



2015 frigatebird census completed



One of the frigatebird colonies © SIF

This month the 5th annual Aldabra frigatebird census was conducted, with all four frigatebird colonies on the atoll surveyed. The team counted both species, Greater (*Fregata minor*) and Lesser Frigatebirds (*F. ariel*) on nests which were incubating eggs or brooding chicks, in addition to nests containing older chicks with no parent present.

In total 7426 frigatebird nests were counted during the census which is a 15% increase in nesting frigatebirds in comparison to the 2014 census. Fluctuations in the breeding population of frigatebirds on Aldabra have been documented in the previous four years of surveys, with 2011 and 2013 also representing peak years in comparison to lower numbers of breeding frigatebirds recorded in 2012 and 2014. This is thought to result partly from the long frigatebird breeding cycle, which spans more than one year, and may also reflect varying food availability. The 2015 census illustrates that frigatebird breeding on Aldabra is complex and requires further surveys to understand the underlying patterns.



Undertaking the frigatebird survey © SIF

All four colonies had more breeding frigatebirds compared to the 2014 census, with the most marked increases observed at the Grande Poche and Passe Gionnet colonies. Lesser Frigatebirds were mostly on nests with eggs or young chicks, whereas very few adult Greater Frigatebirds were actually seen at their nests, which contained larger chicks close to fledgling, and groups of juvenile birds were commonly seen. The data will be analysed in due course and compared with the previous 4 years of data to determine if any patterns are emerging.

Completion of second season of marine monitoring



Door-to-door calls started by Ring-necked Parakeet team



Members of the RNP team talk to the public about the birds © SIF

In December, the Ring-necked Parakeet team visited Praslin to search for signs of a parakeet that was reported on the island. They talked to everyone who had seen the bird and surveyed key points on the island but did not see the bird. The team then returned in January to again try to locate the bird. Once again, despite extensive observations and detective work, no parakeet was seen on Praslin. The presence of the species of Praslin therefore cannot be confirmed and the team will give observations on this island a break unless more evidence or reliable observations come to light.



The Ring-necked Parakeet or Kato Ver

In January and February, the team has been boosted with the addition of two professional hunters from New Zealand, Jesse Friedlander and Nick Page, a recent graduate from the Maritime Training Centre, Nyara Anacoura, returning Assumption eradication Team Leader Jessica Moumou, and new volunteer Chris Tagg. The team is carrying out extensive observations to locate feeding areas where the parakeets can be targeted. As expected, the birds are becoming increasingly wary, making approaching them more of a challenge. During the day the team have also started paying door-to-door visits and making midday observations, to obtain more information on the birds' location and behaviour. If you are on Mahé please keep an eye out for the 'green team' and share any information you have about the birds.

Annabelle Constance, SIF's first Professor David Stoddart scholar, completes undergraduate degree



Nearly all Black Parrots now fledged!



Vallée de Mai research staff ringing one of the Black Parrot fledglings © Sebastian Mühlig / www.sebastianmuehlig.com

To date this breeding season 12 Black Parrot fledglings have fledged from their nests and the team is monitoring only one remaining chick in the Vallée de Mai, which is also expected to fledge soon. After four months of intensive monitoring, the team are delighted that many of the Black Parrot chicks that hatched have successfully fledged.

Of the fledged chicks, six are from Fond Ferdinand (an area of Coco de Mer forest in the south of Praslin), four from the Vallée de Mai and two from elsewhere in the Praslin National Park. The outcome of this season so far once again shows the importance of high quality Coco de Mer habitat for Black Parrot breeding. As recorded in previous seasons, most of the nests were in dead Coco de Mer trunks with a few others in the trunks of broad-leaved native trees and the endemic palm *Deckenia nobilis* (Palmiste).



A unique combination of coloured rings are attached to the legs of each fledgling parrot © SIF

The first chick to leave its nest this season was 'Rocky', from a Fond Ferdinand nest. Black Parrot chicks fledge at around 45 days of age (after hatching). All fledglings are ringed at around 30 days old to allow the research team to individually identify the birds once they leave the nest. Newly-fledged birds remain dependent on their parents for food for several months after they have left the nest. The team will continue to check on these fledglings, to monitor their survival and to shed more light on post-fledging behaviours.

World Wetlands Day celebrated on Praslin





Divers completing the photoquadrat surveys © SIF

This season's marine monitoring data collection on Aldabra Atoll has been completed. Twelve permanent sites around the atoll have been monitored with benthic photoquadrats (i.e. photos of squares on the seabed) and fish surveys.

The sites were established in 2013 at Aldabra to monitor the rich and diverse marine life of the atoll. This research is important not only to create a long-term dataset for Aldabra's marine environment but also to serve as a reference point to monitor changes caused by large-scale environmental pressures in the Western Indian Ocean.

Before carrying out these surveys, several Aldabra staff were thoroughly trained in the identification of target species and the different methods. The fish surveys involved stationary point counts to record a number of species, while the benthic photoquadrats record continuous pictures of the seabed along marked lines (transects). There are 12 survey sites around the atoll at both 15 and 5 m depth. The data will now be processed and analysed and we will keep you updated with any results.



A nurse shark appears in the photoquadrat © SIF

The marine monitoring can be challenging to complete as rough seas can make diving impossible as well as restrictions from the tides. Nevertheless the staff are always eager to undertake these surveys and they are never dull! All of the sites are unique in their composition and every dive brings with it the possibility of spotting exciting marine species such as turtles, rays or sharks. Even without any of these 'special' sightings the fish life is abundant, with many of the more inquisitive fish species such as groupers bold enough to follow you underwater.

The results from these surveys will provide SIF with a greater long-term understanding of the composition of the seabed and fish communities. As the fish surveys are undertaken on the same transect lines as the benthic surveys, changes in fish community structure can also be analysed in relation to changes in habitat. Management responses can then be formulated and applied where necessary to maintain the health of this unique marine environment.

Showing the love for Aldabra by beach cleaning



The team with sacks of marine debris collected from the beach © SIF

As an alternative way of spreading some love on Valentine's Day, Aldabra staff took some time out to clear marine debris from Picard's Settlement Beach. Around 15 large sacks of marine debris were collected, comprising mainly of plastic bags, buoys, rope, medical waste, glass bottles and plastic bottles, cigarette lighters, beverage cans, polystyrene, fishing line, nets, flip-flops and plastic toys. Where possible these items will be sent for recycling to Mahé.

The Aldabra team undertake regular beach cleans on this beach, to ensure that the beach platform is kept clear for female turtles to come ashore to nest without any obstacles getting in their way and jeopardising the nest and, in some cases, their survival. During the northwest trade winds at this time of year Settlement Beach receives a considerable amount of marine debris compared to the rest of the year.



Annabelle in action in the field © SIF

At the 30th anniversary of Aldabra Atoll as a UNESCO World Heritage Site I was awarded a scholarship by SIF to undertake a BSc degree in Environmental Sciences at the University of Seychelles, in honour of one of the founding fathers of Aldabra's protection, Professor David Stoddart. At that time, I was the Assistant Project Officer at SIF on their European Union-funded invasive species project. I loved working on the project and learned a great deal during the two years that I was employed with SIF. I felt privileged to be given a chance at University education although it was hard to leave a job I enjoyed!

My first year at UniSev passed very quickly and I had to adapt to the demands of studying for an undergraduate degree, which included, most importantly, learning to think outside the box. By the end of the second year, I had the chance to make contacts with many stakeholders in the environmental field in Seychelles. I had travelled to Recif Island to help map the soil types in this nature reserve through the Department of Environment. I visited Saint Anne Island and participated in a bird survey with the Island Conservation Society. During the holidays, I completed an exciting internship on Denis Island, mapping the vegetation types in an area identified for conservation. I also became qualified as a PADI Advanced Open Water Diver and learned to identify and survey fish species during a one month training programme with Global Vision International (GVI) Seychelles, skills I always wanted to gain and which will allow me to continue to marvel at the underwater world of Seychelles.



Annabelle assisting with research on Denis Island © SIF

The highlight for my final year at university was the undertaking of my BSc thesis. I worked closely with SIF for this dissertation, notably Dr Nancy Bunbury, who helped me develop my research idea. My research was based on understanding the life-history strategies of the iconic Coco de Mer with regards to leaf growth rates of the species. I used an extensive dataset that was collected by SIF since 2009 on 75 Coco de Mer trees in Fond Pepper. After submitting my dissertation in January, I was very eager to resume working for SIF where I am now employed as a Project Officer. I hope to continue to contribute to this organisation with the skills and knowledge I acquired at university and I take this opportunity to thank SIF deeply for having broadened my horizons.

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Children planting mangrove seeds in the wetland © SIF

World Wetlands Day is celebrated worldwide on 2nd February to mark the date of the adoption of the Ramsar Convention on Wetlands of International Importance. The theme for this year's World Wetlands Day was 'Wetlands for our future'.

Given this theme, it is primarily the youth of Seychelles that needed to be reached and made aware of the importance of wetlands and their conservation. 32 members of the Friends of Vallée de Mai clubs on Praslin and students from La Digue School were invited to participate in activities organised by SIF and the Praslin Environment Department at the Constance Lemuria Resort on Praslin.

Upon arrival at the resort the children were welcomed by the manager of the hotel. Then the Landscape Manager, Adrian Allison, gave a tour of the wetland and explained how it is being managed and the different species that live there. He explained that to guarantee the survival of these wetland species, much effort is being invested in the protection of the wetland. He emphasised that the wetlands are also a tourist attraction and that visitors enjoy spending time observing the freshwater species.

World Wetlands Day Monday, 2 February 2015



Wetlands for our Future

With the resort manager the children then planted mangrove seeds in the wetland. Each child was given three mangrove seeds to plant across the wetland area. The children were encouraged to return in a few months to see if their mangrove seedlings had grown. After this activity they got creative and drew pictures of how they would like to see the wetland in the future. They also had their faces painted with their favourite wetland species. They then shared their work and ideas with the group; some wished to see more mangroves, some more wetland species and others stated that they would like for all people to have better respect for wetlands and the animals they support.

At the end of the visit Adrian informed the kids that there was a surprise for them. In the presence of hotel staff, clients and the current 'Miss Seychelles', the children had the privilege of helping in the safe release of 240 sea turtle hatchlings into the sea, an amazing experience and a really great way to end the day! Many thanks to Lemuria Resort and Praslin Environment Department for their support in organising and hosting this fantastic experience.

Public talk on the genetic research that led to species distinction for the Seychelles Black Parrot



A crowded room for Hazel's presentation © SIF

In April 2014 the Seychelles Black Parrot was announced as a distinct species, rather than a sub-species as it had been previously classified. Although it has long been suspected that the Seychelles Black Parrots warrant this distinction, the official change in status was only possible due to five years of intensive research in the field and lab.

On 16th February 2015 SIF hosted a public talk by Dr Hazel Jackson from the Durrell Institute of Conservation and Ecology (DICE), UK, on the genetic research she conducted with SIF in collaboration with Dr Jim Groombridge (DICE) on the evolutionary history of the Seychelles Black Parrot over the last 8 million years.

Until April 2014 the Seychelles Black Parrot, which is part of a group of parrots (*Coracopsis sp.*) found only in the Western Indian Ocean, was considered a sub-species of the Lesser Vasa Parrot (*Coracopsis nigra*), with three other sub-species occurring in Madagascar and the Comoros. To examine genetic differences between the Seychelles and other black parrot species and sub-species, Hazel extracted DNA from blood samples of black parrots collected by SIF on Praslin as well as much older museum specimens from the UK. The genetic research was coupled with morphological comparisons of the beak, wings and body size.

Hazel's research ultimately confirmed that the Seychelles Black Parrot is sufficiently evolutionary distinct from the other members the *Coracopsis* group to merit species status. The research provided definitive evidence

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considered by BirdLife International experts in their final decision and led to re-assessment of the species conservation status by IUCN as 'Vulnerable to Extinction'.

A crowded room of local partners, conservationists and interested individuals, including A-level students, attended Hazel's talk. The presentation was informative and Hazel made a complex topic easy to understand by those who attended. The parrot's small range and low population number makes the species vulnerable to external events such as forest fires, disease and climate change and Hazel highlighted the importance of mitigating these threats in the continued protection of this unique bird.

Conserving the National bird of the Seychelles.

The evolution of the Seychelles black parrot.



The audience also had the chance to learn of the SIF's current Black Parrot research on Praslin. Terence Payet, the Black Parrot team leader, gave a summary of the 2014/2015 breeding season so far and copies of published scientific papers by SIF on different aspects of the parrot's ecology were distributed to attendees.

We would like to thank Hazel once again for her excellent presentation and for the research that made this major re-classification of the Seychelles national bird possible. Thanks also to all those who attended the talk. A copy of the presentation with an audio recording is available for download through this link: https://drive.google.com/file/d/0B_zpqmCxIN1dUzA2UndMR09YdzA/view?usp=sharing.



Marine debris on the south coast of Aldabra © R Scott

Many animals that live in or from the ocean consume marine debris by mistake, as it often looks similar to their natural prey. The debris can become permanently lodged in their digestive tracts, blocking the passage of food and causing death through starvation or infection. Marine debris also affects coral reefs, for example when abandoned fishing nets catch and pull on the reef, causing breakage.

Movement and activity drivers of an ecosystem engineer



Aldabra Giant Tortoises, an 'ecosystem engineer' © R Baxter

Richard Baxter, University of Zurich MSc student under the Zurich-Aldabra Research Platform (ZARP), has recently submitted his thesis on Giant Tortoise movement and activity. Rich's research was carried out to understand patterns of Aldabra Giant Tortoise *Aldabrachelys gigantea* movement in response to climatic variation, in the context of future climate change effects on keystone species. Giant Tortoises are cold-blooded and may be especially vulnerable to climatic changes as their basic life-history traits are related to temperature. Understanding their responses to climatic variation should therefore help to predict and prepare for the effects of climate change.

The Aldabra Giant Tortoise is an ecosystem engineer, which means that it has significant impacts on its habitat. Changes in the tortoise population therefore could have substantial direct and indirect effects on Aldabra's habitat structure and composition. Rich's MSc examined the effects of different factors on tortoise (i) home range size; (ii) movement and activity; and (iii) habitat use.

He used GPS tags to track 31 tortoises in different regions of Aldabra and from this collected an average of 26 months of fine-scale movement data for each tracked individual.

The movement data so far has shown that tortoise home range size varies considerably and significantly between different sexes, seasons and regions. Rainfall and temperature both affect home range size. Movement types appear to be of three different categories (called 'residents', 'local migrators' and 'migrators') but more information is needed to confirm and explore this intriguing finding. Tortoises spent most of their time on grasslands and in scrub areas. The proportion of vegetation type use differed between regions and seasons. Tortoises showed a daily pattern of activity with two peaks, which is related to temperature. The optimum temperature range for greater tortoise activity is 25–32°C. Rainfall also appeared to have a strong effect on tortoises' activity patterns over the year.

Rich's research forms an excellent foundation for understanding and predicting the effects of changing climate on this important keystone species on Aldabra. His results provide new and valuable insights into the movement ecology of the Aldabra Giant Tortoise, which highlight the need to consider the limiting factors affecting their movements for the management of the atoll in the face of climate change.

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