on Ascension Island



Figure 5. Dieback on Mexican thorn on Ascension Island.

Figure 6. Detail of dieback caused by sap-sucking

Although it would be good to see detailed studies experimentally demonstrating the effect of the biocontrol agents (e.g. by insecticide exclusion experiments), these can be challenging even in areas where appropriately skilled staff and financial resources are more readily available. Likewise, monitoring and modelling the population dynamics of Mexican thorn on the island could be informative, but requires a large research investment. Neither of these approaches is probably justified. It would be better to target the limited resources better on integrated management of Mexican thorn – existing site-led control at key sites, and the release of further biocontrol agents if readily available with a proven track record. One candidate agent sticks out at present and more may well appear with further developments in South Africa. The existing candidate agent is a tiny gelechiid moth, *Evippes* sp., which has caused spectacular damage to *Prosopis* spp. dry tropical parts of Australia (Fig 7).



Figure 7. Complete defoliation of *Prosopis* in Australia by *Evippes* (inserts: adult moth – leaflets show how small the moth is; detail of damage to foliage). Photos: R van Klinken, CSIRO.

Should the introduction of *Evippes* sp. take place in the future, then monitoring its establishment and impact should occur. In the meantime, ideally monitoring should occur of 1/ the distribution and infestation levels of bruchids and the inadvertent biocontrol agents on Mexican thorn (more may arrive!); 2/ the dieback and pod production of the thorn; and 3/ the attack levels of bruchids in pods of differing ages and of seeds in dung.

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## Beach Clean Up 2011

### Annual Beach Clean Up 2011

This year we did our annual island-wide beach clean up on a Wednesday, working together with CSR and the RAF organizations clearing invasives and litter from the turtle nesting beaches.



*On Deadman's Beach*



*AIG Volunteers*



*Frances Dixon from CSR, US Base and volunteers*



*Barney Jones with volunteers*



*Geordie—Volunteer Chef*



*Long Beach—8 year old Latisha*



*Stedson Stroud with Volunteers*

We then finished up on the following Saturday with a BBQ “get together” to thank everyone for helping.

We would like to thank Flight Lieutenant OC Admin, Barney Jones and CCSO Ration Sgt Phillip Rowell (Geordie) and their volunteers from the Ascension Island Base; Frances Dixon and Robert Yon and Mandy Michael from CSR US Base and their volunteers. AIG FM Office for volunteers and for use of the AIG beach hut. Johnny Hobson and Scouts for helping on Long Beach. Thank you to the Saints Club for lending us their BBQ stand. Thank you to all our volunteers!



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The Ascension Island Government Conservation Department started in 2001 when the British Foreign and Commonwealth office (FCO) funded a half a million pounds Seabird Restoration Project which was managed by the Royal Society for the Protection of Birds (RSPB). The department has developed from one Conservation Officer to a staff of nine and volunteers: Mr Stedson Stroud MBE, Miss Jolene Sim, Miss Natasha Williams, Mr Nathan Fowler and Mr Dane Wade. Recently employed by Ascension Island Government are Miss Liza White and Miss Catherine Supple who are working under the OTEP Endemic Plants Project called “An Ecosystem Approach to Plant Conservation on Ascension Island”, and Mr Sam Weber and Mrs Nicola Weber who are working under the OTEP Turtle Project called “Status of Marine Turtles on Ascension Island”.

The AIG Conservation Department aims to conserve Ascension’s natural heritage by implementing the commitments of the AIG Environment Charter and Mission Statement.

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