



## Review of Aldabra's long-term monitoring programme



Aldabra Giant Tortoises are part of SIF's long-term monitoring programme © R Baxter

There are many components of the long-term research programme at Aldabra. Some of the data sets are incredibly valuable, as they provide information on the key species of the atoll over several decades. Monitoring, however, needs to be adaptive to enable management to respond to a changing global environment and to ensure that SIF decisions continuously protect the very same values which make Aldabra Atoll outstanding universally. A large-scale review of several of SIF's research programmes has therefore been started this month.

The planet is undergoing an acceleration in human activity, the effects of which are now clear in atmospheric, geological, hydrological, biospheric and other environmental processes. These effects are being felt even in the remote areas of our planet, such as Aldabra. Global climate change combines with and magnifies traditional biodiversity threats and conservation approaches must now adapt to a rapidly changing environment.

Traditionally management was aligned with the preservation of species and maintaining a constant state. This concept may be inadequate to deliver the most effective management strategy over time. Adaptive management is a mainstream approach to the conservation of environmental resources and in essence, this is a cyclical management process whereby information and results are continuously fed back into management decisions. Shifting to an adaptive management approach will follow and be based on the review of the Aldabra biodiversity monitoring programme.

The review of the current monitoring programme started with the analysis and write-up of several monitoring programmes in past few years, including the landbird abundance data and the tortoise transect data, to maximise the knowledge gained from these datasets. The current review will take this to the next level, providing key information on the strengths and weaknesses of each monitoring component. To facilitate the review SIF have recruited two specialised volunteers; Fernando Cagua who has substantial expertise in statistical analysis and experimental design and Rosanna Gordon who is experienced in database design and management. Together with the Aldabra Scientific Coordinator and the Science & Projects Programme Coordinator the team have started reviewing the results of the monitoring programme to date. Based on the review they will revise the current methods used to align them with the key site values and updated management objectives, whilst ensuring that any new methods allow comparison with old data sets.



## Will Seychelles be the first country to eradicate invasive Ring-necked parakeets?



Ring-necked Parakeet © SIF

The SIF-led Ring-necked Parakeet (*Psittacula krameri*) eradication on Mahé has been running for the last 5 years, with efforts intensifying in the last 3 years. More than 500 of these invasive parakeets have now been culled (after the initial population estimate of 300 birds was revised several times), and the intensive eradication efforts are finally drawing to a close, with no recent confirmed sightings of this invasive species.

The parakeets occurred primarily on Mahé, where they were rapidly expanding in numbers until the eradication started reducing the population. The eradication efforts also revealed the existence of birds on Silhouette and Praslin, both of which were culled quickly by sharp-eyed, quick-acting local residents. Almost all of the birds have been on Mahé, however, and there have been no confirmed sightings on any island for several weeks. The eradication team of Team Leader Laurent Leite and hunter, Nick Page, are currently following up to confirm the absence of parakeets from the country. In this they depend on their own extensive experience of the birds' movement patterns, feeding areas, roosting spots and flightlines, but also heavily on information from the public who have acted as an extra team member, spotting and reporting several solitary birds before the team found them. Indeed the overwhelming cooperation, goodwill and support of the Seychelles' public have been remarkable, and instrumental to the success of the project. We believe it will be the first successful "people's eradication" in the history of Seychelles' conservation work.

The main reason for SIF's involvement in this eradication has been to protect the endemic Seychelles black parrots, which are found only on Praslin in a small population, and are considered vulnerable to extinction by the IUCN. The black parrots are specialised palm forest dwellers, depending on mature Coco de Mer forest for their nest sites, and endemic palms for most of their food. The ring-necked parakeets would have posed a major threat to the parrots on several fronts if they had established a population on Praslin; they would have been highly likely to compete for food, as well as for the limited number of nest sites on Praslin (both species nest in tree cavities), and they are known to carry at least one deadly parrot disease, which the black parrots have not been exposed to, and which could decimate their population.

The SIF team has faced tremendous obstacles and set-backs throughout the project, not least the larger-than-expected parakeet population and the birds' unpredictable behaviour, so the commitment and persistence of the team members throughout these challenges should be commended. They



## Over 190 Giant Bronze Geckos caught under new research project



An adult (top) and juvenile (bottom) Giant Bronze Gecko © SIF

The new research project on the Giant Bronze Gecko in February, has progressed rapidly over the past few months.

Since our last update on the project in March, 10 adult males/5 females) have been fitted with radio transmitters. Transmitters are attached to the geckos with a small 'bite' holds the transmitter snugly on the gecko's back without discomfort to the animal. MSc student Chris Tagg and his team track these tagged geckos several times a day 5 days a week. This will assist in gaining more information about the movement of giant geckos in the Vallée de Mai.



A Giant Bronze Gecko with the radio transmitter attached

Alongside this, the team are also continuing with the recapture study of the geckos with over 500 captures recorded including over 190 different individuals. Each gecko caught is measured, sexed and a DNA sample taken. A Passive Integrated Transponder tag is implanted subcutaneously which permanently identifies individuals with a unique ID that can be read with a scanner when recaptured. The team will then analyse the recapture rate using MARK software which estimates the population within the survey area that is extrapolated to the whole of the Vallée de Mai.

This impressive progress in this research would not be possible without the great help and support from the local team who have assisted with late night capturing geckos, and early morning radio-tracking. Willow Wes, setting up the field work, Brian Souyana has assisted with the data analysis and the team's efforts.



Volunteers Rosanna Gordon (left) and Fernando Cagua (right) hard at work at Aldabra © SIF

Following the review, and analysis and write-up of existing datasets, the next step will be to integrate the biodiversity monitoring programme and its results into SIF's conservation and management strategies by identifying ecosystem indicators and defining their critical thresholds. This will be a key step in ensuring that the research programme at Aldabra is delivering the most relevant data, which will guarantee that the protection of the key values of the atoll is scientifically sound.

**Sisal eradication close to completion**



Site of previous sisal stand at Ile Michel, Aldabra © SIF

The eradication of Sisal (*Agave sisalana*) at Aldabra has been a long-term project, taking around 40 years of effort, sweat, punctured skin and scratches! We are therefore very pleased to confirm that the recent concerted efforts by SIF to eradicate this species for good have progressed well and the team are confident that the project is close to completion.

Sisal is an exotic invasive plant that produces impenetrable 'stands'. It outcompetes native flora, decreasing habitat and biodiversity as well as food sources for other wildlife. Several different methods have been used in the past 40 years of eradication efforts on Aldabra, the most successful of which was the recent direct application of herbicide to the cut plant stem in 2013 and 2014. Of the three areas that were treated, all were monitored regularly and re-growth was last recorded in February 2016 at just one of these, Ile Michel, while the other two sites have remained sisal-free for over a year. The small patch of re-growth at Ile Michel was treated again in February and, despite a good amount of rain, in February, March, April and even into May, no further re-growth has been recorded. It is likely we are now at the end of the very long story of sisal invasion on Aldabra. To be 100% certain the team will continue to be vigilant with this extremely resilient invasive and further checks of the area will need be made before we can confirm the eradication of this species from Aldabra.

**Aldabra's logistics team undertake essential maintenance work**



have one remaining month of intensive observations on the project before the eradication shifts gear into a final periodic monitoring phase before the eradication can be confirmed. Time will dictate success, but if we can confirm that there are no more parakeets at large, the Seychelles will indeed be the first country in the world to have eradicated an established population of this highly invasive avian species.

**SIF participation at National Day Expo**



Mr Didier Dogley, Seychelles Minister for Environment, Energy and Climate Changes poses with the SIF team © SIF

The 40<sup>th</sup> anniversary of Seychelles' independence was commemorated with a grand, four-day National Exposition, held from 26<sup>th</sup>-29<sup>th</sup> June at Roche Caiman, Mahé. The SIF stall in the Expo's 'Eco Village' received many visitors, both local and international. Many of these visitors participated enthusiastically in the various activities organized. VIP visitors to the stall included Mr Didier Dogley, the Seychelles Minister for Environment, Energy and Climate Change, and Mr Tim Sands, renowned conservationist and editor of the recently published 'Aride Island – Tread Lightly' book.

At the SIF stand the 'Take your Aldabra selfie' activity against a backdrop of the island's champignon landscape turned out to be a crowd pleaser, with many people participating. Those that took part were asked to post their selfies on Facebook and tag SIF for a chance to win a trip to the Vallée de Mai for two. Men and women, young and old, put their strength to the test by attempting to hold a 15-kg Coco de Mer for as long as possible. Prizes were awarded on a daily basis to the impressive winners of this challenge, the first prize being an all-expenses paid trip to the Vallée de Mai for two.



Winner of the 'Coco-de-Mer' challenge (Ladies) on Day 1 of the Expo © SIF

The stall also featured several informational banners about SIF, Aldabra and the Vallée de Mai including a poster about the scholarships and capacity development given by SIF to many of their staff. For the first time, an 'Aldabra House' banner provided an overview of this upcoming project to the public and this was a topic of much interest. A short survey was also conducted in English and Creole to gauge the public's awareness of SIF's work.



One of the youngest visitors to the SIF stand poses for his 'Aldabra selfie' © SIF

The Expo provided an excellent opportunity to interact with the local public as well as SIF's well-wishers and share

even working on his days off to process captured geckos now new volunteer Meagan Selvig is here to provide support and continuation in the upcoming months so a to all three for the work they have put in.

**Unity walk for World Environment**



Participants who walked from Baie Ste Anne arrive at the Vallée de Mai © SIF

To commemorate World Environment Day on the 5<sup>th</sup> June, SIF organized a unity walk on Praslin where members of the Praslin, Grande Anse and Baie Ste Anne, came to symbolise the unification of these two communities on Praslin.

It was wonderful to see that over 350 people from Praslin in the unity walk to show their support not only for the environment as a gesture of unification. SIF and the Seychelles National Council were the lead organisers for the event, but many other partners also participated - state and private schools, A Coco de Mer hotel, LWMA, Ministry of Education, Scout senior citizens, SPTC, SEYPEC, Post Office, Red Cross, Fire department, Praslin fire and rescue services, and the Edinburgh award group.



The unity walk participants at the 'Pierre de l'unité' statue

This march had a particular significance as historically the disharmony between these two large districts on Praslin. The ceremony for the unity walk Mr Moses Barbe, District Adm of Grande Anse, gave an account of the discord between the communities that even led to violence. In 1979 there was a unity walk between the two districts and they met at the 'Pierre de l'unité' monument at the Vallée de Mai.

There were two points of departure for the walk this morning. The Praslin and Grande Anse district on the opposite island. Singing and chanting, the two groups made their way to the Vallée de Mai. Upon arrival at the Vallée de Mai visitor centre. Upon arrival at the Vallée de Mai participants from each district joined hands and walked to the Vallée de Mai deck where everyone gathered for a short ceremony. The ceremony featured different performances, including poems, songs, a spoken word performance by schoolchildren and senior citizens. The ceremony ended with the presentation of certificates to all the organizations who participated in this activity.

**Restructure of Vallée de Mai research station**





Fixing the outdoor shower at Middle Camp © SIF

The logistics team at Aldabra have been making the most of the quieter southeast monsoon season and intensified their maintenance work of the research station and field camps.

Whilst also dealing with the arrival of a supply boat, the team made great progress on some of the essential maintenance jobs that needed to be completed at station. In the research block, the doors were removed, rusted areas treated and a new coat of paint applied. Door hinges have also been adjusted so that the doors now open outwards, which we hope will limit the encroachment of the sea and sand during very high tides. The table in the researchers' office was replaced with a smaller one and a new shelf was also built to provide more storage areas, creating more space in the office.



Working on the field camp hut at Cinq Cases © SIF

At the Middle Camp field hut the team got to work improving both the inside and outside of the hut. A new shower curtain was installed to the outdoor shower hut, the main water tank was thoroughly cleaned, and a new bench was also built to provide a larger seating area for campers.

This maintenance work is a crucial aspect of the work carried out at Aldabra, ensuring that the staff can continue to live comfortably and that our research objectives can be achieved. More tasks are planned over the rest of the southeast season, including the renovation of one of the main water tanks at the research station and the completion of the renovation of the Cinq Cases field hut.

...our plans to visit the SIF field stations, and share information about SIF's ongoing projects at the two World Heritage sites of Seychelles.

*The new integrated team working in the field © SIF*

The Vallée de Mai research team was restructured this month into one larger team.

As invasive species are a major threat to the Vallée de Mai, it is essential that the research and control of these is mainly fully integrated into the work of the research team. The new team will be led by former Praslin Invasive Species Project Lead, Priscilla Stravens. To facilitate the integration of the two teams, a meeting was held to discuss the changes and update all of the reports on the activities being undertaken, both past and present. A workshop provided a valuable opportunity to discuss and agree on recommendations that the team had to improve the efficiency of the research programme. The idea of merging the two teams is to integrate and streamline the work, increase staff experience by training them in different aspects of management, and having an on-site scientific coordinator and report on the research programme. So far the merger is working very well, with staff appreciating the challenges and broadening of their work and the extra opportunities to learn and apply new skills.

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