aldabra atoll seychelles islands foundation vallée de mai

SIF Newsletter January 2020

SIF looks back on 20 years of eco-school trips to Aldabra

This year marks the 20th anniversary that SIF has funded eco-school trips to Aldabra. These trips are rewarded as prizes in an eco-competition where schools compete against each other to be the most green and eco-friendly. The winning schools are rewarded with a trip to Aldabra, an incredible experience which we believe most schoolchildren remember for the rest of their lives.

Eco-school children swimming with black-tip reef sharks at Aldabra © SIF

SIF is using this 20-year anniversary as an opportunity to reflect on these trips and consider ways we can improve them. The aim of the visit to Aldabra is to inspire children and teach them the importance of protecting our environment and the natural world. We want to make sure we are passing on these vital qualities to the next generation.

Eco-school children doing turtle tracks at Aldabra © SIF

As such, we have launched surveys to gather feedback and comments from the public about the structure of these trips. There are four separate surveys; the first two are for students and teachers who have been to Aldabra, the third are for relatives of those students/teachers and fourth are for the members of the public who know these individuals. Here are the links to each of these surveys:

Students who went on a trip: https://www.surveymonkey.com/r/2RX5NRK
Teachers who went on a trip: https://www.surveymonkey.com/r/CQRLTRL
Family of students who went on a trip: https://www.surveymonkey.com/r/CRQTSZW
Public in general: https://www.surveymonkey.com/r/CRBLFKJ

We would like as many people as possible to complete the surveys so that we can get an overview of people's past experience, and how we can build and improve on them in the future. Please do complete the relevant survey if you have not done it already. We want to make sure Seychelles' youth are as passionate about Aldabra and the natural world as we are!

Aldabra Clean-Up Project volunteer discusses plastic pollution at Davos

As part of his commitment to being an ambassador of Aldabra, Aldabra Clean-Up Project participant, Craig Francourt, recently challenged business leaders on their continued commitment towards plastics use at this year's World Economic Forum Annual Meeting in Davos, Switzerland. This event is the foremost creative force for engaging the world's top leaders in collaborative activities to shape the global, regional and industry agendas at the beginning of each year.

Craig Francourt and Dr Sylvia Earle at Davos © Craig Francourt

Craig challenged Coca Cola's Vice President of Global Policy and Sustainability, Michael Goltzman, on the company's stance to not move away from single-use plastic bottles. He also invited Mr Goltzman to look into the objectives and outcomes of the Aldabra Clean-Up Project - where Coca Cola PET bottles were identified as one of the most abundant items of plastic pollution by the team - to better understand the ecological and financial bill footed by countries like Seychelles on the

marine debris challenge. Craig then invited the CEO of the Alliance to End Plastic Waste, Jacob Duer, to learn more about the project, which successfully removed 25.75 tonnes of marine debris from Aldabra Atoll.

Craig also had the opportunity to speak on a panel as part of the official programme on the topic of 'How to Turn Protest into Progress', and further spoke at length with world-renowned oceanographer, Dr Sylvia Earle, on her experience of Aldabra in 1964, and the differences Craig encountered on his time on the atoll last year. In addition, Craig spoke on two panels at the Switzerland Youth Forum in Zug on the Power of Youth - where he showcased the Aldabra Clean-Up Project as an example of a successful youth-led expedition - and showcased the project's documentary, 'Island Under Siege' to a group of teenage students.

Craig Francourt on the 'How to turn protest into progress panel' © Craig Francourt

Representing the Global Shapers Community (which is an initiative of the World Economic Forum), Craig was the only Seychellois delegate at this year's convention. This year's Annual Meeting brought together 3000 participants from around the world, to focus on the theme: *"Stakeholders for a Cohesive and Sustainable World".*

SIF staff receive PIT-tagging training to improve giant tortoise monitoring

On the 14th and 15th January SIF staff, together with staff from the Botanical Gardens in Mahé and three vets, received training in how to pit-tag giant tortoises. The training was conducted by SIF in collaboration with Global Vision International (GVI), and facilitated by Alan Grant from GVI Curieuse. Dr Jeanne Mortimer, a long-standing collaborator of SIF, also contributed to the training. SIF organised the training to prepare staff for the next phase of giant tortoise monitoring on Aldabra, which will use the pit-tags and scanner that were generously donated by Odense Zoo in Denmark.

Training participants with giant tortoise © SIF

Pit-tagging involves a small microchip (the size of a grain of rice) being injected under the skin of an animal. A scanner can be passed over the skin and read the barcode of the microchip, thus ensuring that each tortoise has its own unique identification code. The aim of pit-tagging Aldabra tortoises is

to create an effective study population so that we can learn more about individual tortoises and their movements.

Training participants measuring giant tortoise © SIF

Giant tortoise at the Botanical Gardens © SIF

Tagging tortoises will also improve our long-term study methods. Aldabra giant tortoises are long-lived, and are much slower to respond to changes in the environment compared to other species. Tagging individual tortoises will substantially improve the quality of the information we collect and means we can initiate mark-recapture programmes. Mark-recapture is a method used to estimate an animal population's size, in which portions of the population are marked, capture and released. This will give us a more detailed understanding of recruitment and mortality rates from tortoise populations in various areas on Aldabra.

The pit-tagging will also help us to answer important questions such as; how many tortoises occur in different areas of the atoll? How quickly do individual tortoises grow over time? How far do tortoises move in each area? Being able to answer these questions begins with identifying individuals in a population.

It is important that we protect and manage these giant tortoises effectively, and not just for Aldabra; giant tortoises are ecosystem restoration engineers on many small islands. However, as their distribution is restricted to islands, with projected sea level rise posing severe threats to island ecosystems, A. gigantea is currently listed as Vulnerable by the IUCN. It is therefore imperative to continue long-term monitoring of the species and learn as much as possible to protect these fascinating animals. Thank you to Odense Zoo for making this pit-tagging programme possible!

SIF Vacancies

We have several vacancies in the Vallée de Mai and Aldabra which need to be filled urgently. We are actively seeking Seychellois applicants for all of the positions. Details can be found on our website at www.sif.sc/jobs or contact HR on 432 17 35 if you are interested in any of the following positions:

Vallée de Mai:
Visitor Attendants x 2
Property Maintenance Supervisor

Aldabra:
Ranger
Marine mechanic
Cook/Gardener

SIF identifies previously overlooked snail at the Vallée de Mai

January brought about an exciting observation in the Vallée de Mai. After numerous sightings of an unidentified snail at the Vallée de Mai and Fond Peper, Vallée de Mai researchers consulted the literature (The land snails of Seychelles, by J. Gerlach) to help identify this fascinating species.

Top view of the snail shell © Emmanuel Morel

Side view of the snail © Irma Dubois

The snail is similar to the endemic Stylodonta studeriana (coco de mer snail) and had previously not been identified, although photos indicate that it has occurred at the Vallée de Mai for a long time. Upon closer inspection this snail had four convex whorls (loops on the shell), instead of six, and the shell had spiral ridges compared to the smooth shell of the coco de mer snail. SIF staff identified it as Tropidophora pulchrum, an indigenous species found on Praslin, Mahé, Silhouette and Felicite islands.

Researcher, Dr Jim Labisko was consulted by the team and agreed with the identification. He also mentioned that it is one of the only land snails that has an operculum, which acts like a door at the

entrance of the shell.

Continuous conservation efforts from SIF, and control and eradication of invasive species such as yellow crazy ants, will help to protect native species such as T. pulchrum.

Vallée de Mai celebrates World Wetlands Day 2020

World Wetlands Day this year was celebrated under the theme “Wetlands and Biodiversity”. World Wetlands Day aims to raise global awareness about the vital role of wetlands for people and the planet.

Schoolchildren at the marsh at Raffles Hotel © SIF

To commemorate this important environmental awareness-raising day, SIF took a group of school pupils from the Friends of the Vallée de Mai Club to the marsh habitat at Raffles Hotel in Praslin. Since this marsh has been affected by pollution in the past we wanted to give the children an idea

of how to carry out a biodiversity assessment on the site by doing some simple examinations of the water and planting some native mangrove trees.

Children carrying out biodiversity assessment at the marsh © SIF

Children planning activities at the marsh © SIF

To demonstrate our appreciation for wetlands, we started off with a poetry recital by Said Lesperance from Baie Ste Anne primary school. We also discussed the importance of wetland habitats to animals and plants. Following this, we helped the children to identify the mangrove species growing at the marsh. They also identified other animal species and examined how clear the water was in different parts if the marsh.

The children were very excited to plant some mangroves at the site. It was an excellent and rewarding day and the children were pleased to have contributed to the rehabilitation of the marsh.

Vallée de Mai takes part in sooglossid frog monitoring

On the 17th January the Vallée de Mai Research team, Site Manager and the Education and Outreach Programme Officer of the Vallée de Mai assisted a half-day workshop on the EBA (Ecosystem-Based Adaptation) to Climate Change project organized by Dr Jim Labisko and his collaborators.

Ecosystem-based Adaptation to Climate Change workshop © SIF

They gave three presentations on their assessments of caecilians and amphibians of Seychelles. Dr Labisko talked about his collaborative project aiming to monitor the sooglossid frogs of Praslin, Mahé, and Silhouette, funded by the Mohammed bin Zayed Conservation Fund.

The project involved the use of monitoring devices called song meters which are deployed for periods of a year or more to record the frog vocalizations to understand the distribution and abundance of the species. This method is ideal to monitor the frogs continuously, and on Praslin, the SIF research team is continuing to assist Dr Labisko by checking the battery life and downloading data from the device. The team then send the data to Dr Labisko for further analysis.

The Vallée de Mai team were happy to see that their contribution led to an initial result which

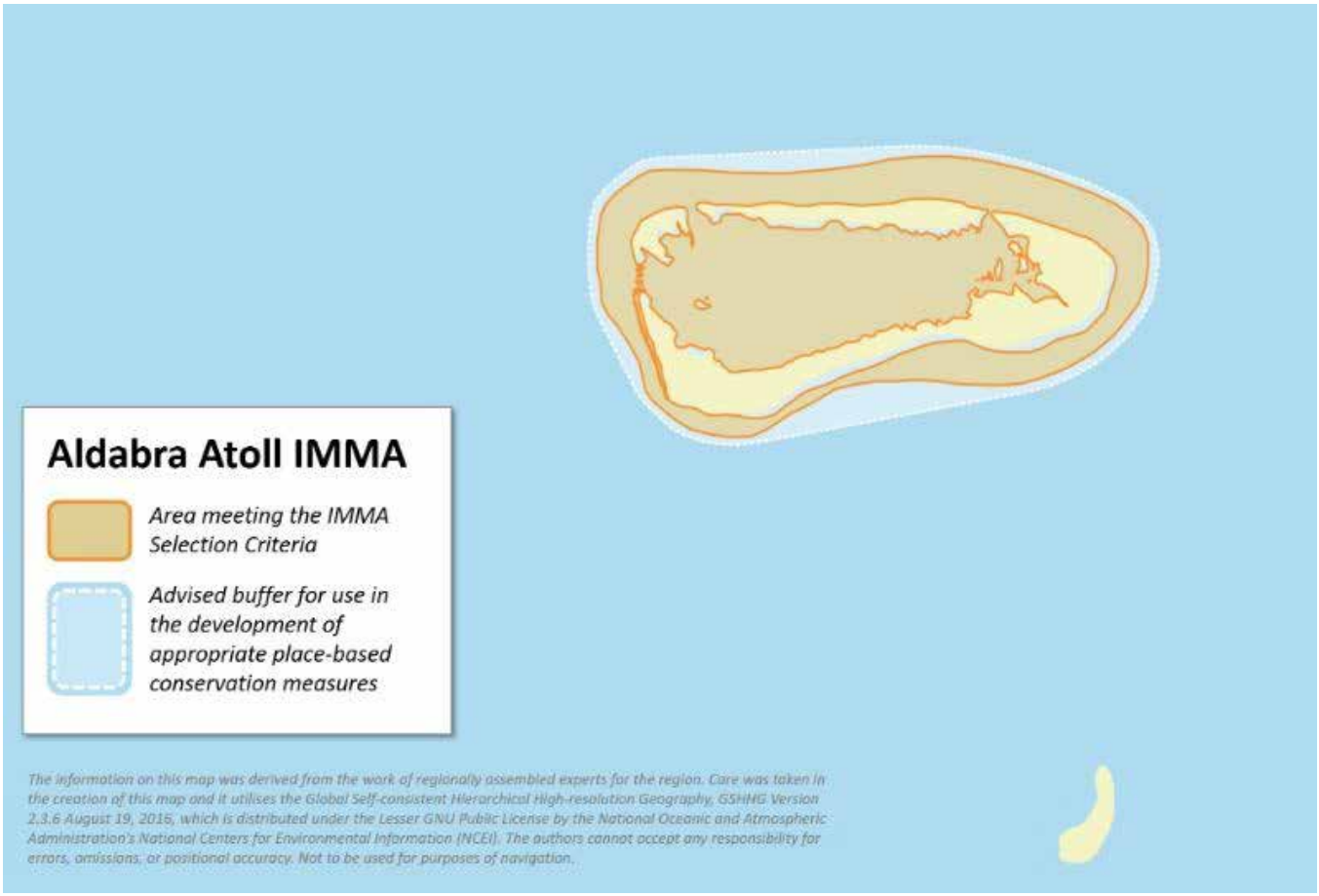
was the detection of sooglossid activities by the song meters. These findings could help to advise environmentally-friendly development on Praslin as well as monitor sooglossid frog and other endemic species populations across Praslin and other islands.

Sooglossid frog being measured © SIF

Researchers with song meter © SIF

Aldabra listed as Important Marine Mammal Area (IMMA) in sixth international designation!

Aldabra has been listed as an Important Marine Mammal Area (IMMA) by scientists at the Marine Mammal Protected Areas Task Force. Aldabra was listed in December 2019 alongside 37 other areas in the Western Indian Ocean and Arabian Seas which are key habitats for various threatened marine mammal species.



IMMA area of Aldabra Atoll © Marine Mammal Protected Area Task Force

IMMAs are defined as areas of habitat which are important for one or several marine mammal species which benefit from conservation action. They are identified through a carefully planned process in which experts assess evidence of marine mammal distribution and habitat use in that area. IMMAs are published in an online atlas, and can be used in conservation planning by a variety of stakeholders. It is also hoped that industry can use this information to either avoid IMMAs or

mitigate the impact of their activities in these areas. Governments can also use IMMAs as guidance when planning marine protected areas or coastal zone management.

A dugong near West Channel at Aldabra Atoll © SIF

The tail flukes of a humpback whale at Aldabra Atoll © SIF

Aldabra was designated an IMMA because it is an important habitat for the only remaining population of dugongs in the Seychelles archipelago, and forms part of the breeding grounds and migratory corridor for humpback whales in the region.

Dugongs were formerly widespread across the Seychelles (indeed, the original name of Bird Island, 'Ile aux Vaches', reflects the abundance of 'sea cows' around the island) but Aldabra is now the only location in Seychelles where they occur. Classified as Vulnerable to extinction on the IUCN Red List, dugong populations in East Africa have suffered steep declines and need protection and monitoring.

Aldabra hosts extensive seagrass beds in its lagoon as well as on the outer reef flat. These seagrass beds are in good condition due to minimal human impact and strict protection of the atoll. Aldabra's large seagrass beds, and its vast, shallow lagoon, provide ideal foraging habitat for dugongs. Furthermore, Aldabra's dugongs include females with small calves, indicating the site may be a key breeding area for the population and a potentially promising area for population recovery.

Aldabra is located on the migration route of humpback whales as they move annually between feeding areas in the Southern Ocean and breeding (wintering) areas off East Africa. Humpback

whales are one of the most commonly seen marine mammals around Aldabra from July to October, when they are seen with calves. Aldabra's migration corridor forms part of the broader humpback whale breeding area in the region.

SIF is delighted with Aldabra's latest international designation, which gives us new impetus to launch a survey of the dugong population to estimate its size and provide a first glimpse of migratory routes.

Aldabra begins BRUVs and RUVs survey

January saw the beginning of this year's Remote Underwater Video (RUV) surveys. For these surveys, staff deploy a series of metal tripods equipped with a video camera aimed at an attached bait canister onto a variety of different habitats and depths on the reefs around Aldabra. Depending on the requirements of the surveys the attached canister can either contain bait, forming a Baited Remote Underwater Video (BRUV) or remain empty (RUV). Each deployment aims to capture one hour of footage of the seabed and its fish population.

SIF ranger lowers the BRUV frame into the water © SIF

BRUVs have the advantage of attracting large predators to the camera allowing us to better estimate the abundance of such species, including sharks and large groupers, than is possible from diver-based surveys. RUVs, meanwhile, allow visuals of the reef fish population without disturbance from divers or from the effects of bait and provide a more accurate estimate for populations of smaller, shy species of reef fish. These remote surveys also allow for larger areas, and into deeper waters

than possible with divers.

A black-tip reef shark (left) and a sicklefin lemon shark (right), captured on a BRUV on the north coast of Aldabra © SIF

A reef manta ray, captured on a RUV on the south coast of Aldabra © SIF

2020 is a very important year for the Aldabra BRUV and RUV program as SIF staff aim to complete the five-year full-atoll surveys of both BRUVs and RUVs. These five yearly surveys require deployment of five BRUVs and five RUVs at 12 locations around the atoll, a total of 120 deployments! The aims of this larger survey are to assess how the fish populations around Aldabra are influenced by local subsistence fishing for staff, and by tourism activities, as well as whether Aldabra's designated conservation zones, which are only entered by staff for monitoring, are sufficient to maintain their numbers.

In the first two weeks of surveying, staff made excellent progress, completing 58 RUVs and 49 BRUVs leaving the team with just 13 deployments still to complete! The videos will take considerable time to analyse in full but so far numerous large sharks and groupers have been recorded on the BRUVs and we have been lucky enough to record two separate reef manta sightings on the RUVs. This marks a very encouraging start to this year's BRUV and RUV surveys and the data collected will be used to strengthen the management of Aldabra's marine protected area and ensure that the fish population remains healthy and stable.

Data loggers to measure water depth differences in Aldabra's lagoon

The main four islands of Aldabra are separated by three channels of which two are deep (<30 m) and narrow that connect the lagoon to the surrounding ocean. Twice daily, water enters and leaves Aldabra's lagoon through these channels, which creates major differences in water depths across the lagoon. At high tide for instance, areas furthest from the channels will have far less water than areas closer to the channels. Understanding this variation is crucial for any activities taking place within Aldabra's lagoon. The tides make the difference between a smooth kayak ride to a monitoring site, and a fight against currents up to 3.7 m/s!

SIF staff transporting data loggers through Cinq Cases © Annabelle Constance

Recently, as part of Annabelle Constance's PhD research, Annabelle and SIF rangers installed twelve data loggers across Aldabra's lagoon to monitor water depth differences within the mangrove areas. The loggers will help the team understand the implications of water depth and duration

on mangrove functional diversity (e.g size of trees) and will also provide baseline information on variations in water depth spatially and temporally in Aldabra‘s lagoon.

SIF staff installing data loggers in Aldabra’s lagoon
© Annabelle Constance

Annabelle with installed data logger
© Annabelle Constance

The loggers include two pressure sensors: one for measuring the atmospheric pressure and the other for pressure exerted by the water. The difference in pressure relates directly to the water depth at the location. The logger is autonomous and battery-powered, recording the water depth at 10-minute intervals. An innovative, novel and rugged installation designed by the Aldabra team ensures that the loggers remain firmly in place while recording. The installation includes a perforated PVC pipe inserted into a brick. The PVC pipe houses the logger, protecting it from the elements and rat damage. The brick is anchored to the limestone rock by two rebars on each side.

The data collected for Annabelle’s PhD will be extremely useful for SIF in our management of the atoll, in daily planning, as well as for monitoring tidal range and water depth at Aldabra over time.

Annabelle would like to express thanks to her institution and funder, the University of Zurich Research Priority Programme, the Western Indian Ocean Marine Science Association (WIOMSA) and SIF for funding the loggers. She would also like to thank the Aldabra team for their great efforts in the planning, deployment and continued monitoring of these loggers for the next couple of years.

aldabra atoll

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