



# Annual Report

On the activities of the Mauritian Wildlife Foundation

Year 2023

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# The Mauritian Wildlife Foundation

The Mauritian Wildlife Foundation (MWF) is a Registered Charity established in 1984. MWF works in close cooperation with the Government of Mauritius and the Rodrigues Regional Assembly, formalized in separate memorandums of understanding. The headquarters is in Vacoas, Mauritius and the Rodrigues branch is based in Solitude. MWF is the largest Mauritian NGO to be exclusively concerned with the conservation of terrestrial endemic species and their habitats, and in Rodrigues has a specialization in habitat restoration and education. The principal objective of the organization is to save threatened native and endemic species from extinction.

## Achievements

MWF's best known achievement is the saving of the Mauritius Kestrel. The MWF, has in recent years, brought the Pink Pigeon, the Echo Parakeet and the Mauritius Fody back from the brink of extinction. MWF's work in the area of captive-breeding and hands-on wild management of endemic animals is of internationally high repute. Our expertise is also being used in Rodrigues to address problems caused by degradation of habitat. Here we are propagating native plants in nurseries and planting them out to restore vegetation communities. The Foundation also works actively to restore offshore islands, by removing exotic vertebrates and plants and by restoring vegetation and vertebrate communities. The MWF is currently working on several islands including Ile aux Aigrettes, Round Island, Ile Cocos and Ile aux Sables. All of these are high profile projects of national and global biological significance. The MWF believes that the work it is doing benefits the Mauritian nation both for the present and future generations. Most of MWF's projects are of international importance in the conservation of biological diversity and are therefore placing Mauritius at the forefront of the Conservation world giving a high profile to any projects, which need funding. The MWF is raising the profile of conservation among tourists through the Eco-tourism activities conducted on Ile aux Aigrettes, Mauritius and Grande Montagne, Rodrigues. The MWF promotes local capacity building and provides employment through its activities. The Mauritian Wildlife Foundation wishes to remain a strong, vibrant and innovative organisation.

## MWF's Missions

- Save threatened Mauritian species through the restoration of entire ecosystems.
- Seek new information through field research, data management, captive studies and scientific collaboration for direct application to restoration methods and management.
- Share knowledge gained through restoration programmes with fellow Mauritian and international conservationists.
- Share the joys and benefits of native wilderness and wildlife with the Mauritian people.
- Secure the future of Mauritian species through income generation and sound management of human, fiscal and capital resources.

## Organisational Structure

MWF is governed by a Council of 14 members, made up of prominent Mauritians interested in conservation, representatives from the Mauritian Government's National Parks & Conservation Service, the Durrell Wildlife Conservation Trust, North of England Zoological Society (Chester Zoo) and other international partners. MWF employs around 110 Mauritian and Rodriguan staff at all levels of responsibility, and up to 5 expatriate staff. Their work is supported by up to 20 Mauritian, Rodriguan and expatriate self-funded volunteers. MWF and its Council are also advised by several scientific associates from organisations that fund or support it, namely Durrell Wildlife Conservation Trust, Botanical Gardens Conservation International, Conservatoire Botanique National de Brest (France), Wildlife Vets International, North of England Zoological Society, the Institute of Zoology (UK) and various universities.

## Significant Events

**Pink Pigeon:** population target of 600 birds has been reached.

**Mauritius Fruit Bat:** we welcome the third year in a row when there was no cull. MWF initiated the Human Bat Conflict Working Group, a multi stakeholder group with an independent chairperson, to continue to address the Human Wildlife Conflict between humans and the fruit bat.

**First RRA/Airport tree dig and Naples Botanical Garden, Florida USA expert visit:** In March of 2023, Brian Galligan, Vice President of Horticulture at Naples Botanical Garden, travelled to Rodrigues Island to conduct an in-situ assessment of five trees that are set to be relocated as part of the Airport Development Project at Plaine Corail, in the Republic of Mauritius. During his stay extensive preparation works were undertaken on the root systems of the 5 trees earmarked to be transplanted to make way for a new airport runway. The trees will be moved to Anse Quitor Nature Reserve, probably in 2024. All efforts are being made to reproduce the trees from plant material, some efforts are more successful than others.

**Plant conservation successes:** 4 trees of *Syzygium pyneei* at Mondrain are the world's total population, now 75 seedlings have been produced at Pigeon Wood, probably for the first time ever.

**Environmental Awards 2023:** from the Ministry of Environment, Solid Waste Management and Climate Change are given to recognise the best environmental initiatives of both private and public institutions. The Mauritian Wildlife Foundation won the award in the sector Non-Governmental Organisations.

**Rodrigues Grande Montagne Nature Reserve Ecotour:** won two awards in 2023, Trip Advisor's "Traveller's Choice 2023" and TripExpert's "Experts' Choice Award". On the TripAdvisor website, the GMNR became: [#1 of 12 things to do in Rodrigues Island](#) maintaining a 5-star rating. On GoogleMaps, this activity has also maintained a 5-star rating.

**Ile aux Aigrettes Nature Reserve Ecotour:** for the second consecutive year, has been honoured with the "Travelers Choice Best of the Best Award" from Trip Advisor. This award is the highest recognition of Trip Advisor and is presented annually to businesses that earn excellent reviews from travellers and are ranked in the top 1% of properties worldwide.

**Health and Safety:** now has a dedicated Officer to oversee this function within MWF. The newly appointed General Manager has been reviewing the policies and procedures and associated training required.

**Friends of Mauritian Wildlife gains momentum:** with regular monthly activities and enthusiastic attendees. This new project is being adapted to the identified needs of our Friends while retaining its core objective which is *“To instil interest in all aspects of wildlife and habitat conservation, promoting MWF’s conservation projects, providing awareness, education and participative support initiatives to create an eco-conscious citizen”*.

**'Extinct in the Wild'** is the classification on the IUCN Red-list of endangered species of Bois pipe (*Dombeya rodriguesiana*) although there is one tree surviving and it was situated just outside the Anse Quitor Nature Reserve within a small protective fence of its own. The tree outgrew its protective barrier and began to sustain damage to the underside of its branches. Permission was granted by the RRA Forestry Service for the MWF team to extend the AQNR perimeter fence a few extra meters to encompass this unique endemic Rodriguan tree that for the time being, cannot survive without the help of humans. It is now benefiting from full protection within the perimeter fence of the Anse Quitor Nature Reserve.

**New Field Station on Round Island:** was completed in 2023 along with an Office and a Quarantine room.

**Structured Training for Staff:** will now be advanced within MWF with the appointment of a Head of Training in January 2023.

**Treasurer for 17 years:** Mr Gerard Pascal, FCCA, who retired in December 2023, was immensely valued for his contribution to the smooth financial running of the organisation, for his wise advice and for the support he gave to the Accounts Department. He shared his expertise freely and this was most valuable.

**Rats on Ile aux Aigrettes:** were discovered in July 2023 and action was taken for a full island wide eradication. Staff from different projects came together to participate and in September the island was declared rat free. Although strict quarantine is maintained by MWF on staff and visitors and we have notices requesting the public in boats not to tie up to the island, this is not always respected, and rats can be introduced via the ropes.

**Noise level near Ile aux Aigrettes:** became a significant problem mid-year with as many as 50 tour boats mooring off the island daily and many of them playing loud music creating a cacophony of noise out of keeping with the environment. The increase in numbers of boats had been caused by Blue Bay Marine Park being put out of bounds for many boats. The education team has been working for many years with the tour operators and skippers around Mahebourg who are now respectful of the area, but these new boats came from further north. A concentrated effort was made via on-site networking and workshops to contact and work with these new operators, and we were happy to see that by December 2023 there was a considerable decrease in the volume of noise. This was also helped enormously by increased patrols from the National Coast Guard. MWF is working to make Ile aux Aigrettes a no music zone for boats in the spirit of respect and appreciation of the natural world.

**Resurrection and rewilding the Dodo:** is an ambitious project of Colossal Biosciences, the US breakthrough genetic engineering and de-extinction company. The Mauritian Wildlife Foundation has signed a partnership agreement with Colossal to collaborate to restore critical ecosystems in Mauritius, genetically rescue the Pink Pigeon, and advance research and technological innovation to slow avian extinctions.

**Pink Pigeon mortality at Petrin:** is an ongoing problem which as yet has not been solved. The problem became significant around October 2021 and since then we have recorded 23 birds killed by vehicle collisions with a suspected number more not reported. MWF has been communicating with the authorities, to date with no avail, to slow down the traffic and to erect signage. Petrin Visitors Centre is



a feeding station for birds and an important hub for the mixing of birds from different areas within the Black River Gorges National Park. This helps maintain genetic diversity. It is also important as it is a place where the public can see the Pink Pigeon easily. However, this is also the problem. The public feed the birds, there are food stalls in the car park, and this attracts birds to the road area where passing cars kill them.



*15/10/2023: Pink Pigeons attracted to the floor of the Petrin parking area by food scraps.*



*20/11/2023 – Adult Pink Pigeon killed by vehicle collision.*

# BIRDS

## Mauritius Kestrel



### Background

The Mauritius Kestrel (*Falco punctatus*) is unique to Mauritius and is one of the nine endemic bird species still left on the island. The species was saved in-extremis with an increase from just four known birds in 1974, including a single breeding female, to a peak of about 600 individuals. It has become a world conservation icon as it is recognised as the most successful recovery programme in the world of an animal species and the programme remains MWF's proudest achievement.

However, because of the destruction and degradation of the Mauritian native forests, the kestrels are now found only on the eastern and western parts of the island where they continue to face the effects of habitat degradation, predators and competitors. The eastern population (Bambou Mountain Range) has been monitored constantly since the re-introduction of birds from 1988 to 1993 and remained relatively stable at approximately 50 breeding pairs for several years (the number of breeding pairs has been in decline in the Bambou Mountains in recent years). Monitoring ceased for the western populations ('Gorges' and Bel Ombre) in 2003 due to the success of the recovery project, however it had to be reinstated in 2008 as an island wide survey in 2007 found a drastic reduction in kestrel numbers from the estimated 600 to around 325 birds. The findings sadly confirmed the disappearance of introduced kestrels from the Moka Mountain Range.

The current monitoring has allowed the identification of the management actions required to reverse the downward trend in numbers and secure the population. Measures include placing more nest boxes in suitable habitats to increase the number of breeding pairs, studying the genetics of the populations to identify if certain bird's genes need to be introduced into the other subpopulation and hand-rear and

release birds to boost population numbers, to reintroduce birds into new nesting areas and to establish a habit for nest box use for the kestrels in the western population. For reinforcement release, the field team harvests eggs and/or chicks to be hand-reared at the Gerald Durrell Endemic Wildlife Sanctuary (GDEWS) in Black River. They are then moved to nest boxes in the identified release sites for a period of adaptation, they are fed daily until they become independent and can feed themselves at around 100 days old.

The kestrel releases are being done for several reasons; to provide a boost to the declining subpopulation in the Black River Gorges National Park, to bring missing genetic diversity back from the eastern population, and to establish an artificial nest box network in the National Park. The majority of Mauritius Kestrel in this area breed in cliff cavities. These cavities are of varying quality (e.g., some flood, some are shallow, some are at high risk from predators such as rats), and as a result Mauritius Kestrels tend to produce more eggs in nest boxes.

Releases have been done in Bel Ombre (one of the western populations) in the southwest of the Black River Gorges National Park from 2016 to 2018; Five birds were released in 2016, 21 were released in 2017 and 21 in 2018.

In the 2019/20 breeding season, 14 kestrels were released into the 'Gorges' (one of the western populations) in the North of the National Park. No releases were done in 2020/21 due to the COVID-19 pandemic. This gave the eastern population a break after four continuous years of harvesting. Early clutches had been harvested in the hope that they would be replaced by second clutches. Unfortunately, even though second clutches were being produced, most of them were not successful.

In the 2021/22 and 2022/23 breeding season, the hand-rearing and release of Kestrels continued in the 'Gorges' in the North of the National Park. No Kestrel releases were done in the 2023/24 breeding season to give the East Coast (Bambou Mountains) subpopulation an opportunity to recover from years of harvesting, but also, to give us the opportunity to investigate the high levels of chick mortality experienced during hand-rearing during the 2022/23 breeding season.

The latest scientific findings illustrate that there is no room for complacency. The Mauritius Kestrel is in decline and serious efforts will need to be invested in the coming years to safeguard the species from extinction.

The Mauritius Kestrel was declared 'the National Bird of Mauritius' on the 30<sup>th</sup> anniversary of the accession of Mauritius to the status of Republic on 12th March 2022.

## Main Actions

- Population monitoring in the western and eastern populations was carried out as usual with an estimated population of around 250-300 birds.
- No release was done in the season 2023/24.
- Releases have been done in the 'Gorges' subpopulation (in the Northern half of the Black River Gorges National Park and surrounding areas) to try and reverse population decline, but also, in an attempt to develop a habit of using nest boxes for breeding amongst the Mauritius Kestrel in the region. One of the 2019/20 release nest boxes in the 'Gorges' subpopulation was used for the first time in the 2021/22 breeding season; the same box was used again in 2022/23 and again this breeding season 2023/24. The male at the nest box was identified as a bird released in the 2019/20 breeding season, who had paired with an un-ringed female (i.e., a bird from the 'Gorges' subpopulation). The same male was at the site in 2023/24, but the female had changed, in 2023/24 the breeding female was a bird that was released in 2021/22 that had been rescued as a chick from the 'Butress' cliff cavity in the 'Gorges' subpopulation. Unfortunately, this is the third breeding attempt to have failed in this nest box, but it is still encouraging to see released birds



survive to become breeders, and also to see kestrels using nest boxes in this region. A nest box installed for the 2021/22 release was also used in 2023/24; the breeding pair were siblings that fledged from the 'Grosse Roches' cliff cavity in Yemen. Sibling pairs are not good for the population, but it was interesting to see a wild pair use a nest box for breeding, hopefully this will help encourage other pairs to use these nest boxes in the future.

## Pink Pigeon



### Background

The Pink Pigeon (*Nesoenas mayeri*) is one of the world's rarest pigeons. Only nine wild birds were known at its lowest point in 1990. In the last 25-30 years, an integrated management approach of captive breeding, releases, habitat restoration and predator control has seen the population recover to over 600 wild birds. Whilst the conservation work to date has saved the species from imminent extinction, MWF cannot relax in its efforts and reduce the level of support. The original causes of the species' rarity, mainly restricted and degrading native habitat and introduced predators, still prevail and unless we continue to manage the effects of these limiting factors, the Pink Pigeon may face the prospect of extinction once again. There is one subpopulation of Pink Pigeons established on the offshore island of Ile aux Aigrettes and six more in the Black River Gorges National Park. Two of these sites, Pétrin and the Lower Black River Gorges, are open to the public and the birds can easily be seen. In 2017, 30 Pink Pigeons were released in Ferney Valley. In 2018, 50 Pink Pigeons were released in Ebony Forest. These releases have increased the area occupied by Pink Pigeons and was one of the factors that has allowed the population to exceed 600 birds this year (2023). Reaching a population size of more than 600 has been an important objective for the project as it is believed to be the minimum viable population size for an avian species.

To provide birds for the additional subpopulations and to provide genetic diversity to the current populations, a captive population of Pink Pigeons has been set up at the Gerald Durrell Wildlife Endemic Sanctuary. The offspring of these birds will be released into the wild.

A study supported by our University partners has identified that birds from European & USA zoos have genes that are missing or under-represented in the wild birds in Mauritius. These genes, reintroduced to the birds in Mauritius, should improve breeding productivity and strengthen resilience, e.g. in fighting disease. Birds will be imported and be bred to provide fledglings to be released into all the subpopulations to increase genetic diversity. In September 2019, three male Pink Pigeons were successfully repatriated to Mauritius from Jersey Zoo (Durrell).

The genetic management of the Pink Pigeon is an indication of success and maturity of the project, and very few conservation initiatives worldwide are at this stage of management.

The conservation work done to date has been very successful, leading to the Pink Pigeon being downlisted from Endangered to Vulnerable in November 2018 and the population size exceeds 600 in 2023.

## Main Actions

- Populations were managed by the Mauritian Wildlife Foundation at eight sites with an estimated possible population of some 608 birds by December 2023.
- 128 Pink Pigeons were ringed in 2023. This is a record for the Pink Pigeon project, being the most Pink Pigeons ringed in one year. This increase in the number of Pink Pigeons ringed is mainly attributable to Plaine Lievre, where 61 Pink Pigeons were ringed in 2023, this is almost double the previous record of Pink Pigeons ringed in Plaine Lievre in one year. It seems likely that breeding productivity has increased in Plaine Lievre due to many of the Pink Pigeon breeding territories falling within the Brise Fer 9.75 ha mainland island where rat abundance is being significantly reduced. Plaine Lievre has also likely benefitted from the establishment of Petrin as a feeding site that has increased movement of Pink Pigeons between Plaine Lievre, Pigeon Wood and Combo.
- Several Pink Pigeons were killed or injured due to collision with vehicles in the Petrin-Grand Bassin region. We are working with the relevant authorities to try to resolve this problem.
- At GDEWS, the captive Pink Pigeons were paired for captive breeding this year. Durrell and Paignton Zoo sent a staff member each to provide assistance and advice. Five of the female Pink Pigeons that were used previously for captive breeding at GDEWS were 'retired' to Casela as they were deemed too old to be productive breeders. Five Pink Pigeon juvenile females were sourced from the wild to replace the birds that were retired in the hope that they would be more productive breeders; this was indeed the case with six squabs having successfully hatched and fledged. Three of the six squabs were the result of a breeding attempt made between a male Pink Pigeon sourced from Jersey Zoo (UK) and a female Pink Pigeon sourced from the wild population in Mauritius. These three squabs should therefore possess a unique mixture of genetic material and should be an important first step towards the genetic management of the Pink Pigeon population.

## Echo Parakeet



### Background

The Echo Parakeet (*Alexandrinus (Psittacula) eques*) is the last endemic parrot of the Mascarenes and was close to extinction as the wild population numbers were estimated at around 20 birds in the mid-1970s. The Echo Parakeet is closely associated with good quality native forest, and the decline of the bird has been due to habitat loss and degradation, which cause a shortage of food and tree cavities for nesting. Predators and competitor species and disease severely impact the survival of Echo Parakeets.

The population today is over 700 birds thanks to a conservation programme that has included rescue of eggs and chicks in the wild, captive breeding and rearing, releases into the wild, pest and disease control, supplementary feeding nest site provision and habitat restoration. The Echo Parakeet is arguably the most successful parrot restoration programme and is a model for the rescue of other parrots worldwide. The immediate challenge is overcoming Psittacene Beak and Feather Disease (Pbfd), a deadly viral disease, whilst long term, it is genetic management of the population to promote genetic diversity and large-scale habitat restoration that will provide for natural food and nest sites. Despite the disease outbreak in 2005, the population continued to grow, which indicates that the current management is adequate.

However, the total population was found in the Black River Gorges National Park, and in order to further secure the Echo Parakeet from a localised event which could severely impact on the population, a suitable area with good quality native forest was identified in the Bambou Mountain Range. Translocations took place from 2015 to 2017 with 73 birds released. In 2018 and 2019 translocations to a new area of suitable forest in the southwest, Ebony Forest in Chamarel, were carried out by MWF with 50 birds released. In 2019 Ebony Forest staff took charge of all conservation monitoring and management within Ebony Forest. In the 2021/22 breeding season, 10 Echo Parakeet chicks were translocated and released in Ebony Forest. In 2022/23, 21 Echo Parakeet chicks from nest boxes in the Gorges were translocated, one chick died in transit, and one chick died in the release aviary. Overall, 19 Echo Parakeets were released by Ebony Forest in 2022/23. This season (2023/24) 20 more Echo

Parakeet chicks were translocated from the 'Gorges' subpopulation to Ebony Forest, this is the third chick translocation to Ebony Forest and the fifth Echo Parakeet translocation.

The Echo Parakeet population is monitored to understand population dynamics and the provision of supplementary food will support general bird fitness and breeding success. Our university partners have undertaken many studies which look at PBFD, supplementary feeding, genetics, and population dynamics, all of which will inform conservation actions in the future.

The current PhD studies are being carried out by two students from DICE (University of Kent), Rebecca Louch and Ranginee Sankhom (aka Pam). Rebecca's PhD project (funded by the UK's NERC Research Council) and begun in 2020 will examine the 'Effects of supplementary feeding on reproductive success of Echo Parakeets'; Pam's PhD project (funded by a PhD scholarship from the Royal Thai Government) will examine 'Conservation genomics and disease of Echo Parakeets'.

## Main Actions

- Monitoring and supporting the population in the Black River Gorges National Park was ongoing with an estimated population of over 700 birds.
- All known nest sites numbering 180 were visited to identify if there were breeding attempts of which 140 were recorded with 380 eggs laid, 240 chicks hatched and 159 fledged.
- The Bambou Mountain Range population is not monitored but observations of birds are noted to indicate presence. Echo Parakeets were seen at the 'Ferney gardens' near the visitors' centre and in Vallée de l'Est in 2023.

## Mauritius Olive White Eye



## Background

The Mauritius Olive White-eye (*Zosterops chloronothos*) is thought to be the rarest and most threatened of the endemic Mauritian birds. The number of Olive White-eyes has fallen drastically since the early 1970s, coinciding with the last large-scale forest clearance in Mauritius. In 2005 conservation action was considered essential to decrease the risk of extinction of this attractive small bird whose habitat had dwindled to a small known area in the Black River Gorges National Park. The aim is to save the Olive White-eye through protecting them where they occur on the mainland, maintaining a population of birds on the predator free island of Ile aux Aigrettes and releasing them into areas of suitable habitat



on the mainland where key threats have been addressed. In Combo (Black River Gorges National Park) we identify nests and monitor nesting success to increase our knowledge of threats to the species.

From 2005 to 2009 eggs and chicks were rescued from failing wild nests, and brought to the GDEWS to incubate the eggs, hand rear chicks and then release the fledglings onto Ile aux Aigrettes. The release was very successful, and the population reached 60 individuals in 2016. A team of biologists monitor the progress of the birds on the island to understand the species biology and habitat requirements. It is now possible for the public to have a glimpse of the Olive White-eye, one of the most threatened birds in the world, on a visit to Ile aux Aigrettes. The population on the island is now 55 birds and may be in a state of decline, it is likely that inbreeding has accumulated on the island and that the population is in need of supplementation with new individuals from the mainland.

Research has identified that rats are a major limiting factor for the Olive White-eye populations on the mainland. Small-scale rat management has proven to be effective at reducing this threat, but there is a need for large-scale rat management in the form of a mainland island to ensure Olive White-eye population long-term persistence. The 5.6 ha 'mainland island' in Brise Fer was established in November 2018 and expanded to 9.75 ha in February 2021. If rat abundance is successfully controlled in this area of high-quality native forest this will provide a future reintroduction release site that will allow us to create more Olive White-eye subpopulations, and so further protect this Olive White-eye from the risk of extinction. In the future, we foresee that more 'mainland islands' will be created in areas of suitable forest within their former range on the mainland such as Combo and Bel Ombre, but also potentially Flat Island. A mainland island was created in Combo by NPCS in the Black River Gorges National Park in 2023, with Goodnature traps placed in a grid formation from the field station down to the ford. These traps will benefit several Olive White-eye territories that exist in the area.

Ebony Forest Reserve (EFR) began efforts to establish an Olive White-eye subpopulation on their land in 2022/23. A total of 42 nests were found in the Combo tea fields, 14 of these nests were harvested resulting in 24 eggs and two chicks. Egg fertility was reported as low at 58%; only six eggs hatched, and two of the chicks died during hand-rearing. Two chicks were harvested from a nest. A total of six Olive White-eye fledglings were released in Ebony Forest Reserve in 2022/23. In 2023/24, Ebony Forest Reserve attempted a second Olive White-eye translocation. The Olive White-eyes in the Combo tea fields were targeted for harvest again, 13 eggs were collected and all 13 hatched, but all chicks died during hand-rearing. Due to the chick mortality experienced, Ebony Forest Reserve staff discontinued translocation efforts in December 2023.

## Main Actions

- The population on Ile aux Aigrettes was monitored intensively to identify the maximum number of individuals and detect breeding behaviour and activity with an estimated population of around 55 birds.
- The population on Ile aux Aigrettes is supported by supplemental feeding which is very labour intensive. In the 2021/22 breeding season food provision was reduced to once every other day for all 22 feeding stations. This feeding regime continued in 2022/23 and 2023/24; no significant change was seen in breeding productivity suggesting that the change has not impacted the birds.
- Intensive monitoring efforts were reinitiated in Combo but with a shift to focus more on population density, with less emphasis on breeding productivity. This shift was made so that a decline in the mainland population over time can be detected. All previously identified suspected Olive White-eye territories were visited on a regular basis to determine presence/absence of Olive White-eyes. 42 suspected territories were detected in total, 22 in the National Park and 20 in the tea fields. All territories containing Olive White-eyes were then revisited to try to mist net and ring the individuals present with the aim of having at least one identifiable bird in each territory. The Olive White-eyes in the Combo tea fields were targeted in the non-breeding period (2023), and an emphasis was placed on the Olive White-eyes in



the National Park in the breeding season 2023/24. 35 birds were ringed in total in 2023; 25 in the National Park and 10 in the tea fields. 28 territories now have at least one identifiable individual; 16 in the National Park and 12 in the tea fields. This the most Olive White-eyes ever ringed in Combo in one year and has set the groundwork for population monitoring over the coming years.

- The 9.75 ha 'mainland island' in Brise Fer continued to show lower rat abundance than a control area of the same size and is an option in the future for a translocation of the Olive White-eye.
- A workshop involving the Mauritian Wildlife Foundation, National Parks and Conservation Service and Ebony Forest Reserve was done in April 2023 to draft a management plan for the Olive White-eye. The management plan was finalised at the end of 2023.

## Mauritius Fody



### Background

The Mauritius Fody (*Foudia rubra*) is a small charismatic weaverbird endemic to Mauritius. The number of fodies has fallen drastically since the early 1970s, coinciding with the last large-scale forest clearance in Mauritius. In 2002 conservation action was considered essential to decrease the risk of extinction of this attractive small bird whose habitat had dwindled to a small known area in the Black River Gorges National Park.

We aim to save the Mauritius Fody through protecting them where they occur on the mainland, maintaining a population of birds on the predator free island of Ile aux Aigrettes and releasing them into areas of suitable habitat on the mainland where key threats have been addressed. Our biologists were based in Pigeon Wood (Black River Gorges National Park) to identify nests and protect them from predators, as well as monitor nesting success to increase our knowledge of threats to the species. Having identified predators as the main threat to the species, concrete action was undertaken from 2002.

From 2002 to 2006 MWF rescued eggs and chicks from failing wild nests to incubate eggs, hand raise chicks and release fledglings onto Ile aux Aigrettes. The population on Ile aux Aigrettes reached a high of over 400 around 2018, at which time it was thought carrying capacity had been met, however, the population is now around 300. This could be due to several factors which are being examined, including inbreeding depression and predation by Asian High Crows.

A team of biologists monitor the progress of the birds on the island to understand the species biology and habitat requirements. It is now highly likely for the public to have a glimpse of the Mauritius Fody on a visit to Ile aux Aigrettes.

## Main Actions

- The population on Ile aux Aigrettes is monitored and supported by supplemental feeding with an estimated population of just under 300.
- The number of Asian House Crows seen on the island has been increasing over the last few years. The crows are believed to be having a negative impact on the Mauritius Fody population. Several predated nests have been found. These nests are believed to have been destroyed by House Crows as they have been pulled apart. The National Parks and Conservation Service poisoned crows on mainland Mauritius opposite Ile aux Aigrettes in September 2022, which helped significantly reduce the number of birds visiting the island, but Crow presence on Ile aux Aigrettes started to increase again over 2023, with Crow nests found on Ile aux Aigrettes and in Pointe Jerome towards the end of 2023.
- The 9.75 ha mainland island in Brise Fer continued to show lower rat abundance than a control area of the same size and is an option in the future for a translocation of the Mauritius Fody.

## Mauritius Cuckoo-Shrike



## Background

The three-year island wide survey of Passerines carried out from September 2011 to March 2014 indicated the decline of the Mauritius Cuckoo-shrike (*Coracina typica*) both in distribution and total population size. Preliminary observations indicate the decline is caused by predation of eggs and chicks. Action is required to address this decline. A study has identified that there is habitat in the Ferney Valley for the Mauritius Cuckoo-shrike, which is currently absent there. The Mauritius Cuckoo-shrike is a

declining endemic passerine in Mauritius that was once found in the valley, but it was probably extirpated in the 1950's by organochloride pesticides no longer in use.

To re-introduce the cuckoo-shrikes, hand-reared birds were identified as the best method as it increases the probability of birds fledging. From 2014 a field team was based in and around the Brise Fer area in the Black River Gorges National Park to locate nests and clutches of eggs and chicks for harvesting. The eggs and chicks were hand reared at the Gerald Durrell Endemic Wildlife Sanctuary (GDEWS) in Black River under the supervision of Chester Zoo (UK) staff, and then moved to the Ferney Valley for a period of adaptation in an aviary before being released into the forest.

In the 2015/16 season, two birds were released in Ferney Valley, nine birds in the 2016/17 season and in the 2017/18 season, five birds were released. In recent years, most observations in Ferney have been of a single male Mauritius Cuckoo-shrike within the fenced plot; it was seen on multiple occasions between October and December 2019, and in September 2020. In November 2021 a cuckoo-shrike was heard in the forest below 'Ferney Cliff' (a Mauritius Kestrel breeding site) in the forest at the top of the Ferney fenced plot. Cuckoo-shrike playbacks were played, and the male responded by territorial calling, and coming closer to the source of the playback. It was identified as the same individual seen in 2019 and 2020 and was aggressively responding to the playback, flying back and forth calling, and eventually coming within a few meters of the playback. No cuckoo-shrike have been seen in Ferney since this observation in 2021.

These releases in Ferney constitute the first time a cuckoo-shrike had been hand-reared and released and we encountered several difficulties in doing so successfully. The project was put on hold and methodologies reviewed and researched. The resumption of the project will depend on resources being available both within MWF and from our international partners.

Monitoring of the Mauritius Cuckoo-shrike in the Brise Fer area continued after the Ferney releases. There were no field staff assigned to monitoring in the 2020/21 breeding season; in the 2021/22 breeding season, one staff was recruited to the project. The main aim of the fieldwork was to find nests and to ring the maximum number of chicks, with a focus being on the mainland island and the control area so that it would be possible to determine whether intensive rat control had any beneficial effect on breeding productivity. Two nests were located, only one of which successfully reached chick stage. Two chicks hatched successfully in this nest, but when the nest was first accessed it was discovered that the chicks were already too old for ringing (i.e., there would be a possibility of force fledging the chicks). The second nest found is believed to have failed at egg stage. Overall, in the Brise Fer area, approximately seven fledglings are believed to have fledged in 2021/22.

## Main Actions

- There were no field staff assigned to this project this breeding season 2023/24.

## Mainland Island at Brise Fer



### Background

Research has identified that rats are a major limiting factor for the critically endangered Mauritius Olive White-eye (*Zosterops chloronothos*). Small-scale rat management has proven to be effective at reducing this threat, but there is a need for large-scale rat management in the form of a 'mainland island' to ensure Olive White-eye population long-term persistence.

A 'Mainland Island' is an area on the mainland where predators are excluded in such a way that it benefits local native species. Brise Fer, located in the North of the Black River Gorges National Park, was chosen as the location for the first mainland island as it is an Important Bird Area, is closed to the public, is easily accessible and contains suitable habitat to support a reintroduction release of Olive White-eyes. The benefits of a mainland island for other species would also be significant as rats impact negatively on endangered birds, reptiles, plants and invertebrates.

The first step in the process of developing a mainland island was determining the most effective and efficient rat control method. Field experiments carried out in Brise Fer between August 2016 and August 2017 determined that Goodnature® A24 self-resetting traps (referred to as Goodnature traps), arranged in a 25 x 25 m grid formation over 0.56 ha, was the best method for controlling rats when compared to poisoning and snap traps.

A second experiment was initiated in August 2017 to determine whether the Goodnature traps could work as well over a larger area with bigger intervals between the traps (50 x 50 m grid over 2.25 ha). The second experiment ended in June 2018, and the results showed that the trap arrangement was not sufficient to keep rat abundance significantly lower than in a control grid where no rat reduction measures were taken.

The third experiment was established in November 2018. Goodnature traps were arranged in a 25 x 25 m grid formation (due to the findings of the second experiment) over an area of 5.6 ha in Brise Fer. Additional predator trapping measures were included in the form of 31 box traps (arranged in a 50 x 50



m grid formation) and five large metal box traps in order to control other invasive predator species (namely feral cats, *Felis catus*, and mongooses, *Herpestes auropunctatus*).

The box traps, when used, are checked every morning after being set and recorded for any activity. The use of predator box traps was discontinued in October 2020, this was done in order to determine whether the Goodnature traps functioning alone were sufficient to control rat abundance. Predator box traps are labour intensive, so if the Goodnature traps are effective when functioning alone as the only rat control measure, the removal of predator box traps will significantly reduce labour, and also will reduce the operational cost of a large-scale mainland island.

To obtain a predator index and show its variation over time, 30 sand pits and 30 wax and chocolate chew cubes were placed randomly on the grid points in the mainland island grid every week for 24 hrs on fixed days.

A control area of the same size was also identified, 100 m away from the mainland island grid, consisting of 30 points of sandpits and 30 of chew cubes, as the predator index. In the control there was no trapping or Goodnature traps. The sand pits and chew blocks had a spacing of 25 m between them. Every week, the sand pits are set and chew cubes are placed on the grid points and checked after 24 hrs on fixed days. The use of sand pits was discontinued in July 2019 as predator tracks were often too difficult to discern and would be washed away by rain.

By December 2020 the mainland island had been in operation for 26 months; average rat index over that time was 13% in the mainland island compared to 63% in a control grid of the same size. Rat abundance in the mainland island fluctuated over time; this is thought to be linked to two factors, one is natural annual fluctuations in the Black Rat (*Rattus rattus*) population and the second is periods of time when gas canisters (that power the Goodnature traps) could not be changed for various reasons.

The operation of the 5.6 ha mainland island came to an end in January 2021. In February 2021, all Goodnature traps in the 5.6 ha mainland island were re-positioned as it was found that the spacing did not always respect the 25 x 25 m grid formation. In early March 2021, 70 additional newly purchased Goodnature traps were added to the mainland island to expand the grid. The 5.6 ha grid was expanded to the North and West, and now has a coverage of 9.75 ha. The 9.75 ha mainland island differs to the 5.6 ha mainland island in that it is truly orientated North to South and East to West.

## Main Actions

- Operation of the 9.75 ha mainland island in Brise Fer continued throughout 2023. Goodnature trap functioning was tested once a month.
- Since the establishment of the 9.75 ha mainland island in March 2021, rat index was done on a weekly basis up to June 2022, as from July 2022 it was done once a month. Rat index increased in the mainland island to unusually high levels towards the end of 2021. In July 2022, the location of the chew cubes for the rat index were changed, and the frequency of placement was reduced from once a week to once a month. This change was made since there was concern that individual rats had become accustomed to the location of several chew cubes, hence inflating the rat index. This change in placement seems to have been effective; when the chew cube placement was changed in July 2022, and based on monthly rat index values obtained up to September 2023, the average monthly rat index value was 1.5% in the mainland island vs 32.6% in the control area. The rat index therefore remained consistently low in the mainland island after chew cube locations and placement frequency was changed in July 2022. The rat index values observed over the 14 months between July 2022 and September 2023 is a clear indicator that the mainland island is maintaining significantly lower rat abundance compared to the control area. Rat index sampling was discontinued as from October 2023 as we had already proven the efficacy of the mainland island at reducing rat abundance; this has allowed a further reduction in labour for operating the mainland island.



- As from June 2023, gas canister checks for the Goodnature traps were reduced from every two weeks to once a month. This change was made to see whether this reduction in labour had a significant impact on rat detection in the mainland island. No significant change was seen in rat index values in the mainland island from June to September 2023 when gas canisters were checked on a monthly basis rather than every two weeks. It was therefore decided to continue only checking the gas canisters once a month – this has allowed a significant reduction in labour for operating the mainland island.
- We have been in discussion with the National Parks and Conservation Service for the expansion of the grid at Brise Fer by deploying funding obtained for Goodnature traps by NPCS from EU and UNDP sources.

## AudioMoths



### Background

A grant from the African Bird Club funded the purchase of 15 AudioMoth® devices in 2021. The devices were acquired to deploy in the Ferney Valley with the aim of confirming presence / absence of bird species that we have released in the area; Echo Parakeet, Pink Pigeon, Mauritius Cuckoo-shrike and Mauritius Paradise Flycatchers.

In 2021, a calls database was created by recording birds in the field at targeted sites where their abundance would be high, confirming which calls are for which species and then inputting this information into the software. Olive White-eye and Mauritius Fody calls were collected from Ile aux Aigrettes, and Pink Pigeon and Echo Parakeet from Brise Fer. Once the database of bird calls was achieved, work began deploying the AudioMoth in Ferney to determine what birds were present. Placement of devices was centred around the Mauritius Cuckoo-shrike release site to determine whether there was any Mauritius Cuckoo-shrike present in the area. Four endemic birds were detected:

Mauritius Bulbuls, Mauritius Grey White-eyes, Mauritius Kestrels and Pink Pigeons. No Mauritius Cuckoo-shrikes were detected.

For further deployments in Ferney in 2022 the devices were placed on the eastern border of Ferney as a pair of Mauritius Paradise Flycatcher had been observed here earlier during the season, however, no Mauritius Paradise Flycatcher were detected. Then the devices were placed in the fenced plot to search for Mauritius Cuckoo-shrike but none were detected. In August 2022 the deployment was to target the beginning of the breeding season where activity and vocalisation should greatly increase. The following endemic species were detected on several devices: Echo Parakeet, Mauritius Kestrel and Mauritius Grey White-eye but no Mauritius Paradise Flycatcher or Mauritius Cuckoo-shrike.

## Main Actions

- Discussions with acoustics expert Dr Shyam Madhusudhana of Curtin University Mauritius in 2023, revealed that we needed a custom-made software for effective detection of endemic Mauritian bird species calls in audio recordings. Dr Madhusudhana proposed that he develop a software for autodetecting Olive White-eye calls for MWF using machine learning.
- MWF provided audio files that were recorded using AudioMoth devices on Ile aux Aigrettes, (within which we had annotated 100 individual Olive White-eye calls, to Dr Madhusudhana so that he could develop the software. This project is ongoing into 2024.

## Gerald Durrell Endemic Wildlife Sanctuary



## Background

The Gerald Durrell Endemic Wildlife Sanctuary (GDEWS), also known as the Black River Aviaries, is a captive breeding centre set up for saving endangered endemic birds and bats. GDEWS is a small facility but yet has been critical for saving near extinct animals and supporting studies on captive animals that have improved science and conservation.

The centre supports the fauna conservation programmes by providing facilities to captive breed, incubate and hand-rear animals to reintroduce to the wild to boost populations, providing training facilities for aspects of animal husbandry and to take care of sick animals. It also keeps captive populations of animals for research purposes to better understand their behaviour, diets and habits which in turn support efforts to maintain the wild populations and guide conservation actions. A number of animal husbandry protocols have been devised and improved through works at the centre. Additionally, GDEWS houses a collection of Critically Endangered endemic plants in a secure environment (e.g. palmiste blanc de l'île Ronde *Dictyosperma album* var *conjugatum*, bois puant *Foetidia mauritiana*, bois tambour *Tambourissa quadrifida*) where seeds can be collected for propagation for the MWF Rare Plants project and subsequent reintroduction to the forest.

In 2015 we started an intensive breeding programme for the Pink Pigeon where pairs of birds are kept in captivity and their offspring released into the wild to create new sub populations of birds as well as reinforcing current populations, for example, on Ile aux Aigrettes and in the Black River Gorges National Park. Three Pink Pigeons were repatriated from Jersey Zoo, Channel Islands, UK, and after quarantine at Bras D'Eau National Park, the birds were sent to GDEWS.

In 2016 the handrearing of the Mauritius Kestrel was resumed and continued for four seasons. Due to the COVID-19 pandemic and the impossibility of obtaining an experienced handrearer from abroad the handrearing was then put on hold for the season 2020/21, then two more seasons 2021/22 and 2022/23.

In 2019 hand-rearing of cuckoo-shrikes was put on hold having begun in 2014.

The centre had been used by Ebony Forest for the handrearing of Olive White-eyes in 2022/23 and 2023/24.

The Gerald Durrell Endemic Wildlife Sanctuary is managed collaboratively by the Mauritian Wildlife Foundation (MWF) and the National Parks and Conservation Service with specialist assistance from abroad (e.g. Durrell, Zoological Society of London, Wildlife Vets International, and contracted hand-rearers).

## Main Actions

- Bird aviaries were still being upgraded to be able to hold more Pink Pigeons pairs.
- A number of new staff were recruited and had to be trained in animal keeping.
- Due to the growing number of rescued waterbirds (White-tailed Tropicbirds, Red-tailed Tropicbirds, Wedge-tailed Shearwaters, Common Noddies, Green Herons) and Mauritius Fruit Bats, animals were diverted to private and voluntary carers, with our continuous advice and assistance.
- Captive breeding and rearing of Pink Pigeons was conducted, as well as management of a colony of introduced Barbary Doves as foster parents for Pink Pigeon.
- During the 2023/24 breeding season, six Pink Pigeon squabs were produced. The first eggs were obtained in October 2023. All of the chicks produced were successfully raised and had fledged by January 2024.
- We received technical assistance from Durrell and Paignton Zoo for the Pink Pigeon captive breeding.

# REPTILES

## Monitoring and translocations



### Background

The small islets around Mauritius support numerous unique species that were once abundant on the main island, but are now found nowhere else in the world. Several species, particularly reptiles, are now restricted to single island populations where they are at great risk of extinction from the threats that caused their loss elsewhere. Many other threatened Mauritian animals and plants are dependent upon the unique geckos and skinks for their survival, such that their preservation is crucial for sustaining island communities and local biodiversity.

Since 2006, MWF, NPCS and Durrell have been reintroducing threatened reptile species back to other islets with 2,609 reptiles from seven species released to one or more of eight different islets through translocation and captive headstarting. Furthermore, 128 individuals of five reptile species have been moved from six islets to establish captive assurance populations at Jersey Zoo or for research at Jersey Zoo and London Zoo. These actions are enhancing the conservation status and knowledge of the threatened reptile species.

To date the distribution and abundance of five threatened Mauritian reptile species have been substantially increased. A sixth species, the orange-tailed skink *Gongylomorphus cf fontenayi*, was translocated from its only known location on Flat Island to Gunner's Quoin and Gabriel Island, prior to its extinction caused by invasive species on Flat Island.

These actions have led to the down-listing of the Günther's gecko *Phelsuma guentheri* and keel-scaled boa *Casarea dussumieri* through the IUCN red-list of threatened species. Major threats (e.g. introduced predators, habitat loss / degradation) continue to be addressed to lessen the risks of extinction to the reptile species and reintroductions have contributed to the rebuilding of lost Mauritian ecosystems.



However, invasive species remain a serious threat. Since 2006, we have detected 41 animal invasion events on ten islets by 16 non-native species, of which early detection and removal/eradication has been possible in 26 cases. Through 2023, work has been ongoing or initiated for the control and/or removal of seven problematic invasive species on four islets. Where removal of invasive species has been possible it has prevented irreversible damage to islet biodiversity.

To maintain this success MWF and Durrell need to continue the high level of research and monitoring on the islands to direct appropriate conservation management decisions; detect and adapt to emergent threats and to continue to build upon what has been started for the conservation of endangered island communities.

## Günther's gecko



- Through the 2022/23 breeding season 43 eggs were monitored across 13 nest sites on Ile aux Aigrettes, with a 97.7% hatch success. In the previous years for Ile aux Aigrettes the hatch rate was substantially lower (2021-22: 55.6%; 2020-21: 69.0%; 2019-20: 71.1%), but through the 2022-23 season invasive crows that have been suspected as gecko egg predators were mostly absent, which could be a reason why the hatch rate has returned to the expected level.
- On Round Island, the 2022/23 breeding season yielded 150 eggs from 15 nest sites. The hatching success was 80.7%, which is considered normal for the island.
- Günther's geckos are notoriously difficult to survey, given that they are highly cryptic and active both day and night. Nevertheless, we attempt to keep track of their relative densities through independent repeated count surveys within set areas each year. There were 69 surveys of adult geckos on Ile aux Aigrettes through 2023, giving an encounter rate of 0.282 (95%CI: 0.190-0.373) adult geckos per person hour. This result is similar to the previous year of 0.238 (95%CI: 0.164-0.312) adult geckos per person hour, suggesting that the population size of adult geckos remains constant. On Round Island there were 46 surveys through 2023, giving an encounter rate of 0.322 (95%CI: 0.206-0.437) adult geckos per person hour (see Round Island section). At face value, these results suggest the relative density of adult geckos on Ile aux Aigrettes is approximately 70% of what is found on Round Island. However, given the difference in detection between the two island habitats, ability between surveyors and variation in the number of geckos observed per survey leading to broad confidence intervals, it is difficult to detect whether a difference actually exists between the two island populations. Nevertheless, repeated surveys allow a rough indication of changes in relative density within each island.



## Telfair's skink



- As part of the ongoing process of rebuilding the threatened reptile communities, Telfair's skinks *Leiolopisma telfairii* were translocated to Ile aux Aigrettes and Gunner's Quoin between 2006 and 2012.
- On Ile aux Aigrettes, there are currently too few Telfair's skinks on the island to estimate their abundance and no surveys were conducted. Restoration of the population will not be possible until *Tenrec Tenrec ecaudatus* an invasive predator of ground lizards amongst other terrestrial taxa are removed (see Invasive Alien Species section).
- No wild hatchling Telfair's skinks were collected on Ile aux Aigrettes during 2023 and so none were headstarted.
- In November 2023, we undertook an expedition to Gunner's Quoin to survey the reintroduced and resident reptiles species, bird species, invasive cactus and trap and search for invasive species. Through these surveys we obtain data to assess the health, condition and abundance of the reintroduced Telfair's skink population. Adult Telfair's skink abundance was estimated at 37,185 (95%CI 26,867-51,466) individuals. This is a remarkable increase in abundance, since 250 skinks were translocated from Round Island to Gunner's Quoin in 2007.
- The Telfair's skink population on Round Island remains healthy and abundant.

## Keel-scaled boa



- As part of the ongoing process of rebuilding the threatened reptile communities, *Casarea dussumieri* were reintroduced to Gunner's Quoin between 2012 and 2014 from Round Island.

- Gunner's Quoin was visited in November 2023, where nocturnal boa surveys were conducted. Over five nights there were 15 independent surveys within the three survey areas. Despite poor weather conditions, 15 boas were detected, of which 11 were adult and four were juvenile. All of the snakes were caught, ten of the adults were microchipped for individual recognition and one was recaptured. All snakes were in good body condition. However, in the 2023 survey, only one recapture of a previously microchipped snake was made, which makes it impossible to obtain a reliable capture mark recapture estimate of abundance. There was also one incidental capture of an individual after the capture mark recapture survey had been completed and a further ten snakes were detected across the island during the line transect Distance surveys.
- While a capture mark recapture estimate of abundance is not yet possible, an encounter rate of adult boas can be estimated. The number of adult boas encountered per person hour was calculated at 0.356 (95%CI: 0.169-0.542). The encounter rate on Round Island through 2023 was 0.903 (95%CI: 0.689-1.116) adult boas per person hour. While there are many factors involved with comparing these estimates in terms of detection variation between surveyors and habitat, the reintroduced population on Gunner's Quoin is doing well and from the line transect surveys, the snakes are island wide.
- For the report of the keel-scaled boa on Round Island please refer to the Round Island section.

## Southeast islet reptiles



The southeast islets support three endemic species, the Bojer's skinks *Gongylomorphus bojerii*, Bouton's skinks *Cryptoblepharus boutonii* and lesser night geckos *Nactus coindemirensis*.

- Bojer's skinks were once widespread throughout Mauritius and the islets but became restricted to a few islets in the north and the tiny islet, Ilot Vacoas in the southeast. Maintaining unique genetic variation on Ilot Vacoas, this southeastern form was translocated to Ile aux Fouquets and Ile de la Passe.
- Bouton's skinks in Mauritius were previously considered as a pan-tropical native, but at the end of 2019, the IUCN's Skink Specialist Group reassigned the Mascarene populations as unique and endemic. With the small population in the South of Reunion not being detected for more than 20 years (and was restricted and small even then), the skinks are now thought to only be endemic to Mauritius and found on eight islets and four small populations on the mainland coast, but once had a wider distribution.
- The lesser night gecko also once had a wide distribution but is now restricted to Gunner's Quoin and Pigeon House Rock in the north and Ilot Vacoas in the southeast. Given that the southeast population was thought to retain unique genetic variation, individuals from Ilot Vacoas were

translocated to Ile Marianne in 2011. Subsequent work by Cardiff University it has shown that the southeast geckos are genetically distinct from those on Gunner's Quoin. In 2021, it was found that there had been an overall decline in the abundance of lesser night geckos and to a lower degree the Bojer's skinks, compared to pre-Wakashio oil spill levels. However, due to gaps in monitoring data and timings of surveys, capture mark recapture analyses by PhD student Katie Bickerton, failed to show a definitive decline in either species as a result of the oil spill. Nevertheless, genetic results that became available from Cardiff University in 2023, indicate a significant change in the allelic diversity for lesser night geckos on both islets following the oil spill. However, it appears that what has been lost genetically from the gecko populations was retained in the small number of animals collected to establish the captive assurance population at Jersey Zoo. Work is now underway to restore the unique genetic variance back to the southeast islet gecko populations. This is important for the future survival of these unique Mauritian animals. Genetic work at Cardiff University is also underway to assess whether the Bojer's skink populations suffered the same fate as the lesser night geckos. In 2023, reptile monitoring trips were carried out to each of the southeast islets to monitor the invertebrates, birds, reptiles and to detect and where possible remove new invasive species incursions.

- In 2023, there were a total of 1,035 independent transect surveys day and night across the islets to monitor the reptiles in a way that different analytical methodologies could be used to determine changes in abundance. The density of lesser night geckos on Ile Marianne had not changed significantly, but there was a slight increase on Ilot Vacoas since 2022. Overall, there was an increase in the abundance of Bojer's skinks, except on Ilot Vacoas, where it remains close to pre-oil-spill levels. There was no significant change in the abundance of Bouton's skinks on Ile aux Fouquets, Ile de la Passe and Ilot Vacoas. Capture mark recapture data were also recorded for the Bojer's skinks and lesser night geckos on each islet visit, once we have all photographic identities of each captured animal entered and running in Hotspotter photographic recognition software we will run the analyses. However, Katie has analysed these data up to 2022, which is currently being submitted for publication. Katie also successfully completed her PhD in 2023.

## Lesser night gecko translocation



- After years of planning, the 120 lesser night geckos were translocated from Gunner's Quoin to Round Island in November 2022 (see MWF Annual Report 2022).
- Following on from the releases in 2022, capture-mark-recapture surveys of the translocated population began in February 2023 at each of the four predator proof enclosures by Durrell Intern, Alex Ferguson. Surveys within the enclosures continued until June, when the second stage of the soft release was implemented, with the removal of the inner fence and perforation of the outer fence. This action made the fence of the enclosure leaky for lesser night geckos to start moving out and back into the enclosures, while still keeping larger predatory reptiles out.

The survey zone was increased to a 25 m area around the enclosures. The third stage of the release took place in September, where upon sections of the outer fence were removed to fully allow movement in and out of the enclosures. The entire outer plastic wasn't removed as that would have created a direct line of sight for tortoises, which would then likely cause extensive damage to the metal fence, as they would try to get to the areas of grass within the enclosures. Once inside tortoises would also likely cause a lot of trampling disturbance, which would be highly damaging for areas of high gecko density.

- During the surveys, morphometric data is recorded, as well as any injuries, the location, and the reproductive state of the individual. This allows for evaluation of the health of the population. The body condition score, calculated from the snout-vent length and the body mass, continues to increase. From previous translocation projects conducted with reptiles, we know this means that the carrying capacity of the area has not yet been reached and the population is not being adversely affected by intraspecific competition.
- The final key component of the post-translocation monitoring has been that of the Durrell's Night Gecko, *Nactus durrellorum*. Although there was a low risk that there would be a negative effect caused by the reintroduction, as historically the species would have co-existed, it was still important to monitor as the Durrell's Night Gecko is a vulnerable species found only on Round Island. As of yet, no negative repercussions have been detected on the Durrell's Night Gecko population.
- In 2023, 35% of the translocated adult population was recaptured and identified, additionally, there were 69 instances of adult geckos being sighted that could not be caught or photographed. Throughout the year, ten juvenile geckos were captured and assigned an identity, with a further six juveniles observed that were not caught or photographed. Since the opening of the enclosures and expansion of the survey zone, seven geckos have been located within 25 m outside of the enclosures.
- Capture rate is about 20%, and whilst this may appear low, the percentage of geckos recaptured is very promising given what was initially found for the successful Ile Marianne translocation.



# Tortoises



## Background

Mauritian tortoises *Cylindraspis* spp. had an important role in the native ecosystem as browsers, grazers, and seed dispersers. Many native and endemic plants have evolved with, and adapted to, the presence of tortoises. Since the extinction of the Mauritian tortoises, many of the functional links were lost within the ecosystem. To remediate this, we are using a close relative of the Mauritian giant tortoises, the Aldabra tortoise *Aldabrachelys gigantea* from the Seychelles as a replacement to re-activate the lost plant-tortoise interactions on Ile aux Aigrettes and Round Island.

The aim of this project is to manage adult free-roaming tortoises on Ile aux Aigrettes and on Round Island. The tortoises on both islands are closely monitored and studies have been established to assess their impact on the ecosystem.

## Free-roaming tortoises

In 2023, we lost one of our oldest tortoises, named George, on Ile aux Aigrettes. He was found stuck between tree branches low to the ground after attempting to mate with one of the females. He was found exhausted and despite efforts to revive him, he passed away the same evening. MWF received a donation of an adult 50-year-old tortoise in 2023. Through 2023, there were 286 observations of the 26 free roaming tortoises on Ile aux Aigrettes. On Round Island there were 836 observations of 377 individual free roaming tortoises. Morphometric measurements have been taken for 26 and 226 individuals on Ile aux Aigrettes and Round Island, respectively. All tortoises were in good condition. With an increase in natural vegetation cover, tortoise dispersal and reduced staff capacity, not enough individual tortoises were detected on Round Island to obtain a reliable population estimate in 2023. However, no deaths were recorded throughout the year and 24 tortoises that had hatched on Round Island and grown to a size to be microchipped for individual recognition and have therefore “entered” the population. The population size of identifiable tortoises on Round Island is expected to be greater than 800 given that the population size in 2021 was estimated at 780 (95%CI: 762-797) individuals.



## Tortoise health

All tortoises moved to any island undergo examination and testing for pathogens and parasites and are de-wormed prior to arriving and being held in quarantine away from other tortoises. The quarantine enclosure is then kept clean, where faeces are collected, bagged, sealed and removed from the island as a precaution. However, intestinal parasites are naturally found in wild tortoises, but in captive conditions, such as in the head-starting facilities, the risk of transmission is elevated and can cause a high parasite burden and health problems. To ensure transmission is managed all enclosures are regularly cleaned, feeding trays and water wallows are also cleaned daily and faeces are removed. As a precaution all juvenile tortoises within the enclosures are dewormed annually. A sample of thirty juvenile tortoises were screened for parasitic worms, but nothing was detected. As the tortoise population on Round Island is wild with the origin of individuals from various locations in Mauritius, albeit most from Ile aux Aigrettes, they all underwent screening and quarantine before, during and after translocation. Nevertheless, tortoises are regularly checked for any viral symptoms and a sample of the tortoise population is screened annually for intestinal worms. In 2023, 13 free-roaming tortoises were screened, but no worms were detected. The most likely point of cross-transmission for disease on Round Island is at the artificial water wallows and dams for water harvesting. These sites are regularly checked and cleaned to reduce the transmission and build-up of naturally occurring intestinal parasites.

## Tortoise impact

To assess the impact of tortoises on the vegetation on the islets' areas, where tortoises have been excluded has been compared to areas where tortoises have access. This work has, for the time being, given us enough information on their impact and will be monitored in the future through snapshot surveys every decade. The 20 enclosure and control plots were meant to have been surveyed in 2022, but due to staff availability it was not completed on Ile aux Aigrettes. Therefore, the last surveys will be in May 2024, where all above-ground biomass (all plant material above the soil level) will be harvested, sorted into species, and the wet and dry biomass will be recorded and compared to control plots. In areas of high tortoise activity on Round Island we have seen that they have two key impacts that affect restoration that were reported in 2022. The first is overly high tortoise density beneath young, restored canopy forest, which restricts sapling survival, but tortoises are controlling invasive weeds that outgrow and suppress the survival of endemic saplings. To exploit these impacts to the benefit of restoration, we have selected three (10 x 10 m) plots in tortoise dominated areas to initially exclude them, where we will manually control weed to establish highly threatened herbaceous species. These herbaceous species are thought to be resistant to trampling, but we need to exclude tortoise activity initially to allow seed to build up in the soil prior to allowing tortoises back into the areas to control the weed. If this works over the next few years, the process will be repeated to restore the herbaceous community. Cacey Cottrill and Roberto Cesar attended the Giant Tortoise Workshop in the Seychelles in October, organised by the Indian Ocean Tortoise Alliance. Cacey presented Saving Round Island's Lost Grasslands and Roberto presented Conservation Lessons from Aldabra Tortoises in Mauritius. The presentations can be viewed through:

<https://www.youtube.com/playlist?list=PLZoHqRBBzU8kdUsjMFyR9KtKOpY0pma> O

# ISLANDS

## Round Island



## Background

Round Island, 219 ha, is undeniably Mauritius' most important island for conservation with unique or significantly large remnant populations of endemic plants, reptiles and native seabirds. The island was spared from predators, such as cats and rats that have caused irreversible damage elsewhere, but goats and rabbits were introduced in the early 19<sup>th</sup> century, which caused severe loss of soil and vegetation. Poaching of seabirds was a common activity on the island.

By 1986, the herbivores were eradicated, and closer management put an end to seabird poaching by 1997. A field station was built in 2002, which has allowed MWF and its partners to achieve a greater impact to protect and restore the island, control or eradicate invasive plants and replant many areas on the island.

Restoration activities on the island has supported the recovery of the unique reptile community, where the overall abundance has increased by more than 2,000%, since the 1970s. The recovery of reptiles has permitted their reintroduction to other islands from 2006 (see reptile section). A permanent staffing of the island and cessation of poaching have permitted seabirds to recover, with now the largest populations of Red-tailed Tropicbirds *Phaethon rubricauda* and white-tailed tropicbirds *Phaethon lepturus*, and Wedge-tailed Shearwaters *Ardenna pacifica* in the Southwest Indian Ocean. Research has led to a greater understanding of the seabird community including resolving the identity of the Round Island Petrel *Pterodroma arminjoniana*.

The restoration of Round Island has been initiated, but we need to continue to restore the island, conserving its unique plants and animals, which will take decades. This will include saving from extinction two endemic plants that are in precipitous decline (*Aerva congesta* and *Phyllanthus revaughanii*), tracking of seabirds to understand where they travel to (thus identifying Marine Important

Bird Areas and assessing the impact of global climate change), monitoring the response of threatened reptiles to restoration activities, curbing soil erosion and planting to restore functional communities that benefit the resident endemic animals.

Round Island has been an important training and research ground for local and international restoration practitioners and scientists. Being one of very few islands in the world to have never been colonized by invasive rodents or reptiles, combined with ongoing extensive restoration work and pioneering research on highly threatened and unique animals and plants, the global significance of Round Island is increasing as a leading site for conservation and scientific excellence.

The work on Round Island is a collaborative project between the Ministry of Agro-Industry, the Mauritian Wildlife Foundation and Durrell.

## Red-tailed Tropicbird



- Monthly surveys of the Red-tailed Tropicbird colony in the south of the island are normally conducted, ten of the twelve surveys were achieved in 2023, due to poor weather conditions and cyclone evacuations.
- Through the surveys, 885 birds (526 adults and 359 chicks) were encountered, which consisted of 415 individual adults of which 86 were newly ringed and an additional 43 fledging chicks were ringed.
- In 2015, we changed the Red-tailed Tropicbird survey area to make it possible to survey within one morning. The data from 2004 have therefore been truncated to the new survey area allowing us to model the seabird's population change and survival within the approximately 1 ha area. The abundance of adults has increased substantially since 2012 and is now likely to have reached its carrying capacity. The abundance of individual adult Red-tailed Tropicbirds within the survey area was estimated at 840 (95%CI: 779-906), compared to the model adjusted 867 (95%CI: 806-932) for 2022. The annual apparent survival probability for 2023 was 85.2 (95%CI: 84.0-86.4)% compared to 84.9 (95%CI: 83.5-86.2)% in 2022. Overall, these results show there has been no significant change in abundance or survival from 2022, again suggesting the Red-tailed Tropicbirds are at their carrying capacity for the survey site. Due to the increase in the number of Red-tailed

Tropicbirds within the current area, the surveys are once again taking more than one morning to be completed. As in 2015, we are therefore considering reducing the survey area again to make it more manageable, but analyses need to be conducted to ensure that long-term results are not affected by this change prior to the survey area being reduced.

## Round Island Petrel



- Every two months, the five main colonies of Petrels across the island are surveyed.
- Through the surveys that were completed there were 382 detections of Petrels at nest sites, which consisted of 321 adults and 61 chick encounters. Of the adults detected there were 296 individuals of which 30 were newly ringed and an additional 59 fledging chicks were ringed.
- 488 individual nest sites were used, with 361 recorded with an egg or a chick.
- The annual apparent survival estimate for adults had not changed from the previous year's estimate at 96.5% (95%CL 96.3-96.8).
- The abundance of adult petrels using the island in 2023 was estimated at 2,041 (95%CL 1,926-2,236) individuals, compared to the model adjusted 2022 estimate of 2,114 (95%CL 1,998-2,236) individuals. Although the 2023 estimate is slightly lower than in 2022, it is not significantly different. It is possible that the population is at its current carrying capacity. However, research is needed to understand interactions and nest site competition with the larger more aggressive and abundant Red-tailed Tropicbird in combination with habitat change to determine whether this is a limiting factor for the Petrel population.
- Research on existing data collected as part of the long-term monitoring programme continues to be carried out to explore the factors influencing individual variation in non-breeding season migration movements of Round Island petrels and the implications for the viability of the petrel population. Between November 2009 and June 2016, 421 geolocators were deployed to record migratory movements outside of the breeding season. Approximately 80% of the geolocators have been retrieved to date. Through 2023, two geolocators were retrieved from individual Petrels. It is likely that those that have not yet been retrieved have now fallen off the birds, as the ring placement holding the geolocators were designed to degrade after a few years. Nevertheless, any additional geolocators found upon captured birds will continue to be collected and sent to the ZSL Institute of Zoology.
- With the majority of the Petrel population having been sampled for genetic analyses for the Institute of Zoology, it was decided that obtaining additional blood samples would stop in 2022.



## Seabird Community



- At the end of 2021, research was initiated to investigate the connectivity between seabird populations within the Western Indian Ocean. This project will assess the degree of connectivity between island colonies for five very different seabird species (greater frigatebird, red-footed booby, sooty tern, tropical and wedge-tailed shearwater) by establishing the rate of transfer of genetic material between colonies (i.e., gene flow). This will identify discrete 'conservation or management units' made up of one or more (connected) colonies. Additionally, breeding red-footed boobies and wedge-tailed shearwaters will be tracked to identify their foraging hotspots and the underlying environmental drivers to quantify how attractive a colony's surrounding marine environment is for dispersing seabirds. It is hoped that the outcomes of this research will guide the scale at which seabird conservation policy and actions should be set in the Western Indian Ocean. Dr Malcom Nicoll from the ZSL Institute of Zoology is leading the research within Mauritius. With Round Island supporting the largest breeding colony of Wedge-tailed Shearwaters in the Southwest Indian Ocean, this is one of the colonies that will be surveyed, including a Wedge-tailed Shearwater colony in Rodrigues and if access is possible, Sooty Terns on Serpent Island.
- Following the establishment of the survey area for Wedge-tailed Shearwaters on Round Island in 2022, Dr Nicoll and Dr Kirsty Franklin returned in January and February 2023 to work with the Islands Team to place and retrieve GPS trackers on the birds. A total of 27 birds were tagged and ten were recaptured providing data from three different colonies around the southern area of Round Island. Additionally, monitoring of the Wedge-tailed Shearwaters breeding effort was established at the three colonies. Monitoring consists of four short periods of a night or two through the year: (1) counting nesting burrows in early September, (2) counting the number of burrows with an egg, (3) obtaining data on the number and condition of chicks at the end of January, and (4) the number of chicks close to fledging or not in early March. In September 2023, 82 burrows were detected, however surveys in November were disrupted by unseasonal and severe rainfall. The survey was therefore conducted in December, where only one egg and one chick were detected. Although previous surveys like this have not been conducted, the monitored colonies are well known and combined with the findings, it is clear that the 2023 to 2024 Wedge-tailed Shearwater breeding season has not gone well.
- A plan to access Serpent Island in February 2023 with Dr Nicoll to obtain DNA samples from Sooty Terns did not proceed due to poor sea conditions, but it will be attempted again in 2024.
- Masked Booby *Sula dactylatra* attraction continued on Round Island through 2023, using decoys and a playback system of Masked Booby calls. Camera traps placed throughout the decoy colony have yet to detect any boobies visiting from the Serpent Island. Given similar systems of attracting seabirds to new nesting grounds elsewhere it may take years to attract the boobies.

## Keel-scaled Boa



- A total of 152 boas (142 adults and 10 juveniles) were found during the monthly quadrat surveys as part of the long-term study to monitor the health, survival and relative abundance of the snake. Usually, 72 surveys are completed throughout the year within each of the six, one hectare quadrats (Coastline, Mixed weed, Palm, Rockslab, Summit and Wasteland) being surveyed each month. Despite reduced staff levels and poor weather conditions, 46 surveys were completed.
- There were 0.903 (95%CI: 0.689-1.116) adult boa encounters per person hour in 2023, the highest encounter rate recorded since the surveys were systematically completed in 2006, increasing slightly from the previous year's encounter rate of 0.798 (95%CI: 0.613-0.982).
- 93 newly detected boas were microchipped in 2023.

## Günther's Gecko

- A total of 69 geckos (60 adults and 9 juveniles) were found during the monthly quadrat surveys as part of the long-term study to monitor their relative abundance. This is fewer than normally detected and likely due to staff ability and increased vegetation cover reducing the detection of these cryptic geckos. To account for detection probability the survey method would need to be adapted and require surveys conducted over consecutive nights, at specific times throughout the year. However, this would require additional staff capacity to complete.
- There were 0.322 (95%CI: 0.206-0.437) adult gecko encounters per person hour in 2023, compared to 0.401 (95%CI: 0.170-0.633) encounters in the previous year. While the encounter rate is lower than in 2022, it is not significantly different with no detectable change over the past three years.
- On Round Island, the 2022/23 breeding season 150 eggs were monitored at 15 nest sites across the island. The hatching success was 80.7%, which is considered normal for the island and higher than the previous year's estimate of 71.0%, where egg survival was thought to have been impacted upon by cyclones Batsirai and Emnati.

## Durrell's night gecko



- A total of 217 Durrell's night geckos (199 adults and 18 juveniles) were found during the monthly quadrat surveys, as part of the long-term study to monitor their relative abundance.
- There were 1.256 (95%CI: 0.975-1.536) adult gecko encounters per person hour in 2023, which is similar to the 2022 encounter rate of 1.359 (95%CI: 1.073-1.645) and the year before, but lower than expected, compared to the 2020 encounter rate of 1.876 (95%CI: 1.455-2.297). The lower encounter rate is likely due to differences in staff capacity to detect these extremely cryptic geckos.

## Diurnal Reptiles

- While monitoring effort is focused upon the nocturnal reptiles, we also check on the status of the diurnal reptiles.
- The reason for the more intense focus on the nocturnal species is due to the:
  - keel-scaled boa representing an indicator species for the health of the reptile community on which it predated upon;
  - Günther's gecko having not yet increased in abundance to the same magnitude as the other reptiles species and;
  - Durrell's night gecko being the only single island population of a reptile species remaining on Round Island.
- The diurnal reptile species consists of the endemic Bojer's skink *Gongylomorphus bojerii*, Bouton's skink, *Cryptoblepharus boutonii*, ornate day gecko, *Phelsuma ornata* and Telfair's skink, *Leiopisma telfairii*.
- At least once a year the species are checked upon visually to determine their overall condition and population status. Particular attention is made of the Telfair's skink where usually each year sixty individuals are captured throughout the palm rich area, where measurements and scores are made to assess their body condition and level of injury. These data are then compared to the translocated populations and across years. Due to the reptile team being taken up through 2023, these measurements were not taken, but overall the skink population on Round Island is healthy and abundant, as are the other species, with the exception of the Bouton's skink that has a naturally restricted range and low abundance around the coast of the island.

## Invertebrates

- Much of the conservation efforts for island restoration have focused upon rebuilding the threatened plant, reptile and seabird communities while preventing further introductions of problematic invasive species. Invertebrates, however, have been largely overlooked and yet are a major driver in ecosystem functionality, as predators, prey, pollinators and detritivores. The islands, particularly Round Island, maintain many endemic invertebrates, the majority of which are threatened with extinction and have yet to be formally described. Each islet around Mauritius has a different ecological history with varying levels of human impact and loss of habitat, which will have shaped the invertebrate diversity. Between April and July 2023, Max Tercel was recruited to work with the Islands Team to conduct an invertebrate bioblitz on Gunner's Quoin, Ile aux Aigrettes, Ile aux Fouquets, Ile de la Passe, Ile Marianne, Ilot Vacoas and Round Island. Invertebrates were systematically sampled using pitfall traps, Malaise traps and Berlese funnels. Collections were also made by hand using collection pots, forceps, pooters, sweep nets, beating trays and UV torches to sample invertebrates in a range of habitats or on a range of substrates where systematic samples could not be used. Approximately 40,000 individual specimens from all seven islands were sorted and processed in total, of which 37,038 were from the systematic sampling techniques. A total of 457 morphospecies were sorted, labelled, packaged and sent to the London Natural History Museum for identification.
- This work will be the foundation for further research, such as obtaining genetic markers for each invertebrate species that will link to research to understand species interactions, but also to identify gaps in the invertebrate community and direct future reintroductions of functional species, such as specific pollinators to assist in the restoration of habitat.
- In 2023, Charlotte Taylor, from Cardiff University started her PhD to investigate the lizard diets on Round Island and Gunner's Quoin. The focus of her research is to investigate whether future lizard translocations between the islands will lead to elevated levels of competition for resources, such as invertebrate prey. Her research will therefore indicate whether a translocation is likely to be successful or not and how it may impact upon the communities on the recipient island. The invertebrates currently being identified at the London Natural History Museum are therefore critical to Charlotte's PhD research.

## Plant restoration work

- Approximately 53,022 seeds from 12 species were collected from Round Island and mainland Mauritius in 2023.
- 6,848 seeds from 12 species were sown in 2023.
- 697 seedlings, which germinated in the nursery, were potted in 2023.
- 149 plants were planted in 2023. These were planted in the mixed weed, palm rich and summit habitats. Part of the focus 2023 planting was to build up the species communities on the summit at last year's *Aloe tormentorii* planting site. Along with more *A. tormentorii*, *Gagnebina pterocarpan*, and *Psiadia arguta* were also planted at the summit site. Planting continued in the palm rich habitat surrounding the last hurricane palm *Dictyosperma album* var. *conjugatum*. To further restoration, planting was expanded into the North palm community with the grass *Chrysopogon argutus*, and other plants such as bois de chandelle *Dracaena concinna*, bois de buis *Fernelia buxifolia*, bottle palm *Hyophorbe lagenicaulis*, screw palm *Pandanus vandermeeschii* and bois benjoin *Terminalia bentzoë* as part of a project funded by Fondation Franklinia. In the mixed weed habitat, as well as in the palm, there was a trial planting of bois de Ronde *Erythroxylum sideroxyloides*, to determine which canopy would support the species better.
- The last wild hurricane palm produced no fruit in 2023. Hand-pollination of suspected pure-individuals on Ile aux Aigrettes with Round Island pollen resulted in the production of 16 seeds that were sent to Round Island for propagation in early 2023. Due to the heavy rains in the dry season, only one sheath managed to produce viable pollen on the wild individual. Therefore, hand-



pollination of the wild palm did not occur and the pollen was sent to Ile aux Aigrettes for hand-pollination of those individuals. Work has started at Cardiff University to confirm the relationship between all the known and suspected hurricane palm specimens for which the results should be ready by mid-2024. It is hoped that genetic variation exists in the specimens on Ile aux Aigrettes and mainland Mauritius, that has been lost from Round Island, such that cross-pollination and planting of saplings will help the long-term survival of this unique variant.

- A few rare herbaceous species continue to survive on Round Island. While *Aerva congesta* no longer occurs in the wild on Round Island and the only mainland population is found at Gris Gris, there are several in the plant nursery on Round Island waiting to be planted in the field. While the nursery plants rebounded this year, the dry season was still particularly hard on the plants, with the highest number in the nursery at 294, but decreasing to 77 by the end of 2023. On Round Island, *Phyllanthus revaughanii* continues to be limited to one rock crevice on the southwest ridge and one patch on the wasteland, while *Phyllanthus mauritianus* is found in patches on the summit and near the field station in the south of the island. In the plant nursery, *P. mauritianus* is doing well by colonising in plant pots on its own without much intervention from staff, such that there were 863 individuals by the end of 2023. For *P. revaughanii* however, they were difficult to germinate, suffering from the unusual weather in the dry season, with 32 individuals by the end of 2023. With the onset of the rainy season and continued effort for propagation, this number should increase again.
- Propagating further individuals of rare, native herbaceous species continues to be a difficult and slow process, requiring further trials to determine what works to improve productivity. By the end of 2023, there was one tray of *Brachiaria serpens*, ten pots of *Chloris filiformis*, five trays of *Dichondra repens*, five trays of *Sporobolus virginicus*, and nine pots of what appears to be a unique Round Island variant of *Stenotaphrum micranthum*.
- In 2023, Durrell were able to receive funding from the Mohamed bin Zayed Conservation Fund to start an experimental project to help increase wild populations of these rare herbaceous species on Round Island. Planning and construction for the tortoise protected plots for this project has started, with planting hoping to occur in early 2024.
- Planting of *Phymatodes scolopendria* within a fenced area of restored mixed weed forest occurred in 2021 and 2022. These individuals were affected by the hard dry season in 2023, with 51 surviving when surveys were completed. However, with the early start of the rainy season in December, individuals are starting to regrow their fronds and hopefully more individuals thought to have been lost will recover.
- The trips to Corps de Garde and Le Morne to collect *Erythroxylum sideroxyloides* seeds were successful, with 129 seeds collected. The seven propagated individuals in the plant nursery since 2022 were planted in the palm and mixed weed community. Two batches of the collected seeds were sown, with 69 seedlings potted so far. More trips to Le Morne to collect seeds are planned for the beginning of 2024.
- By the end of the year, the flora staff and wardens continued to increase the nursery stock after the losses during COVID-19 lockdowns, with 2,434 seedlings of 25 species currently in stock.

## Weed management

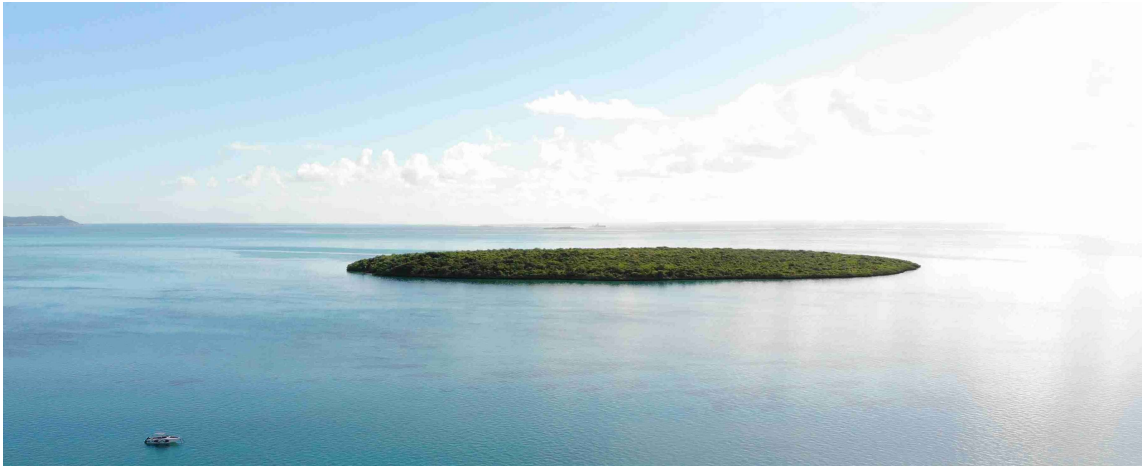
- Weed management was compromised slightly through the mid part of 2023, due to staff changes and needing to focus upon completing the renovation of the field station. However, greater effort to control invasive weed was made in the latter half of the year.
- In 2023, 132 adult and sapling *Chromolaena odorata* plants were removed, in addition to 77 seedlings, of which 20 adult plants had either produced flowers or had fruited. The number of plants detected and removed is similar to the previous year and substantially lower than previous years, which is encouraging given that we missed key periods of removal in the COVID 19 2020 and 2021 lockdowns.

- It is clear that almost two decades of *Heteropogon contortus* management is unlikely to lead to eradication, as it still vigorously persists in two main locations on the island. A total of 57 adult and sapling plants were removed, in addition to ten seedlings, compared to just the one adult detected in 2022, although when this individual was found it had already set seed. Plans for the use of pre-emergent herbicides to target this exotic grass and remove it for good have yet to be approved by the Government. It is likely that more individual grasses will be detected in 2024 and feared that it may get out of control.
- 52 adult and sapling tobacco *Nicotiana tabacum* plants were removed, in addition to five seedlings, which is lower than the previous year.
- No tomato *Lycopersicon esculentum* plants were found, despite intensive searches. The last tomato plant removed was in September 2018.

## Infrastructure and Transport

- Infrastructure work on Round Island for 2023 consisted of completing the construction of the new field station. Work started after the cyclone season in March, whereby we focused on completing all the sidings, installation of the roof, completion of the flooring, installation of all the doors and window openings and connection of the gutters to water tanks for rainwater harvesting.
- Once construction was completed, all the electrical wiring was installed and an external cabinet for the solar system inverter was built. Rey and Lenferna connected the solar system to the field station. The team of technicians checked the solar panels and ensured their integrity. The solar panels were then connected to the batteries and inverter. We now currently have the Field Station and Office and Quarantine Room operating on different systems so ensure maximum efficiency, but also as a backup if one system has a fault.
- Staff designed the kitchen and sleeping spaces, which allowed the contractors to fit the spaces with work benches, shelves and beds to easily house eight people. Long foldable tables and new benches were added to the large veranda space to ensure that all staff could also eat and work outside.
- To secure the field station during cyclones, anchor points were placed on the field station and the ground for the placement of tension cables.
- Construction of a framed ladder to access the last wild hurricane palm was started. The ladder is needed to safely collect pollen and hand pollinate female flowers. Ground near the hurricane palm was excavated so that the five footings could be installed to fix a platform to support the ladder and frame. Work will continue in 2024 to complete the installation.
- Sites for the placement of tortoise enclosure fenced plots for the restoration of the herbaceous community were selected. At the end of 2023, poles to support the fence had been securely placed for one of the plots. Work will continue into 2024.
- A new water tank for the small nursery was installed.

# Ile aux Aigrettes



## Background

Ile aux Aigrettes is a 26-hectare low coralline island and has been declared a Nature Reserve since 1965 due to its remnant Mauritian dry coastal forest. Ecological restoration started in 1985 with the aim of reinstating the coastal vegetation community and to replace the missing components of the flora and fauna. Through weeding of introduced species and planting of native species, including rare and critically endangered plants that have been propagated and reintroduced on the island, we are restoring the ecosystem. Around 30,000-40,000 plants per season/year were planted from 1998 to 2003, although the forest is now regenerating well naturally, specialised planting still continues to enhance the species diversity, to provide food for the native species reintroduced on the island and to provide habitat for seabirds and reptiles. The island is also used to conserve suitable lowland species that are critically endangered in the wild. Maintenance weeding continues through employment of a team of labourers living in the vicinity. As a part of a sustainable conservation programme, the island is open to visitors through our ecotourism and environmental education programmes. Students, tourists and the general public learn about the habitat restoration project, in order to raise their awareness of the conservation of the threatened Mauritian flora and fauna.

## Projects on the island

- Pink Pigeon
- Mauritius Fody
- Mauritius Olive White-eye
- Günther's Gecko
- Telfair's skink
- Aldabra Tortoise
- Rare Plants
- Habitat Restoration
- Education: Learning with Nature
- Ecotourism
- Attracting Seabirds

Details of the above project actions are included in the specific project sections in this report.

## Ile Cocos & Ile aux Sables, Rodrigues

Ile aux Cocos and Ile aux Sables, two sandbar islets to the West of Rodrigues, of 15 and 8 Ha respectively, are renowned for their breeding seabirds - water birds as well as migratory birds and occasional prospecting seabirds. Further background to this project and details of actions carried out are included in the Rodrigues section of this report.

## St Brandon



### Background

Rich in native coastal flora and fauna, St Brandon's beaches are a favourite place for sea turtles (Hawksbill Turtle *Eretmochelys imbricata* and Green Turtle *Chelonia mydas*) to lay their eggs. Coconut trees can be found on a few of the St Brandon islands as well as native trees, shrubs and grasses. The coral and outer reefs are still in good condition. This archipelago has a huge range of marine biodiversity with important global populations of seabird on the islets, and the shores are visited by migratory birds. Unfortunately, invasive alien plants and animals have reached the islets and are affecting the vegetation and breeding of seabirds. The islets are also affected by ongoing human activities.

MWF's project is the first step towards encouraging all stakeholders involved in St Brandon to strive for the conservation of the archipelago. It is recognised that any actions carried out would not be effective unless Government of Mauritius and other relevant departments, the Outer Islands Development Corporation (OIDC) and Raphael Fishing Ltd support the actions.

A St Brandon Institutional Mapping and Action Plan was developed in 2019 through discussions with the various stakeholders, finalised in 2020 and is available on the MWF website. We circulate the document whenever requested and we ensure that St Brandon is considered in policy dialogues (eg National Oil Spill Contingency Plan under review), reporting (African-Eurasian Migratory Waterbird Agreement), and in policy and management dialogues such as the National Invasive Alien Species Strategy (under review).

Data from St Brandon seabirds (amongst others) contributed to a worldwide risk assessment of seabird ingestion of plastics. A publication was submitted with c.100 authors: 'Global assessment of plastic encounter risk for marine birds'.



# Invasive Alien Species control and biosecurity on Islands

## Background

Invasive alien species represent the greatest threat to island biodiversity. Whilst some invasive species, such as mice, rats and cats can be eradicated, although often at huge expense, effective methods for the control or eradication of many species, such as insectivorous mammals, birds, reptiles, invertebrates and plants have yet to be developed or the capacity within Mauritius to deal with these species is low or absent. The long-term survival of plants and animals native to Mauritian islands depends on the implementation of strict quarantine and biosecurity measures and where possible rapid responses to remove invasive species once they are detected.

## Ile aux Aigrettes

**Bio-security checks:** Monthly checks were conducted using sooted tiles to detect footprints and cocoa wax chew cubes to detect chew marks of rodents or other potential problematic species that may have arrived on the island. Additionally, pit-fall traps and cage traps are utilized in the detection of new species incursions to the island. The wax chew cubes detected the sign of rats in July 2023 on the East of the island. Live traps were placed, although no rats were caught, this was followed by the placement of poison blocks within bait stations, and more wax chew cubes. Rat chew marks and faeces were found at different locations across the island, two live rats were observed and one was found dead. These observations indicated a breeding population of rats on the island and necessitated an island wide eradication.

**Rat eradication:** Rats, as predators of plant seeds, invertebrates, birds and reptiles, are one of the worst invasive species to arrive on an island, but methods for eradication are well developed, albeit not always successful. Following the detection of a rat in July and subsequent detections across the island into August, it was necessary to conduct a full island-wide eradication attempt. Home-made bait stations, constructed from 1.5 litre plastic water bottles, were used to fasten the bait inside, allowing the bait to be protected from the elements, prevent non-target species, such as crabs, from dragging the bait away and permitting rats to access it. Pathways were opened across the island to create a 25x25 m grid for the placement of 394 bait stations. Each station was checked daily, recording the amount of bait consumed and replenished, what animals had left their marks on the bait, or signs in the stations, and where required moving the stations to limit non-target bait take. The stations were serviced for 21 days from the 23<sup>rd</sup> August in the initial eradication phase and then stopped for two weeks to allow rats that had just weaned and avoided the poison in the initial baiting phase to become active. Rat chew marks were detected at 83 locations, faeces at 25 locations and the smell of dead rat at 15 locations. The second phase of the eradication started on the 27<sup>th</sup> September and planned for two weeks. No rat sign was detected, so the second phase ended on the 10<sup>th</sup> day. However, not being able to detect rat sign does not necessarily mean that all the rats have been eradicated. Therefore, 20 bait stations remained active for a further month, but no rat sign was detected, indicating that the eradication was successful. With initial placement of bait and subsequent placement a total of 50.94 kg of bait was used, of which 41.20 kg was collected at the end of the operation and during if it had spoiled or broken from being partially eaten and needed to be replaced. This meant that 9.74 kg of poison bait was consumed by rats and non-target species (mostly crabs, non-native land snails, cockroaches, ants and shrews) and entered the Ile aux Aigrettes' system. Following standard operating procedures for rat eradications using the hand broadcasting 522 kg of bait would have entered the ecosystem, but thanks to the eradication team working daily, a minimal amount of bait was used to eradicate the rats.

**Tenrec trapping:** Through 2023, 61 tenrecs *Tenrec ecaudatus* were trapped and removed from the island, through 1,789 trap nights and a further 16 caught by hand. Despite earlier planning, the tenrec hunter with his dogs was not available to support the actions on Ile aux Aigrettes as he was taken up with other work. Night surveys estimated approximately 100 tenrecs on Ile aux Aigrettes in March 2023. Using data available on the life history of the tenrec, population viability analyses were run to determine what proportion of a population of tenrecs would be needed each year to lead to their extirpation. For any success of eradication, at least 80% of the population would need to be removed annually for eight years until eradication would likely be successful. Even though the models were based upon limited data with high levels of uncertainty, it is clear that if we are to remove the tenrecs then a greater effort is required. As part of Ryan Law Yu Kam's project through the Durrell Endangered Species Management Graduate Certificate Course in Jersey at the start of the year, he devised a plan to enhance the trapping rate of tenrecs. Ryan's plan was to install a series of drift fences, which would lead tenrecs towards and into pitfall traps, which would cover the island. Due to the cost and effort (particularly installing multiple large pitfalls into rock) of completing what Ryan had planned, we installed three arrays of drift fences and pitfalls at the end of December 2023 to trial the effectiveness of the method. Each array has a central pitfall trap with three 60 m long drift fences leading away from it, with additional pitfall traps along each arm of drift fence. The trial will start in 2024 and if effective, funding will be sourced to deploy more pitfalls and drift fence.

**Crows:** Crows *Corvus splendens* continue to populate Ile aux Aigrettes. In September of 2022, with support from the National Parks and Conservation Service, bait was placed specifically for crows on the mainland opposite Ile aux Aigrettes where crows fly to and from the island. Approximately 17 crows that were using the island were killed. Crows were not detected again on Ile aux Aigrettes until April 2023, where visitations were of just a few individuals. By September 2023, crow visitation had increased, and nesting started. Nests were destroyed, but other options are being considered to deter them from the island, as poisoning did not proceed in 2023. However, with the lack of crows on the island through the 2022-2023 Günther's gecko breeding season egg hatch success returned to the expected level of above 90%.

## Southeast and northern islets

**Bio-security checks:** Trapping using Sherman live traps was conducted during weeklong trips to each islet through 2023. Additionally, diurnal and nocturnal searches for invasive species were undertaken whilst surveying the invertebrate, bird and reptile surveys. No new incursions were detected.

In 2022, two new problematic invasive species were detected on Ile de la Passe, the stump-toed gecko *Gehyra mutilata* and the tropical fire ant *Solenopsis geminata*. A specific trip was undertaken to remove both species before they fully establish. Unfortunately, through trips in 2023, it appears that the stump-toed gecko has been established, although fire ants may have been eradicated. Further checks will occur in 2024.

## Gunner's Quoin

**Bio-security checks:** Trapping using Sherman live traps was conducted nightly during three approximately eight day trips to the island in 2023. Additionally, diurnal and nocturnal searches were undertaken each day to detect any new invasive species incursions. No new species incursions were detected.

Crows that were observed for the first time on the island in 2022, were not detected in 2023. However, Mynah birds that were first detected on the island in 2022, were seen during each trip through 2023. Trapping has not been effective and for the birds to be removed it will require shooting with Government permission.

## Round Island

**Biosecurity:** For each trip to Round Island, all items that will be sent are subject to biosecurity checks, prior to leaving the mainland and then again, once the items arrive on Round Island. All infrastructural materials for the renovation work were subject to biosecurity procedures, being fumigated within a sealed container for a week, prior to being sent to Round Island and again on arrival with thorough checks, the use of insecticide spray where needed and the vacuuming of all items. Through these checks, 187 organic items (plant seeds/material, invertebrates, dirt and other organic material) were detected and removed from Round Island. Work is underway to establish thorough biosecurity procedures and protocols for Round Island, which will be applicable to other islets.

**Plant nursery pests:** Pests (herbivorous invertebrates, sap suckers and ants, bacteria and fungus) infected an average of 21% (range: 0 to 100 % of different plant species) of nursery plants throughout 2023. Construction of the ant proof benches in 2022 to improve certain pest issues have yet to be completely effective, due to the irrigation system currently breaching the ant defenses, which is being resolved. See the Round Island section above for invasive plants already on Round Island.

# VALLEE DE FERNEY



## Background

Following the Strategic Grant obtained by the Mauritian Wildlife Foundation (MWF) from the UNDP GEF Small Grants Programme for the project «Optimising the Ferney Valley into a Mauritian biodiversity conservation and awareness hotspot», which has now been completed, MWF continues to work closely with the Vallée de Ferney Conservation Trust to monitor and manage the Fauna and to advise on Flora restoration and ecotourism.

Under the UNDP Strategic Grant four endemic bird species were re-introduced to the Vallee de Ferney. The Pink Pigeon needs a certain level of management which is provided from the Ferney Field Station. Supplementary feeding is provided to the Pink Pigeon and the area around the field station protected with predator control. Unlike the Echo Parakeets in the Black River National Park, those released at Ferney are not using nest boxes but are seen flying overhead from time to time. All species of birds are monitored.

The Vallee de Ferney is a significant site for the Mauritius Kestrel which was reintroduced by MWF to the Bambous Mountain Range from 1988 to 1993 and monitored constantly since then.

Forest restoration of the Conservation Zone has made great advances in recent years and this needs to be maintained along with the plant nursery which supports the work. Advice, training and support for the Flora work is available when required and includes the plant nursery, forest restoration (weeding and planting) and rare plant monitoring.

The objective of the Eco-tours is that the guides are well informed and deliver a professional standard of tours to visitors. The Mauritian Wildlife Foundation supports this objective in two ways, by reviewing the delivery of tours including coaching and via capacity building.



# Fauna

## Pink Pigeons

- Translocation and release of 30 Pink Pigeons to Ferney in 2017.
- Pink Pigeons are breeding well at Ferney, 64 birds were ringed since releases were done with 13 in 2023.
- The possible population in Ferney was estimated as 78 by the end of 2023.

## Echo Parakeet

- Echo Parakeets were released at Ferney for three consecutive years from 2015 to 2017, with 73 birds released in total. 16 birds returned to their site of origin; 3 birds are presumed dead: 1 fledgling was ringed.
- Echo Parakeets were seen at the 'Ferney gardens' near the visitors' centre and also in Vallée de l'Est in 2023.
- An application was made to NPCS for translocation and release of Echo Parakeets in the Ferney Valley for the 2023/24 breeding season, unfortunately permission was not granted.

## Mauritius Cuckoo-shrike

- 16 birds were released up to March 2018.
- The species is cryptic so observations are rare, the use of AudioMoths may help us identify where these birds are present.
- One adult male has been seen in 2020 and 2021 within the 'Conservation Management Area' (fenced plot) with no observations in 2022 or 2023, or in audio recordings.

## Mauritius Paradise Flycatcher

- A total of 48 birds were hand released in the valley.
- Trials were carried out with different ages and combinations of birds: Juveniles worked best.
- Observations have been very rare.
- A pair of birds were seen in 2021, they were un-ringed which means they may be the result of a successful breeding attempt of the released birds.
- A lone Paradise Flycatcher was seen on 17/06/2022, and the legs were not seen so couldn't confirm whether it was ringed. This is the first observation of a Flycatcher in Ferney since August 2021.
- On 05/08/2022, a pair of flycatchers were seen in Ferney not far from the 'FE7' Mauritius Kestrel nest box, but it could not be confirmed whether they were ringed.
- On 12/08/2022 a ringed male flycatcher ('Lion Babe'), translocated from Combo in 2016, was seen near 'Checkmate' Echo Parakeet nest box. It was seen calling and behaving territorially.
- A Flycatcher was seen near the 'Ferney Middle' kestrel nest box on the 22/11/2023 – it is not known whether it had rings.
- 'Lion Babe' was seen again on the 23/11/2023, near the 'Checkmate' Echo Parakeet nest box (having been seen there previously in August 2022). 'Lion Babe' seemed to be alone again during this observation.
- Continued sightings of Flycatcher in Ferney are positive; it indicates that the released birds were successfully anchored to the area and produced enough successful breeding attempts to produce offspring.

## Mauritius Kestrel

- Conservation in the Ferney Valley began in 1987 when Mauritius Kestrels were reintroduced to the valley, by the Mauritian Wildlife Foundation.
- The eastern population has been monitored constantly since the re-introduction of birds from 1988 to 1993 and has been healthy and stable for the past decade. The population may have entered a state of decline in recent years, with the number of breeding pairs having declined. As at December 2023 there are 27 nest boxes within the Ferney Valley.
- In the breeding season 2023/24 monitoring was carried out. 19 pairs used the nest boxes in the valley and fledged 23 chicks.

## Flora

### Weeding, Planting, Propagation of Plants

- Advice is given where required covering plant identification, plant nursery practices, propagation, weeding and planting.
- Training is given to Ferney staff when required.
- In 2023, we monitored the phenology of *Eugenia bojeri* and *Pandanus iceryi* in the valley.

## Other

### Ecotourism

- Training of new Guides and refresher training sessions are delivered on request.

### Threats

- In 2021, there were reports that the South Eastern Highway project was under reconsideration, following the abandonment of this plan in 2005. There appeared to be no development in 2022 but then the threat re-emerged in 2023. MWF has expressed its opposition via comments to an EIA and will continue to remain vigilant with regards to this project.

# FLORA IN MAURITIUS



## Background

Mauritius is home to over 691 native species of flowering plants. Over 273 are endemic to the island, and 61 have disappeared already. Since humans settled on Mauritius, big expanses of native forest were cleared for wood exploitation, agriculture and infrastructure. Now less than 1.3% of the land mass is under relatively good native forest cover (i.e. with more than 50% native and endemic plant species). The remaining forest is highly threatened by invasive alien species, especially plant species such as Strawberry ('Chinese') guava and ravenale. Restoring the remaining forest is crucial to safeguard the endemic plants but also endemic animals such as bats, reptiles and birds, that have evolved together to form this unique ecosystem. Since the 1980's MWF is restoring the native forest in three reserves: two nature reserves, Ile aux Aigrettes and Round Island and one private reserve, Mondrain. Restoration of forest is a long-term process which requires dedication and sustained resources. It involves the removal of invasive alien plant species and planting of native plants. On Ile aux Aigrettes, the forest restoration is supporting the whole ecosystem restoration work whereby exotic mammalian predators were eradicated and endemic animals and ecological analogues were re-introduced, reviving lost ecosystem functions. On Round Island removing goats and rabbits and replanting has increased the native forest cover and ultimately increased the population of the endemic reptile species, some of which were on the brink of extinction.

Over 90% of the endemic plant species are threatened with extinction with around 100 species with less than 100 individuals remaining in the wild. Whilst restoring forest is beneficial for threatened species, those on the brink of extinction requires specific intervention to increase their wild as well as their *ex-situ* population.

These actions involve plant search and monitoring; collection of seeds and cuttings, propagation; re-introduction in the wild and in the field gene banks; *in-situ* micro-management and storing seeds in local and international seed banks for long term storage. The latter safeguards the remaining genetic diversity of the species and will provide propagation material in later years. MWF runs plant nurseries at Pigeon Wood (Black River Gorges National Park), Ile aux Aigrettes and Round Island. Through the rare plant work, MWF has rediscovered plant species that were thought extinct and found new populations of rare plants.

The National Land Development Strategy (NLDS) draft report (p 140/141 of the circulated draft June 2021), see extract below, showed that about 1000 Ha of forest was being lost annually in Mauritius. The publication of the report has been postponed to end of 2024.

Around 47,000 ha of land are under forest cover of which 25,000 ha are privately owned forest lands and 22,100 are state-owned; however, only 6,550 ha of these private lands are protected by law as Mountain or River Reserves. Including Black River Gorges National Park (*Our note: C, 6700/6800 Ha*) and Pas Geometriques just over 8,000ha of state forest lands are protected as Nature or Islet Reserves.

In 2003 there were 56,600ha of forests (state and private), prior to which time (*Our note: period not stated*), some 10,000 hectares of forest lands had been cleared mostly for infrastructural developments, including built-up areas, roads, agriculture, reservoirs, and dams. By 2014 the total extent of forest cover in Mauritius had fallen again, by another 10,000 ha to 47,103 ha, representing about 25% of the total.

In 2022, we discussed with several researchers the possibility of documenting forest destruction on Mauritius, so as to alert the authorities and the public about this worrying trend.

MWF co-chairs the IUCN (International Union for the Conservation of Nature) Mascarene Islands Plant Specialist Group, with overview on Mauritius and Rodrigues from 2021-2024. The group brings specialists together and is working on completing the red-list of Mauritian plants.



## Rare Plants Project



### Ile aux Aigrettes

The Ile aux Aigrettes flora team focused on several rare highly threatened plants species in 2023 namely: *Aerva congesta*, *Phyllanthus revaughnii*, *Ochrosia borbonica*, *Dictyosperma album* var. *conjugatum*, *Barleria observatrix*, *Pandanus vandermeeschii*, *Ruizia boutoniana*, *Sideroxylon boutonianum* and *Zanthoxylum heterophyllum*. We collaborated with the Botanical Garden Conservation International (BGCI) project funded by Franklinia Foundation (focus on trees), and the Conservatoire Botanique National de Brest (France) to conserve these species.

**Plant surveys and monitoring:** All the focal species mentioned above are found on Ile aux Aigrettes as original or re-introduced populations and are monitored on a monthly basis, propagated and taken care of in the Ile aux Aigrettes nursery. A monthly phenology survey is also undertaken to check the health and status of the plants. The team also undertook micromanagement activity around some of the plants when required. Rare plants planted this year and last year were also regularly monitored and aftercare, such as watering, mulching and weeding was provided when needed.

Several trips were undertaken to external sites throughout the year to monitor *Zanthoxylum heterophyllum* at Trou d'Eau Douce (Montagu and Pointe Maurice) *Ruizia boutoniana* on Le Morne, *Barleria observatrix* in Mondrain and Corps de Garde and various plants at Le Pouce (*Pandanus pseudomontanus*). During each trip a phenology survey was conducted; GPS coordinates were recorded for new individuals found; the threats were assessed, and propagation materials were collected occasionally. To note, *Phyllanthus revaughnii*, *Aerva congesta* and *Dictyosperma album* var. *conjugatum* have wild population on Round Island and are monitored monthly by the Round Island team.

Plant surveys were also conducted at Ferney Valley to monitor rare plant species such as *Eugenia bojeri* and *Pandanus iceryi*. Additionally, other sites like Yemen, Montagu, Pointe Maurice and Tourelle du Tamarin were also surveyed for rare plants as *Badula crassa* and *Zanthoxylum heterophyllum*.

**Collection of plant materials and propagation:** The following seeds were collected for propagation, and some were stored in the Ile aux Aigrettes nursery:

72 *Dictyosperma album* var. *conjugatum*, 2314 *Zanthoxylum heterophyllum*, and 205 *Pandanus vandersmeeschii*. 12 cuttings of *Zanthoxylum heterophyllum*, 63 cuttings of *Barleria observatrix* and 50 cutting of *Premna serratifolia* were struck. 941 seeds of *Zanthoxylum heterophyllum* were sown. 27 seedlings of *Pandanus vandermeeschii* were first potted.

**In-situ living collection:** 8 *Aerva congesta* and 1 *Phyllanthus revaughnii* were present as a living collection in the nursery by December 2023. We are aiming to increase the number of individuals for these two species to a minimum of 50 each to keep in the nursery as living collection and the surplus obtained will be planted in coming years.

**Planting:** 237 plants of 20 species were planted on Ile aux Aigrettes in 2023.

**Artificial pollination:** 17 individuals of *Dictyosperma album* var. *conjugatum* are present on Ile aux Aigrettes, which were monitored monthly by the Flora team. Only one of them were found to be flowering. The Flora team and Round island team undertook an attempt on the 16<sup>th</sup> of November 2023 to hand pollinate one mature plant with pollen collected from the one remaining wild individual found on Round Island. However, the pollinated flowers did not last long and no fruit was noted afterwards on that tree.

## Pigeon Wood Nursery and Field Gene Bank



The Pigeon Wood Nursery has been functional since 2001 and minor maintenance work has been undertaken in 2023. The Field Gene Bank is surveyed regularly, and a survivorship monitoring was conducted. Rare plants such as *Gouania tiliifolia*, *Psiadia cataractae*, *Tectiphiala ferox*, *Polyscias gracilis*, *Tetrataxis salicifolia* amongst others have been observed flowering and fruiting during the year.

Circular weeding around the individual plants and general weeding in the Field Gene Bank was conducted regularly. In 2023, we had the assistance of NPCS labourers who came on a regular basis to undertake thorough weeding in the field gene bank.

Propagation of plants in the Pigeon Wood nursery has been carried out in 2023. 211 cuttings of 16 species, 1350+ seeds of 33 species and 75 seedling of 6 species were propagated in the Pigeon Wood

Nursery in 2023 and included some critically endangered species: *Polyscias gracilis* 15 seeds; 4 seedlings and 134 seeds of *Albizia vauhanii*; 174 seeds of *Syzygium pyneei*; 400+ seeds and 7 cuttings of *Tetraxis salicifolia*; 10 cuttings of *Senecio lamarkianus*; 6 cutting of *Chassalia boryana*; 40 seeds of *Barleria observatrix*; 200 seeds and 2 cuttings of *Ruizia boutoniana*; 140 seeds of *Hibiscus genevii*. The first five species were part of the now completed Zero Extinction project with the Conservatoire Botanique National de Brest (France) and Critical Ecosystems Partnership Fund.

The team did several trips to different sites (Mondrain Reserve, Le Morne Nature Reserve, Tamarind Falls, Le Pouce Nature Reserve, and Corps de Garde Nature Reserve) to survey and monitor threatened plants, collect phenology data, and collect propagation materials when available.

## Habitat Restoration

### Ile aux Aigrettes

The Western Indian Ocean Strategic Action Programme (WIOSAP) project entitled 'Restoring the integrated native terrestrial habitat and seabird community of Ile aux Aigrettes, Mauritius' began in December 2019 and has been extended a number of times due to the COVID-19 pandemic which has affected WIOSAP projects in Mauritius and worldwide. The project aims to restore the native terrestrial habitat and seabird community of Ile aux Aigrettes. The main project activities included weeding invasive alien plants of the island, planting, creation of a seabird area, deployment of seabird attractants which include seabird decoys and playbacks of seabird calls, review and improvement of biosecurity on Ile aux Aigrettes and provide training to staff. The project ended in end 2023. The achievements of the project were:

- 13.14 ha has been completely weeded once, including 1 ha which have been weeded partly (only small weeds were present) and 4.9 ha has been re-weeded since the start of the project. In effect, over 14 ha has been weeded.
- 1 ha of habitat suitable for returning seabirds has been identified, mapped, and weeded. Planting of seabird friendly plant species has started in this area.
- A second update of bio-security protocol for visitors and staff to Ile aux Aigrettes has been circulated to key staff.
- A presentation and training session was conducted with MWF Eco-tour and Education staff on the updated bio-security protocol and the seabird project.
- A total of 1832 plants have been planted in newly weeded areas and vegetation gaps.
- 50 seabird decoys have been completely refurbished. 52 decoys were deployed, and the seabird call playback system was activated in August 2021. A monitoring plan was written and monitoring for returning seabirds is being conducted since August 2021.
- 21,145 visitors have visited Ile aux Aigrettes since the start of the project and learned about the ecosystem restoration work conducted on the island.
- 4 videos showcasing aspects of the project have been produced.
- 4 educational panels depicting facets of the project have been produced.
- Numerous local/international partners, researchers, students were exposed to the project during the project period and included the University of Mauritius, Ida Davis Family Foundation, Franklinia Foundation, British High Commission, Durrell Wildlife Conservation Trust Interns, and recently (December 2023) at the Phillip and Patricia Frost Museum of Science in Florida, Miami, US on a joint Bertarelli Foundation/Re:wild presentation on rewilding, and experience sharing with New Zealand scientists working to rescue the New Zealand Fairy Tern *Sternula nereis davisae*, among others.

In 2022 funding was obtained from MOL Mauritius International Fund to continue this work.



## Mondrain Reserve



Funding was secured from BIOPAMA in December 2020 for 'Developing a management plan for Mondrain Reserve (Mauritius) and improving accessibility for greater PA management effectiveness and visibility'. Through the project we were able to purchase a new 4x4 vehicle which facilitated access to Mondrain to conduct rare plant species recovery work, plant surveys and localized weeding. A management plan was prepared using a participatory approach and completed in 2022.

In 2023, we applied to the US Embassy and the European Fund to obtain funding to maximally action the management plan and were awaiting firm acceptance and finalization of administrative processes.

**Flora surveys:** The monitoring and exploration of the Mondrain forest to survey rare plants and get an update on their status was of utmost priority. In total 58 rare plant survey trips were organised in 2023. Highly threatened species such as *Syzygium pyneei*, *Chassalia boryana*, *Polycias gracillis* and *Senecio lamarckianus* were monitored on a weekly basis. Monthly phenology surveys were also conducted to collect information about the flowering and fruiting season of the threatened species, which informs us when fruits are ready to be collected for propagation.

**Micromanagement of threatened plant species and weeding:** The team did micromanagement work (weeding and trimming of other trees which were hindering growth) around some of the threatened plants found in Mondrain. Weeding was also conducted along the main track to remove invasive alien plants. Four days of weeding were scheduled in the reserve, three with Friends of Wildlife and one with Cim Finance.



**Propagation of highly threatened plant species:** Plant materials from 25 species were collected from Mondrain reserve. 800+ seeds of 14 species (including seeds of 3 Critically Endangered species) and 100 cuttings of eight Critically Endangered species were collected from Mondrain for propagation in MWF nurseries. This included highly threatened species such as *Polyscias gracilis*, *Distephanus populifolius*, *Barleria observatrix*, *Ruizia boutoniana* and *Syzygium pyneei*. Two species have already germinated namely, *Ruizia (Trochetia) boutoniana* and *Syzygium pyneei*. Some of the seeds collected were also kept in storage for future use and as a conservation measure.

**Extension of the reserve:** Various discussion, meetings and site visits with the Medine Group that started in 2022 culminated in the signing of an agreement between the Mauritian Wildlife Foundation and the Medine Group in 2023. We were pleased to obtain an extension of the reserve from 5 to 10 Ha, and a lengthening of the agreement to 60 years. Both of these outcomes had been recommended in the management plan.

## Other

**MWF Flora Strategy:** A Flora Strategic Plan for MWF was developed in 2021 using the Open Standards facilitated by Durrell Wildlife Conservation Trust. A scope and vision were put together, conservation targets identified, a target viability assessment and a threat assessment were conducted and completed, a conceptual model produced, the strategies were formulated and a result chain for each strategy was developed with the objectives and indicators. The Flora strategy final draft was sent for final review in December 2022, and was being finalized in 2023. However, many of the actions are being followed even though the strategic plan has not been finalized e.g. land purchases, partnership development, staff recruitment.

**Capacity building:** The Mauritian Wildlife Foundation (MWF) and Botanic Garden Conservation International (BGCI) organised a Plant Propagation Training course from 29 May to 2 June 2023 in Mauritius. 2 trainers from the South African National Biodiversity Institute (SANBI), Mr Phakamani Xaba (Conservation Research Horticulturist) and Mr Mpendulo Gabayi (Senior Conservation Horticulturist) led the week-long training session which was held on Ile aux Aigrettes and at Blue Bay. They were assisted by Mr Alex Hudson (Plant Conservation Project Manager) and Ms Itxaso Quintana (Consultation Assistant Officer), both from BCGI. Some 18 participants from various stakeholder organisations working for the conservation of the flora of Mauritius (NGO, private and public sector) were invited to attend the course.

The training comprised of various theory and practical classes. The participants learned techniques to collect seeds and vegetative materials, conducted experimental propagation trials, germination tests, research about the target species, seed viability testing and germination tests, germination monitoring, potting of seedlings, experimental trial for rooting and learned how to record data on a specific data collection form, amongst other activities. The whole process led to set up a uniform Propagation Protocol which was the main aim of the training.

**Integrated Environment Monitoring Plan (IEMP) monitoring:** During 2021 a new vegetation monitoring protocol was put together and tested to assess the impact of the Wakashio oil spill on the coastal vegetation on Ile aux Aigrettes. The vegetation monitoring that was put in place in 2021 was repeated in September 2023 (as previously in 2022). 24 sites were monitored, which includes 12 areas where plants were directly affected by the oil and 12 control points. Data on plant location, vigour, growth, and phenology were collected as part of this monitoring survey.

**Plant and seed donations:** 261 plants of 20 species and 553 seeds of 4 species were donated in 2023. All donations were related to either endemic gardens, education projects, funders or for a flora project. In addition, we provided 2610 seedlings from 6 species to the National Parks and Conservation Service.

# RODRIGUES

Forest clearance, introduction of invasive plant and animal species, predators (e.g., rats, cats and dogs), overexploitation of the island's nature resources, unsustainable agricultural and farming practices and soil erosion have led to the demise of much of Rodrigues rich biodiversity. Well over 20 bird species and a host of plants are, as a result, extinct. The Mauritian Wildlife Foundation (MWF) has been active in Rodrigues since the 1980s in an attempt to save the remaining species from extinction via monitoring, propagation of native and endemic plants and restoration and recreation of natural habitats for Rodrigues native fauna. An education and outreach programme was also set up early on to sensitise the local population and a ecotourism activity launched in 2016 to generate sustainable financing, while making conservation zones accessible, physically, to the public.

## Grande Montagne Nature Reserve



## Background

The Mauritian Wildlife Foundation (MWF) has been working in the Grande Montagne Nature Reserve (GMNR) since the 1980s and in a programmatic manner since 1995 and the visitor is now able to enjoy areas of maturing forest while witnessing other more recently restored areas or view restoration underway. Around 98% of the 25.5 ha fenced area at Grande Montagne has undergone initial restoration to date and the aim of MWF is to complete the initial restoration of this reserve within the next 2 years with the current 5-year EU financed project. Over 231,884 plants have been planted in the reserve by MWF so far and 41 plant species endemic and native to Rodrigues are successfully conserved on Grande Montagne.

The forest is a core habitat to the surviving endemic animals and insects of Rodrigues. From about only 30 birds, the island-wide population of the Rodrigues Fody has reached an estimated 20,000 individuals in 2016, whilst that of the Rodrigues Warbler increased to an estimated 25,000 individuals over the same period, in part due to the habitat restoration on Grande Montagne, where both species can be seen thriving. The GMNR project involves the local community, providing employment to restoration labourers from the nearby villages and organising 'restoration working days' with grassroots associations to sensitise and empower the local people in habitat restoration. The reserve is a key education site in the Rodrigues Environmental Education Programme where students visit and are taught about the reserve and its importance and more generally about conservation of biodiversity in Rodrigues. The reserve is also open to the public for paid guided visits.

In 2018, 5 sub-adult Aldabra Giant Tortoises were introduced into the Reserve, and in 2020 another 5 smaller individuals. Through 2023, the 10 tortoises were monitored once a month and they are all in excellent health.

Two small temporary in-situ plant nurseries set up in 2021 in the GMNR with a capacity of up to 15,000 seedlings of 22 native species continued to be operated through 2022. These are run by 2 lady Restoration Labourers and managed by the Nature Reserve Officer, with regular monitoring visits by the Nursery Officer. This initiative continues to be successful, with all seedlings showing excellent signs of rapid growth and even very rare plants such as the Stinkwood (*Foetidia rodriguesiana*) germinating there in large numbers. This nursery produced 1,070 plants in 2022, that were either planted in the GMNR or donated to the community via the Rodrigues Environmental Education Programme. When the planting season resumes in early 2023, the presence of these seedlings within the reserve means resources such as transportation, staff time and energy will be saved.

## Main Actions

- The 3-year MCB Forward Foundation project ended on 30<sup>th</sup> June 2023. The last tall roadside exotic trees (Eucalyptus, Tekoma and bois noir) could not be cut as permission was not granted by the RRA Commission for Forestry.
- Initial restoration in 1.5 hectares of European Union and Chester Zoo plots in the GMNR.
- Control of Invasive Alien Species in 10 hectares within the GMNR, including in the MCB Forward Foundation plot.
- 23,151 endemic and native plants of 31 species were planted.
- Monthly morphometric monitoring of 10 Aldabra Giant Tortoises by the field team.
- In-kind manpower was not made available from the Rodrigues Regional Assembly (RRA) via the Seasonal Octopus Fishery Closure Alternative Livelihood Scheme in 2023.



## Anse Quitar Nature Reserve



### Background

The Anse Quitar Nature Reserve (AQNR) contains Critically Endangered plants within some of these last relicts of lowland calcarenitic forest on Rodrigues, although even these are highly degraded. Small-scale restoration began in Anse Quitar in the mid-1980s, and the Mauritian Wildlife Foundation began a larger scale restoration project in 2010 with a focus on employing conservation labourers from the local community.

All 35-ha of the fenced reserve have undergone initial restoration, with MWF planting 145,460 native Rodriguan plants. By restoring this area, extremely rare plants such as bois pasner (*Zanthoxylum paniculatum*) are safeguarded and endemic and native habitat is recreated for the endangered Rodrigues Fruit Bat (*Pteropus rodricensis*), Rodrigues Warbler, Rodrigues Fody and various other cryptic species.

The main challenge posed is that the Anse Quitar River and banks are heavily invaded by the highly invasive alien plant la coqueluche (*Millettia (Pongamia) pinnatta*). From 2021 to 2023, thanks to funding from the European Union and UNDP GEF Small Grants Programme, a strategic approach has been adopted and is being implemented to control this species, via the elimination of all fruit-producing mother plants, the collection and destruction of fallen fruit and the systematic uprooting of all juveniles.

The restoration work is being carried out by a team of labourers residing in the surrounding villages with a focus on supporting poverty alleviation through training and employment so they may acquire a marketable skill. Restoration working days are organised with grassroots associations to sensitise and empower local people in habitat restoration and conservation.

The reserve is included in the Rodrigues Environmental Education Programme, where students visit and are taught about the reserve and its importance.



## Main Actions

- 14,120 endemic and native plants of 35 species were planted in the EU/GEF plot and along the river in Anse Quitor Reserve.
- Within the Rare Plant project supported by Botanical Gardens Conservation International (BGCI), focussing on micro-management of critically endangered flora, the last wild *Dombeya rodriguesiana* founder tree was referenced within the AQNR, by extending the Reserve perimeter fence to encompass it. This was done in collaboration with the Forestry Services of the RRA.
- 2023 saw a continuation of the 5-year EU and of the 2-year UNDP-GEF-SGP conservation project partly aimed at eradicating *Millettia (Pongamia) pinnatta*.
- Significant efforts were made to 1) uproot rather than chop regrowths, 2) Cut down and treat with short-lived systemic herbicides all fruit-producing trees (including upstream of the AQNR), 3) collect and destroy all seeds to halt new growth.
- Deployment of the second legal signage at the Cascade Jean Louis entrance of the Nature Reserve, closest to the DCP plot.
- Setting up of a small shed in the AQNR to store heavy tools such large uprooters, mining bars, pickaxes and such like, with support from EU contingency funds.

## Ile aux Cocos and Ile aux Sables, Rodrigues



## Background

Ile aux Cocos and Ile aux Sables, two sandbar islets to the West of Rodrigues, of 15 and 8 Ha respectively, are renowned for their breeding seabirds, water birds as well as migratory birds and occasional prospecting seabirds. The islets are also the last place on Rodrigues where there is natural vegetation succession (from coastal strand to shrub to tree), and despite their small size hold several ecotypes (strand, grasses, marshes, forest). Ile aux Sables also supports the only known breeding population of the Roseate Tern (*Sterna dougalli*) and population of bois mapou (*Pisonia grandis*) in the Mascarenes.

By virtue of the biodiversity hosted by these islets, they are classified as an 'Important Bird Area for Africa' by Birdlife International. The Mauritian Wildlife Foundation has had a long history of involvement with these islets and has continuously advised the RRA in formal and informal capacities on their management, giving advice on planting, weed control and on the management of the bird populations. Despite their native biodiversity, the islets have been severely modified by man and the vegetation communities have been replaced to a great extent by casuarinas and coconut plantations, damaged by invasive exotic plants and animals, coastal erosion, and by inadequately managed human visitation.

Five information boards, replacing previous ones, were deployed by MWF on the visitor's centre veranda walls in 2019 covering the nesting and non-nesting seabirds as well as the restoration work done there.

An important seabird mortality event occurred in early February 2023. MWF staff were present in the field for the surveys. The RRA veterinary report stated an underlying cause of death targeting the Lesser Noddy species possibly related to a disruption in the ecosystem, malnutrition or high tick infestation seen during the surveys and its related consequences. Over 1,000 juvenile Lesser Noddies were found dead on Ile aux Cocos and approximately 176 juveniles on Ile aux Sables.

## Main Actions

- Seabird censuses were carried out four times in 2023 by the MWF team, one of which was in the presence of MWF Executive Director and the new MWF General Manager, bird populations appear stable.
- Signage was removed and site visits took place to plan for renovation of the Ile aux Cocos visitor centre building and vicinity.
- Information was handed to Discovery Rodrigues, based on the MWF signage, to include in the upgraded information centre.

## Grenade Community Forest



## Background

In 2013, a strategic project was developed by Shoals Rodrigues in collaboration with the Mauritian Wildlife Foundation, with the guidance of the Rodrigues Regional Assembly and funded by the GEF Small Grants Program. The aim of the project was to develop a sustainable alternative livelihood for 12

fishers in the Grenade area to reduce pressure on dwindling marine resources. One component of the project allocated to MWF Rodrigues to implement was the setting up of a 1 ha community forest. The flora planted at this site are all species with known medicinal or artisanal uses that can be harvested and sold for revenue, reducing the need to fish. Since these plants would need a considerable amount of time to reach maturity for exploitation, two small vegetable and fruit gardens were also setup to produce revenue in the short term. A tool shed, water reservoir and rainwater harvesting system were also built as part of the project.

Unfortunately, since rainfall is extremely low in this area, the vegetable garden did not prove to be successful. Therefore, to obtain a steady source of water, MWF tried to set up a cooperative for the fishers so they could apply for a water connection, however this failed. MWF also tried to obtain an agricultural land lease, but this also did not prove successful. MWF then tried applying for an agricultural permit for the land to assure a water connection, unfortunately no progress was made on this front in 2023.

Up to 2021, 6 octopus fishers of the original 12 return during the seasonal octopus fishery closures to maintain the site, cutting pikan loulou (*Acacia nilotica*) regrowths and replanting in the wet season to replace mortalities in the native plant population. Regrettably, in 2022 and 2023 no Octopus fishers were allocated to MWF, so all maintenance work was done in-house by the GMNR Restoration team Labourers and staff. Ten years later, the forest is growing slowly, due to the dry climate at the site.

## Main Actions

- Maintenance weeding of the pikan loulou and raketete (*Opuntia stricta*) in the entire 1 ha plot.
- Several poles supporting the perimeter fence were repaired or replaced.
- Clearing of the access path clogged up by pikan loulou regrowths.
- Planting of 100 native and endemic plants of 9 species.
- To date, the land is still vested with the Commission for Forestry, without a freshwater connection, despite all attempts so far to obtain one with various Commissions of the RRA.



# Solitude Nursery



## Background

The Solitude Endemic Plant Nursery was set up in 1996/7 with World Bank funding. The nursery has undergone several enlargement and major upgrades since then. Over the years MWF Rodrigues staff have propagated 57 native and endemic species of plants by seed, seedlings, cuttings and aerial layering for all Mauritian Wildlife Foundation's restoration projects. The nursery also propagates plants for other purposes such as donations towards endemic gardens in schools, villages and other organisations. In-kind manpower has been made available from the RRA via the Seasonal Octopus Fishery Closure Alternative Livelihood Scheme and the Tourism Alternative Livelihood Scheme in since 2012 to 2021. In 2022 and 2023, no assistance was afforded.

## Main Actions

- 39,429 endemic and native propagated plants of 49 species were in stock in the nursery as at 31<sup>st</sup> of December 2023.
- 43,163 endemic and native plants were transferred out from the nursery for conservation purposes in 2023.
- Upgrading works in the nursery with the financial support of the EU were completed in 2023, a water drainage system on both levels was constructed to evacuate excess rainwater.
- Theory and practical propagation protocol training of MWF, Forestry Service and François Leguat staff at the Nursery was delivered by BGCI and SANBI staff.
- Media coverage of 3 actions in the solitude nursery (Anougrandi volunteer work, BGCI/SANBI Propagation Protocol Training, EU Ambassador visit).
- Visits by 43 students and teachers, and assistance by 30 volunteers through the year.



## Rare Plants



### Background

The Indian Ocean Islands is a hotspot area for threatened endemic plant species. The Conservatoire Botanique National de Brest, France (CBNB) and Botanical Gardens Conservation International (BGCI) have been working for several years with MWF to save and propagate rare plants, build ex-situ collections as well build capacity in Mauritius and in Rodrigues to protect these species.

CBNB and BGCI will continue work with the Mauritian Wildlife Foundation over the coming years to secure living collections and/or the reintroduction to the wild of some 15 plant species from Rodrigues assessed as Critically Endangered.

Project activities will include working with the existing network of international botanic garden experts to establish propagation programmes for species where efforts have previously been unsuccessful, developing a seed bank and protecting threatened founder plants in the wild.

In addition, reintroduction programmes have been initiated for species such as *Zanthoxylum paniculatum* at Anse Quito that would be more secure if established at additional sites.

CBNB and BGCI and other partners in the network will accompany in-country project teams to build capacity during survey and collecting trips, and experts from the Ecological Restoration Alliance of Botanic Gardens will be identified to support propagation and reintroduction efforts.

### Main Actions

- Continuation of work under the active agreement with BGCI aiming to conserve 8 IUCN critically endangered tree species, namely *Antirhea bifurcata*, *Badula balfouriana*, *Dombeya rodriguesiana*, *Eugenia rodriguesensis*, *Foetidia rodriguesiana*, *Hibiscus liliiflorus*, *Pyrostria revoluta* and *Zanthoxylum paniculatum*.
- Phenological visits were carried out on the 8 focal species affording a better understanding on their flowering, fruiting and budding habits to better protect them.

- Propagation trials were also done on as many of the above species as possible, depending on the availability of propagation material
- Theory and practical training over 5 days in Rodrigues of MWF, Forestry Service and François Leguat staff in Plant Propagation Protocols, by BGCI's Alex Hudson (Plant Conservation Project Manager – Africa and the Indian Ocean Islands) and Itxaso Quintana (Conservation Assistant Officer – Practical Tree Conservation) and South African National Biological Institute (SANBI) Phakamani Xaba (Conservation Research Horticulturist) and Mpendulo Gabayi (Horticulturist)
- Planting of 511 focal species trees: 145 *Eugenia rodriguesensis*, 68 *Foetidia rodriguesiana*, 156 *Hibiscus liliiflorus*, 142 *Pyrostria revoluta*, of which 434 in the GMNR, 61 in the AQNR and 15 in the François Leguat Reserve and 1 to the Pointe La Geule Prison
- All founder plants of the above 8 species were visited, marked with aluminium tags were tagged were missing, had ecological information pertaining to them collected, main threats noted, and GPS locations recorded
- The founder protection action continued throughout 2023, with 4 plants from 3 of the focal species benefitting from protective fences (x2 *Foetidia rodriguesiana* , x1 *Pyrostria revoluta* , x1 *Dombeya rodriguesiana*)
- Inclusion of the last founder *Dombeya rodriguesiana* in the Anse Quitor Nature Reserve, by moving the nature reserve fence around the founder tree

# Rodrigues Environmental Education Programme



## Background

The Rodrigues Environmental Education Project (REEP) has been operational since 1998 and after two successful decades won the Philadelphia Zoo Global Conservation award in 2018. From its inception REEP has been involved with the community, aiming to change people's attitudes towards the environment. This is achieved through awareness-raising and informal environmental education initiatives involving talks in schools and to the media, visits to restoration areas and environmental education campaigns including outreach to community groups for them to experience 'hands-on' the habitat restoration process. Volunteer's day is celebrated with activities and hand-outs of educational materials for those who have volunteered for MWF during the year. REEP also focuses on sensitising school children about environmental issues that affect Rodrigues and encourages them to take pride in their natural heritage. Work continued in collaboration with Chester Zoo on evaluating the education visit to Grande Montagne via the analysis of questionnaire data collected from school children of various ages with the assistance of Government and Roman Catholic Aided (RCA) schools pre and post visits to the GMNR.

## Main Actions

- 5,922 plants were donated to primary schools, colleges, villages and other organisations.
- 1,301 students and 239 teachers participated in educational visits of the Solitude Nursery, Grande Montagne Nature Reserve and Anse Quitor Nature Reserve.
- 332 school children and 12 teachers were present during 8 educational talks.
- 240 villagers were present during 9 educational talks in the village community.
- 380 volunteers helped towards terrestrial conservation in Rodrigues contributing some 493 workdays.
- 15 interviews were broadcast on TV and Radio, 1 on TV only and 3 on Radio only providing media coverage for conservation actions carried out by MWF.
- 16 monthly blogs were published online for MWF's and other partners', collaborators' and funders' social media pages.
- 4 articles were published on Newspapers and magazines.
- Chester Zoo Conservation Scientist, Greg Counsell presented his preliminary results on the REEP evaluation exercise carried out between 2019 and 2022, to MWF Executive Director, Rodrigues



Manager, Environment Educator and Chester Zoo, Field Programme Coordinator for Madagascar and the Mascarenes, Claire Raisin. Work began on the drafting of a scientific publication based in the survey questionnaire data.

- On the 5th of December the International Volunteer Day was celebrated. A Fun Day was organized on Pointe Cotton beach where the MWF team enjoyed a nice get together with some 160 volunteers who have brought their precious help in conservation works throughout the year. Entertaining games were on the agenda and gifts were also given to winners. All the participants had lunch together in a bonding atmosphere. Each volunteer received a certificate of appreciation before the event ended.

## Eco-Tours Grande Montagne



### Background

The Grande Montagne Nature Reserve has always been open to the public for visits. In 2013 the Rodrigues Regional Assembly approved plans for the MWF to conduct paid guided ecotourism activities in this Nature Reserve, which began in February 2016. A dedicated Ecotour Ranger was recruited to deliver tours in 2016, an Ecotour Officer position created in 2018, and an additional Ecotour Ranger / Assistant recruited in 2022. This activity has gone from strength to strength with a rapid increase in the number of visitors, revenue and sales of MWF merchandise.

2023 saw the Grande Montagne Nature Reserve Ecotour win 2 awards, notably Trip Advisor's "Traveller's Choice 2023" and, TripExpert's "Experts' Choice Award". On the TripAdvisor website, the GMNR became: [#1 of 12 things to do in Rodrigues Island](#) maintaining a 5-star rating. On GoogleMaps, this activity has also maintained a 5-star rating.

### Main Actions

- In 2023, 2,678 paying customers visited the reserve, representing a significant increase in the number of visitors compared to the previous year.
- In 2023, 1,472 complementary tours were given, of which, 1,388 were given to Rodriguan students and teachers free of charge via REEP. The remaining 84 were given to VIPs, tour operators, members of the press, RRA officers, visiting scientists, collaborators, and funders.



- MWF maintained, repaired, and upgraded, when necessary, the information signage 'hats' in the GMNR, the front main sign, benches and worn steps leading up into the reserve.
- Plans begun for the creation of handrail up into the GMNR as a new safety feature. Site visits were organised in interested welders, the Forestry Service, and an official letter sent requesting permission to proceed.
- MWF Ecotour Officer visited Chester Zoo under their 'Keeper for a Day' programme to build his capacity in delivering and improving tours.

## Rodrigues Fruit Bat



### Background

The Rodrigues Fruit Bat has been studied since 1974 when it was considered one of the rarest of all vertebrates, with a population of less than 100 animals, and the rarest bat in the world. Since then, the population has steadily increased due to active reforestation by the RRA Forestry Service and MWF, native habitat protection, a decline in hunting pressure, a focused education campaign and the lack of strong cyclones directly hitting the island too regularly.

The population reached ~5,000 individuals in 2002, then cyclone Kalunde hit the island in March 2003 causing a reduction in the population, possibly as high as 50%. This was caused by post-cyclone food shortages that resulted in elevated juvenile mortality. Simultaneous counts of bats leaving from different roosts, from 2007 to 2016, show that the population recovered, and continued to grow to an estimated ~20,000 individuals. In 2016, explorations were made in search of new roosts where bat presence had been reported. This record high resulted in its downlisting on the IUCN Red List of endangered species to Endangered in 2017. The identification and monitoring of new temporary or permanent roost sites found and the search for new bat roosts continued as this helps us understand the dispersal response to population increase. In 2018 the Rodrigues Fruit Bat population hit another all-time high of ~24,000 individuals. At the same time, it was noted that there was some dissatisfaction amongst the Rodriguan population for the damage caused by the bat feeding on backyard fruiting trees.

Following two strong cyclones Gelena and Joaninha in early 2019, mortality and strange feeding behaviour (bats feeding on the ground and eating fruit they usually didn't) was reported across the

island, likely a result of the shortage of food. Abnormally low counts (5,423 bats) were recorded in November 2019.

A tropical depression and the COVID-19 lock-down in early 2020 affected the island-wide bat counts and following various consultations, it was agreed only one island-wide bat count would be carried out each year, in November, when the counts have produced the best figures.

In November 2020, the number of bats counted was back up to 18,430 (Total Pop Est: ~20,000) suggesting the population decline was not as severe as previously thought and that they had likely scattered to unmonitored roosts following the two 2019 cyclones.

This population clearly needs to be monitored to assess the impact of cyclones and future population trends. Since the Rodrigues Fruit Bat breeds once a year and usually produce a single offspring (occasionally twins), population counts repeated annually are effective in plotting long term population trends. Regular surveying can also allow a better understanding of the factors affecting bat movement on the island.

In 2022, a data sharing agreement was signed between MWF and Chester Zoo/Chester University such that the data could be analysed, first summarily by an M.Sc. student. The thesis was completed in 2023. Chester University M.Phil. student Ms Amber Williams was recruited to continue this research over the course of 1 year in greater detail and better understand the link between cyclone and the Rodrigues Fruit Bat population. The student visited Rodrigues in November 2023 and assisted in the Island Wide Bat Count. Her thesis is due to be completed in February 2024.

Fortnightly counts are maintained at the Cascade Pigeon roost, with surveyors based at the Malabar crossroad. MWF staff are joined by a wide range of volunteers for the simultaneous island wide counts. These counts are useful to introduce Rodriguans to MWF and these volunteers often become involved with other aspects of conservation projects in Rodrigues and the island wide bat count.

The bat work has helped to inspire respect for MWF's work in Rodrigues. MWF aims to build upon the awareness and educational potential of bat counts to the fullest.

## Main Actions

- One single simultaneous evening dispersal island-wide count was carried out in November 2023 over 3 days at 15 permanent roost sites and in situ estimations done at 13 sites.
- The November 2023 count resulted in 20,842 bats being counted and an estimated 25,000 to be present in Rodrigues. The significant increase in number counted between 2019 and 2023, is the result of no strong cyclones or serious droughts and bats that dispersed to individual roosts now returning to communal roosts.
- 25 fortnightly counts of the Cascade Pigeon Roost were done in 2023.
- Chester University M.Phil. student Ms Amber Williams was recruited to continue the Rodrigues Fruit bat research, to better understand the link between cyclones and the Rodrigues Fruit Bat population. Her thesis is due to be completed in February 2024.
- The 2023 island wide bat count was attended by Ms Amber Williams.

## Rodrigues other Activities



- **Rodrigues Airport Development:** In March 2023, Brian Galligan, Vice President of Horticulture at Naples Botanical Garden, travelled to Rodrigues Island to conduct an in-situ assessment of five trees that are scheduled to be relocated as part of the Airport Development Project at Plaine Corail, in Rodrigues. Significant works were done on the 5 trees, including important digs to prune roots, root wrapping, root ball wrapping, canopy pruning and a site visit to the Anse Quitor Nature Reserve was carried out to look at potential locations for transplantation in 2023. Brian also advised MWF staff on cloning in a closed case environment, with special attention for the *Diospyros diversifolia* and *Terminalia bentzoe ssp.rodriguesensis* that were proving hard to clone. Cloning efforts with the *Foetidia rodriguesiana* and *Polyscias rodriguesiana* on the other hand were successfully done in-house. Propagation by seed and seedling continued successfully for 3 of the 4 species, with the noted exception of *Foetidia rodriguesiana*, that is known to have long dormancy.
- **Green Iguana invasion in Rodrigues:** Following the first sighting of a Green Iguana (*Iguana iguana*) on 3<sup>rd</sup> of December 2019 and reports that 8 individuals had been released in the wild at Terre Rouge, MWF Rodrigues staff have continued to respond to sightings across the island and to date have collected a total of 8 individuals, which have been handed over to the RRA for euthanasia. TV and radio coverage has been aired on the subject to encourage Rodriguans to report all sightings for collection. Another 2 iguanas were collected by MWF staff in 2023 and handed to the RRA veterinary Service for euthanasia.
- **Vehicle replacement:** In early 2023, with the financial support of the Sir J Moilin Ah Chuen Foundation (Foundation of the ABC Group of companies), MWF Rodrigues' 15-year old diesel 4x4 Ford Ranger van linked with the REEP project was sold locally and replaced with a smaller, more ecologically-friendly hybrid Nissan-note.
- **Suivi Temporel de Oiseaux Communs (STOC):** in November 2023 the annual common bird surveys were carried out across Rodrigues by the MWF staff and labourer team. Changes noted include lower diversity and density of endemic birds in new residential areas replacing previously open and vegetated area and increased endemic birds in forested areas.

# EDUCATION IN MAURITIUS



The Mauritian Wildlife Foundation (MWF) recognises that the long-term survival of Mauritius' endangered biodiversity depends on the continuous education of Mauritian and Rodriguan children and raising the level of awareness among the public at large to overcome human indifference towards conservation. MWF believes that this depends on providing opportunities for everyone to appreciate strategic areas, local species, and foster education to highlight the ecological, aesthetic, cultural, spiritual, recreational and economic importance of protecting our endemic animal and plant species. MWF is conscious of the challenges involved in changing attitudes to the environment. One of the MWF's missions is: 'To share the joys and benefits of native wilderness and wildlife with the Mauritian people'. To achieve this mission, various educational initiatives are undertaken by MWF.

The Education Programme is composed of projects brought together within the MWF Education Strategy. The current projects encompass four out of the five identified goals: Islets Education, Connecting with Nature, Invasive Species and the Human-Wildlife Conflict with the Mauritius Fruit Bat. We are advised and supported by the North of England Zoological Society (Chester Zoo).

## Main actions

The following are general educational actions which will address more than one of the goals.

- We participate in exhibitions when the opportunity arises, depending on the circumstances, staff are present, or we lend our panels. In 2023, we had 3 events comprising of 9 exhibition days.
- There were 61 Facebook posts published on MWF's Facebook group *Anou Protez Nou bann zil*.
- An educational signboard about the Southeast islets was installed at Pointe Jerome Youth Centre.
- An assessment of potential health and safety risks that could be associated with activities of the Education was prepared for the Health and Safety Audit review.
- Education materials consisting of mugs, tote bags, pen drives, endemic plant, plant labels, Native plants and animals of Mauritius books and Colouring books on endemic birds, caps, t-shirts, pen drives, invasive species flyers and posters, factsheets, and teacher's guides were purchased and used as tokens to distribute to our stakeholders to support the programme.



## Islets Education Project



### ***'Anou protez nu bann zil'***

## Background

The project began in the southeast in May 2017, funded by the European Union (EU) via the Indian Ocean Commission (IOC), until October 2018 and aimed to educate leisure boat skippers and staff, fishermen, private boat owners and coastguards in the region on the protection of the native wildlife on the southeast islets. The objective is to have a reduction in human-mediated threats such as littering, open fires, trampling and new exotic species introduction hence helping to conserve the endemic/native animals and their habitat. The islets involved are Ile aux Aigrettes, Ile aux Fouquets, Ile de la Passe, Ile Marianne, and Ilot Vacoas which are home to endemic species of reptiles, birds and plants as well as seabirds.

New funding was secured from the Mauritius Commercial Bank in July 2019 and again in December 2022 to continue the project in the southeast and start and consolidate a similar project in the north where we have six islands of conservation importance namely Round Island, Gunner's Quoin, Serpent Island, Flat Island, Ilot Gabriel and Pigeon House Rock.

The main project activities include participative training workshops; educational visits to islets, monitoring of the project impact on the islets and production and distribution of educational and promotional materials and questionnaires to assess change in knowledge and attitude. The leisure boat skippers/assistant skippers who follow the training programme to completion receive an 'Eco-Aware Skipper' certificate and an 'Eco-Aware' sticker for their boat, which add more value to their work and a waterproof factsheet about the islets which include a list of do's and don'ts to protect this unique natural heritage.

# Main actions

## **Southeast Islets**

- Participatory workshops:
  - One with 19 National Coast Guard (NCG) officers from the area
  - Three for 45 skippers
  - Three Refresher courses with 28 skippers
- Educational tours to Ile aux Aigrettes:
  - Two with 19 NCG officers
  - One with 8 Senior officers of NCG
  - One with 7 skippers
  - One with 3 fishermen
- Educational Tours to Southeast islets (Ile de la Passe & Ile aux Fouquets):
  - One with 13 NCG officers
- Educational Tours Ile aux Aigrettes & Southeast islets (Ile de la Passe & Ile aux Fouquets):
  - One tour was completed with 13 skippers
  - One tour involving was undertaken with 11 attendees of the December Stakeholders' meeting
- Two stakeholders' meetings were held with an attendance of 12 and 14 participants respectively
- Seven monitoring trips to Southeast islets were undertaken
- Six islets talks at schools with 395 students and 16 teachers of the southeast region were done
- Distribution of educational materials to 23 skippers, 5 NCG officers of the North and 3 officers of the Forestry Service.

## **Northern islets**

- Participatory workshops:
  - One with 10 NCG officers based in the North.
  - Four with 38 skippers
  - Two with 40 fishermen
  - Two Refresher courses with 22 NCG officers
  - One Refresher course with 10 skippers
- One stakeholders' meeting was held with 16 strategic partners
- One presentation was carried out at Grand Baie Yacht Club with 18 members.
- Six islets talks at schools with 265 students and 18 teachers were conducted in the region
- Three monitoring trips were conducted on Ilot Gabriel and Flat Island

## **General**

- At the national level, in collaboration with the Tourism Authority, 4 presentations were conducted with a total of 141 skippers on various dates. These skippers were being trained on several marine and marine-related subjects.
- We experienced significant issues of noise, littering and intrusion on Ile aux Aigrettes and other Southeast islets – both closed and open islets. Several actions were set up to tackle these including separate consultation meetings with the National Coast Guard (Eastern Division in Belle Mare), the Tourism Authority and a Communication agency, to guide us in the appropriate response and request for support to these.

## Connecting with nature project



### Background

Following the Education Strategy workshop facilitated by Chester Zoo (UK) and held in September 2019 a number of goals for the education project were established. One of these goals was 'Increase the connection between Mauritian people and nature'. This goal was integrated into the Education actions since July 2020 and different identified actions have been implemented since then. Funding for some actions under this goal has been secured from the Mauritius Commercial Bank (MCB).

### Main actions

#### **Learning with Nature on Ile aux Aigrettes**

As from 2009, the MWF developed 'Learning with Nature', a structured educational programme on Ile aux Aigrettes which supports the national school curriculum and is supported by the Ministry Education and Human Resources, Tertiary Education and Scientific Research. MWF's 'Learning with Nature' programme strives to promote greater environmental awareness and support for conservation nationwide by helping to create the next environmentally conscious citizens. Students have the opportunity to visit the islet, discover a nature reserve, and appreciate its biodiversity, witness actions undertaken to save species from decline in their restored natural habitat, obtain support towards their school curriculum, and return armed with knowledge and educational materials.

- The programme was severely hit by the COVID-19 pandemic and post pandemic, schools focused on catching up with the curriculum. Only in 2023 did the schools begin sending students on outings
- 1083 students and teachers from 22 institutions including 1 from Reunion Island, did the Learning with Nature trail (versus 2022: 289, 2021: 241, 2020: 366 and 2019: 2882 educational visitors)
- 282 children and adults from 5 NGOs visited the Nature Reserve

## **Connecting with Nature presentations and activities with schools**

The Connecting with Nature programme with schools consists of an interactive face-to-face presentation, a donation of booklets (Discovering Dodos or Colouring booklets on endemic birds for primary pupils and Native plants and animals of Mauritius for secondary students), the planting of endemic species with accompanying plant labels for the school endemic garden, and a distribution of stickers to primary children.

A total of 22 school activities were conducted during the year and they involved 18 institutions, 12 primary and 6 secondary schools. The activities included our regular Connecting with Nature programme and interventions made on request.

- For the regular programme, 14 presentations were delivered with 1,293 students and teachers
- Additionally, 7 requests for intervention were entertained. These included speeches for World Wildlife Day, the National Day, support for school projects such as assignments, drawing competitions, field trips, and one environmental and intercultural retreat, and a total of 674 students and teachers were reached
- Two sets of tickets to visit Ile aux Aigrettes were offered to the winners of the drawing competition that was organised at a school
- Two educational visits to Ile aux Aigrettes were customised to support school projects. These involved 30 students and 4 accompanying parents in total

While the above activities mainly aim at the participation of children, we also set up working sessions with teachers to collect their perspectives, experiences and ideas on how to better connect biodiversity with school kids.

- This year, one workshop was carried out with 9 secondary school executives. Among them were 2 representatives of the Ministry of Education and 2 representatives of Service Diocésain de l'Education Catholique (SeDEC)

## **Presentations with Religious groups and activities with religious leaders**

Other sections of the Mauritian public were identified to support and promote the objective of 'Increase the connection between Mauritian people and nature'.

- 3 presentations were carried out with religious groups. The activities involved 86 people among which 60 were children. Booklets and stickers were given to the children.
- One educational tour to Ile aux Aigrettes was done with 9 members of a religious organisation.
- A workshop was in preparation with new members of the Council of Religions but has had to be postponed for 2024.



## Invasive species education project



### Background

'Reduce the release of invasive species and reduce the introduction of new exotic species in the country' is a goal in MWF's Education Strategic Plan. This goal was integrated into the Education Programme actions in July 2020 and some of the actions identified were implemented. Invasive alien plant and animal species are one of the greatest threats to our native flora and fauna and educating the public about this threat, its impact and actions that can be done to address this issue are crucial in the ongoing battle with invasive species.

### Main actions

- A workshop was organized with the staff members and owners of one pet shop. A total of 14 people attended from three branches that they operate in Mauritius. Among the attendees were also 2 veterinary practitioners and 1 vet assistant.
- Visits to 5 shops selling pet and/or pet supplies were carried out during the year.
- We also responded to the request of the Citizen Support Unit (CSU) for a site visit with local authorities to confirm the presence of Echo Parakeets in the area of Trianon. The species on site - some Indian ring-necked - had been misidentified as the endemic parakeet by the residents.
- We responded to the invitation of UNDP Mauritius and Com & Biz Co. Ltd on 7<sup>th</sup> December 2023, to a consultation workshop towards the development and implementation of a National Invasive Alien Species (IAS) Communication and Awareness Strategy and Action Plan. The document will also serve to develop a National IAS Information System (NIASIS). The ultimate objective of the plan is to raise awareness about the risks posed by Invasive Alien Species in Mauritius. During the

workshop, MWF discussed its recent involvement in sensitising the public on Alien invasive species. These included outreach work targeting islets users, consultation meetings, one-on-one visits and workshops with pet shop employees, veterinary practitioners, authorities and animal welfare associations. MWF also produced posters and flyers and launched campaigns that were broadcasted on various digital supports e.g., billboards and social media platforms for the general public, and digital screens for clients and visitors at the branches of a local commercial bank.

## Human-Wildlife Conflict: Mauritius Fruit Bat

### Background

Bats are the only mammals native to the Mascarene Islands. Three species of fruit bat were once widespread over Mauritius, but two went extinct and the population of the surviving species (*Pteropus niger*) decreased considerably due to habitat loss, cyclones, and illegal hunting. This bat went extinct on Reunion Island, where it was last recorded in 1790. However, it is known that Reunion Island has been recolonized by a handful of individuals over the last decade (now numbering more than a hundred bats) whilst a second species (*Pteropus rodricensis*) has survived on Rodrigues. Due to lack of major cyclones, the population of the *Pteropus niger* (also known as the Mauritius Fruit Bat or Mauritius Flying Fox) has increased over a 20-year period, shifting its IUCN status from Endangered to Vulnerable in 2014. The most recent bat surveys done by the National Parks and Conservation Service in 2022 suggested that the population size of the Mauritius Fruit Bat was over 100,000 individuals.

As the population of the Mauritius Fruit Bat increased, the impact on the commercial fruit orchards and backyard fruit trees, with bats eating the litchi fruits, grew, and the pressure from the public to cull the bats gained momentum. In 2009, a positive step was taken when the Government carried out a sensitization campaign for the protection of farmed fruit and promoted the use of nets to protect fruit from bats and birds, along with a grant scheme to purchase the nets, which was extended into 2022. However, the species faced a serious threat to its existence with a major cull in 2015. The Mauritian Government announced it had culled 30,938 bats in 2015 and 7,380 in 2016 in order to protect the interests of fruit farmers. Further culls have been carried out in 2018, 2019 and 2020 but the official number of bats culled for these years has not been released. However, we estimate that some 55,000 to 60,000 have been killed during these sanctioned culls. The Mauritian Wildlife Foundation, along with the International Union for the Conservation of Nature (IUCN) and Bat Conservation International (BCI) provided scientific and management advice to the Government to show them that the culling could have catastrophic effects on the bat population in Mauritius especially if there was a severe cyclone. Additionally, the evidence from other parts of the world, indicated that culling did not resolve the problem of bats eating commercial or backyard fruit. This was actually queried as during one of the years a major cull was implemented and did not result in increase in fruit production.

There has been no culling in 2021, 2022 or 2023 which MWF welcomes.

The Mauritius Fruit Bat was uplisted to Endangered in 2018, the direct result of the official culling conducted in 2015 and 2016, and the parallel illegal killing of fruitbats.

In order to address the Human Wildlife Conflict, MWF obtained advice from an expert in the subject and undertook various actions including a series of workshops. Following on from the 'Netting Workshop'

in August 2017 and 'Research Workshop' in May 2018, two workshops were conducted, the 'Backyard Workshop' and 'Media Workshop' on 23 and 24 October 2019. MWF regularly refers to the workshop reports and discussions in official meetings, in the media, on the MWF Facebook page, and in conversations with pro and anti-cull proponents.

From the work carried out to address the Human Wildlife Conflict, the advice for the next action needed was to form a multi stakeholder group. MWF initiated this in 2022. The Human-Bat Conflict Working Group (HBCWG) was set up with 14 founder members comprising of the major stakeholders; Food and Agricultural Research and Extension Institute, National Parks and Conservation Service, Forestry Service, University of Mauritius, Mauritian Wildlife Foundation, Mauritius Chamber of Agriculture, APEXHOM, Small Planters Association, Velo Vert, foreign experts from Chester Zoo, UK, and Central European University, Austria, and representatives from local orchard and backyard growers. The group is chaired by an independent retired horticulturist with in-depth knowledge of the fruit sector and respected by all. The group looks at current research, fruit protection (including netting, tree management, and alternatives to culling) and communications subjects to the wider audience. Above all, the working group is a platform for mutual understanding, transparency, information sharing, forward planning, long term visioning, all geared to attempt to resolve or reduce the human-wildlife conflict.

Mr Noel Bergin, Researcher, Aarhus University, Denmark, carried out research on the Human Wildlife Conflict on the Mauritius Fruit Bat (specifically on hindrances to use of nets) as part of his MSc studies, interviewing the public via questionnaires. The study was completed in 2022 and is contributing to the understanding of the conflict and the solutions. Recommendations include:

- The government and stakeholders to educate backyard growers about best practice in fruit tree management (pruning and netting). This should be done through, demonstration orchards, free horticultural training sessions and targeted educational material and events.
- Run campaign (utilizing both mainstream and digital media), to inform backyard growers of where to find information and support with tree management and to encourage adoption of best practice tree management methods.
- Run campaign (utilizing both mainstream and digital media), educating the wider population as to the ecological value of the fruit bat and economic and environmental costs to the whole of Mauritius, if they become extinct.
- Continue the government subsidy scheme; widening the application window and producing targeted information, which should be advertised in locations and media outlets most frequently accessed by the backyard fruit growers.
- Create additional finance scheme, to financially support backyard fruit growers in carrying out pruning and netting (either themselves or using contractors). This needs to include compensation for loss of fruit production when trees are pruned.
- Create tree management task force, supporting communities in protecting their trees.
- Stop the current management technique of culling fruit bats in large numbers. Proven alternative methods of tree protection to be encouraged and applied.

MWF continues to work on fostering dialogue and collaboration with all stakeholders in view of a resolution of the Human Wildlife Conflict.

## Main Actions

- Discussions and exchanges with IUCN Bat Specialist Group, Bat Conservation International, and several other international organisations, as well as the Government of Mauritius, local groups and people.

- MWF was invited to a 'Special Technical Committee' in 2022 but the committee was not convened in 2023. The committee was set up under the Native Terrestrial Biodiversity and National Parks Act 2016, which discusses culling of species. No culling is known to have taken place in 2023.
- The Human-Bat Conflict Working Group (HBCWG) continued to meet regularly in 2023. The group focused on mitigation of losses (e.g. netting, pruning, and other methods), research (mainly PhD research by students of the University of Mauritius, and a Danish MSc student from University of Aarhus, Denmark), information sharing amongst group members, communications mainly aimed to the general public, and avoidance of a cull.
- General ongoing actions are carried out under the MWF bat education programme:
  - Communication in the media & social media.
  - Promoting of tree netting:
    - produce and distribute a Brochure, put it on MWF's website,
    - produce a QR Code poster to share on social media and distribute posters to retailers of nets.
  - Produce promotional items including a T shirt, tote bag and Bat plush toy.
  - The 10-minute film "Mauritius Fruit Bats under threat" is used in presentations and accessible from the MWF website.
  - Presentations given to schools & community groups, universities, public talks etc



# FRIENDS OF MAURITIAN WILDLIFE



## Background

Launched on 03 March 2022 on World Wildlife Day after a couple of delays due to COVID-19 restrictions, the Friends of Mauritian Wildlife objectives are set out in the mission statement '*Instill interest in all aspects of wildlife and habitat conservation and promoting MWF's conservation projects by providing education and participative support initiatives*'.

Sponsorship from Emtel was secured in 2021, and this enabled the employment of a Club Coordinator to provide continuity and focus to the project. As from July 2023, the membership strategy has been expanded from individuals and families to include corporate membership with Emtel Ltd and CIM Finance Ltd the first corporates to enroll. The corporate subscription fee enables staff to participate in a set number of activities per year. Individuals pay a one-off entry fee to join Friends and an annual subscription fee to be able to participate in activities.

The club had 56 individual and family members and 2 corporate members on 31 December 2023.

Friends are expected to be participative, and we are seeking volunteers to help organize some aspects of the administration.

## Main Actions

- Recruitment of a new Club Coordinator
- Prospection in Ascencia malls in August and December 2023 to recruit new members and raise awareness.
- Round island 50th conservation work anniversary conference on the 27<sup>th</sup> October at MCB St Jean Auditorium which was open to the public.
- Development and implementation of a Friends of MWF corporate package to increase and diversify membership and funding mechanism.
- Activities are organized monthly and cover:
  - Field support activities; weeding, seed collection and potting
  - To create awareness;
    - conferences and talks
    - discovery hikes
  - To contribute to a general healthy environment; clean ups

# OTHER

## Governing Body

There is often a confusion on terminology for the governing body of the Mauritian Wildlife Foundation. It is most often called '**The Council**', but in law named the '**Managing Committee**'. The members are equivalent to '**Trustees**' or a '**Board of Directors**'.

**President:** Mr Tim Taylor

**Vice President:** Mrs Deborah De Chazal

**Treasurer:** Mr Nirmal Heeralall

**Assistant Treasurer:** Dr Vikash Tatayah

**Secretary:** Ms Feerdaus Bundhun

**Assistant Secretary:** Mr Philippe La Hausse de La Louviere

**Members:** Prof Carl Jones MBE, Dr Eshan Dulloo, Mr Jamie Copsey, Dr Ken Norris, Dr Andrew Greenwood

**Representatives of:** National Parks and Conservation Service, Durrell: Dr Chris Ransom, Chester Zoo: Dr Claire Raisin

**Retirement:**

Mr Gerard Pascal, FCCA, retired in December 2023 from the MWF council after serving as Assistant Treasurer since 2007 and then Treasurer from 2016 but he will remain as a member to continue the links he has forged with us. We have been immensely grateful to Gerard for the time he gave to MWF, his contribution to the smooth financial running of the organisation, for his wise advice and for the support he gave to the Accounts Department and the Executive Director. He shared his expertise freely and this was most valuable.

## Staff and Training

### Management Team

**Executive Director:** Mrs Deborah de Chazal

**Conservation Director:** Dr Vikash Tatayah

**Scientific Director:** Prof. Carl Jones

**Managers:**

- Dr Nik Cole; Island Restoration
- Mr Jean Hugues Gardenne; Fundraising and Communications
- Mrs Martine Gebert; Accounts
- Mr Sion Henshaw; Fauna
- Mr Reshad Jhangeer-Khan; Rodrigues
- Mr Danny Thisbe; Ecotours
- Mrs Noveena Wong; General (HR, Health and Safety, Office)

## Movements of Staff

We had the following significant staff movements in 2023:

- **Mrs Rose-Marie Pierre**, Ecotour Ranger, Ile aux Aigrettes, retired in January 2023 having joined MWF in October 2014. Her guided tour was very appreciated for her enthusiastic delivery and informative content.
- **Mrs Aurelie Henshaw**, joined MWF as 'Head of Training' in January 2023 from Durrell Conservation Training (Mauritius).
- **Ms Noveena Wong** was employed as General Manager on 1st March 2023 with responsibility for HR, Health and Safety and to ensure the support services to the projects delivered from the Head Office.
- **Mr Pradeep Bheemsingh**, Part time Health and Safety Officer, began his contract with MWF in May 2023.
- **Ms Teesha Baboorun**, Flora Coordinator was recruited by Durrell Conservation Training (Mauritius) as Training Coordinator and thus resigned from MWF in June 2023.
- **Mr Adrien Gelle**, Scientific Data Officer, resigned in May 2023 to move to the UK to take up a PhD position.
- **Mrs Doreen Duguesclin**, Accounts Officer, retired in December 2023 after 18 years of service to MWF.

## Training

- **'Tailoring to different audiences'**, an online Chester Zoo Educators training took place on 26th January 2023, attended by 2 MWF Educators.
- **A "Conservation Learning Initiative"** online webinar run by the Conservation Evidence, FOS Europe and the MAVA Foundation on the 30<sup>th</sup> of January 2023 and was attended by the MWF Rodrigues Project Support Officer Alfred Bégué, the Fauna Manager Sion Henshaw and the Head of Training Aurélie Henshaw.
- **The 'AEWA Training of Trainers Workshop on the Flyway Approach'** was run by the AEWA (Agreement on the Conservation of African-Eurasian Migratory Waterbirds) Secretariat and NPCS, in collaboration with the United Nations Environment Programme and the Convention on Migratory Species (UNEP/CMS) Secretariat, the RAMSAR Convention on Wetlands and the Wadden Sea Flyway Initiative from the 6<sup>th</sup> of February 2023 to the 10<sup>th</sup> of February 2023. The workshop was attended by the Conservation Director Vikash Tatayah, the MWF Rodrigues REEP Educator Liliانا Meunier and the Head of Training Aurélie Henshaw. The training included a day of site visits including Ile aux Aigrettes on the 9<sup>th</sup> February 2023.
- **An 'Introduction to Safeguarding'** session was run in house in collaboration with the Global Safety & Risk Manager by Amber Dyson from the Durrell Wildlife Conservation Trust on the 21<sup>st</sup> of February 2023. A total of 34 staff attended the session.
- **Principles de base d'une communication efficace** PRO-Workshop organized by ACTogether 'pour les ONG' on 24<sup>th</sup> February 2023 was attended by Thierry Runghen, Communications Officer.
- **Integrated Landscape Management** Capacity Building Session organised by the Centre for International Forestry Research and the International Council for Research in Agroforestry on the 8<sup>th</sup> of March 2023 and was attended by the Flora coordinator Teesha Baboorun
- **"NEES/Unlocking the Key to Employee Retention and Well-Being"** one day seminar organised by Business Mauritius was attended by the General Manager Noveena Wong on the 3<sup>rd</sup> of May 2023.
- **Training for Trainers** was attended by the REEP Educator and Sweetie Shan Yu on the 15<sup>th</sup> May & 16<sup>th</sup> May 2023 for National Youth Civic Service (NYCS) Course at Citron Donis Youth Centre, Rodrigues, organised by the Commission for Youth in collaboration with the Ministry of Youth Empowerment, Sports and Recreation.



- **GIS/GPS training** course held on 13<sup>th</sup> to 15<sup>th</sup> June 2023 at the ICT Centre of Excellence in Port Mathurin was attended by MWF Scientific Officer, Sweetie Félicité.
- **Ecotourism and Education** were the focus subjects for Stephen Kirsakye, Ecotour Officer, for his training visit to Chester Zoo (North of England Zoological Society) from 6<sup>th</sup> to 26<sup>th</sup> September 2023. The visit was funded under Chester Zoo's 'Keeper For A Day' and developed Stephen's skills and knowledge with exposure to the visitor programme at the zoo.
- **"Avian egg incubation"** practical session was delivered by Harriet Whitford from the Durrell Wildlife Conservation Trust on the 17<sup>th</sup> of October 2023; 4 staff attended.
- **"Wilderness Working at Heights"**, a 5-day climbing safety course run by Vertical World was held for 6 staff from the Mauritius Kestrel, Echo Parakeet and Flora teams on several dates in November 2023.
- **Activities training** was custom designed for the Club Events & Content Coordinator Lensley Etienne spanning three months from August to September 2023. Based on Ile aux Aigrettes the training covered weeding, potting and planting with Pascal Mucktoom from the Flora team and the basics of conducting the Ecotour with the Eco tour rangers
- **National Youth Civic Service (NYCS) Course** run on 8<sup>th</sup> December 2023 was attended by the Environment Educator, Lilianna Meunier at the Citron Donis Youth Centre.
- **Coaching and mentoring support** was provided to various staff by the Head of Training Aurélie Henshaw on request from the General Manager, Noveena Wong and the Executive Director, Deborah de Chazal.
- **Durrell Conservation Training** run a programme embedded within MWF and in collaboration with the National Parks and Conservation service. In 2023 there were six dedicated MIRI interns trained in the field and the classroom. MWF, Forestry and NPCS staff were invited to attend most of the classroom training sessions.
  - The following training sessions were held in February and were delivered to the MIRI interns only:
  - A talk on trapping techniques and small mammal dissection practical training on 14<sup>th</sup> February 2023.
  - Lecture on population surveys design and techniques for population monitoring on 15<sup>th</sup> of February
  - Distance sampling training on Ile aux Aigrettes and analysis of data from 13<sup>th</sup> to 15<sup>th</sup> of February 2023.
  - Scientific paper writing presentation and abstract writing exercise on 16<sup>th</sup> of February.
  - The following training sessions took place from the 5<sup>th</sup> to the 7<sup>th</sup> and the 14<sup>th</sup> of July 2023 and were delivered to 5 MIRI interns, 1 Durrell staff, 2 MWF staff and 1 Forestry staff.
  - Rebuilding Mauritian reptile communities in Mauritius
  - Estimating abundance and density using Distance sampling
  - Distance sampling training on Ile aux Aigrettes
  - Capture Mark Recapture (CMR) A basic introduction: Closed Capture to Open CJS models
  - Capture Mark Recapture (CMR) A basic introduction: POPAN models
  - A Geographic Information System (GIS) course was held over 3 days, was attended by 5 MIRI interns, 1 Durrell staff, 2 MWF staff, 1 Forestry staff and 1 NPCS staff. The training took place from the 6<sup>th</sup> to the 8<sup>th</sup> of September 2023 and included:
    - An introduction to GIS; Introduction to QGIS; Making Maps for Print
    - Spatial Analysis and CRS; Overlay and Proximity; Getting Data into GIS
  - The following training sessions were delivered on 26<sup>th</sup> and 27<sup>th</sup> October 2023 to 5 MIRI interns, 2 MWF staff, 1 Durrell staff, 1 Forestry staff and 1 NPCS staff.
  - IUCN Species Red Lists
  - Vortex Population Viability Analyses
  - Invasive species control and eradication on small islands
  - Biological Sampling
  - Small mammal dissection and post-mortem examination training

- **Flora Training** was carried out as follows:
  - Training in basic nursery techniques was delivered by Ms Teesha Baboorun, Flora Coordinator, to Fundraising & Ecotour staff on Ile aux Aigrettes on the 7<sup>th</sup> and 8<sup>th</sup> February 2023.
  - “Plant propagation technics and protocol” course was organised for Mauritius and Rodrigues staff in collaboration with the Botanical Gardens Conservation International delivered by Botanical Gardens Conservation International (BGCI) and the South African National Biodiversity Institute (SANBI). It was a 5-day theory and practical plant propagation training course.
- In Mauritius the course was run on Ile aux Aigrettes nursery from the 29<sup>th</sup> of May to the 2<sup>nd</sup> of June with 6 MWF staff, 2 Durrell staff, 2 Ebony Forest staff, 2 Vallée de Ferney staff, 1 Vallée d'Osterlog staff, 1 Forestry Service Officer and 1 Action for Environment Protection staff attending.
- In Rodrigues the course ran from 5<sup>th</sup> to 9<sup>th</sup> June 2024, at the MWF Solitude offices and nursery with 8 MWF staff, 4 MWF Restoration Labourers, 5 Forestry Service Officers and 2 François Leguat Reserve staff attending.
- The training taught how to design well elaborated scientific protocols for plant propagation including different techniques of propagations (vegetative and sexual propagation) and importance of setting up trial experiments to determine the exact protocol that should be establish for particular plant propagation success.
  
- **Ecotour Training** was carried out:
  - Flora: Operations of the plant nursery
  - Seabirds on the Northern Islets
  - Passerines at Petrin
  - Learning with Nature: refresher and training
  - Southeast islets: Ile de la Passe and Ile aux Fouquets, history and biodiversity
  - Reptiles and Tortoises: project update
  
- **Induction to MWF** is run for all new staff.
- **Part 1 session** 'Introduction to MWF' was held on the following dates:
  - 16<sup>th</sup> of January 2023 (11 staff/volunteers).
  - 13<sup>th</sup> of March 2023 (19 staff/volunteers).
  - 23<sup>rd</sup> of October 2023 (20 staff/volunteers). In addition, an “Occupational Safety & Health (OSH)” session has been added to the Induction Part 1.
  
- **Part 2 session** “Working and living in the field” was held on the following dates:
  - 1<sup>st</sup> of March 2023 (9 staff/volunteers)
  - 25<sup>th</sup> of October 2023 (19 staff/volunteers)
  
- **First Aid Training** was run as follows:
  - A first aid session was delivered by the Global Safety & Risk Manager Amber Dyson from the Durrell Wildlife Conservation Trust on the 18<sup>th</sup> of February 2023 and 22<sup>nd</sup> of February 2023 and 19 staff attended the session.
  - Basic First Aid training courses were run in house, by the Red Cross, in Mauritius on the 7<sup>th</sup> of April 2023. 10 staff members attended the training.
  - A “Wilderness Advanced First Aid” course organised by Durrell Conservation Training (DCT) and run by Vertical World was held at Ferney from 26<sup>th</sup> of June to the 1<sup>st</sup> of July 2023. The course was an intensive introduction to the application of First Aid in a wilderness setting, with a special focus on the challenges faced on Round Island. There were 6 participants.
  - A 3-day training course in First Aid was run in Rodrigues from 24<sup>th</sup> to 26<sup>th</sup> October 2023: Seven ‘new’ MWF staff participated at the Red Cross Office in Port Mathurin, all passing the exam.
  - A Basic First Aid refresher training course was run in Rodrigues on 27<sup>th</sup> October 2023: Nine MWF Rodrigues staff participated at the Red Cross Office in Port Mathurin.

- **Fire Safety Training sessions** held by the Mauritius Fire and Rescue Service:
  - 27<sup>th</sup> of March 2023 (24 staff/volunteers)
  - 3<sup>rd</sup> of November 2023 (15 staff/volunteers)
  
- **The DESMAN (Durrell Endangered Species Management Graduate Certificate) 3-month course**, run by Durrell in Jersey, Channel Islands offers one free place to MWF for two staff per year.
  - Island Restoration Staff, Mr Ryan Law Yu Kam attended the course from February to May 2023
  - Mr Josua Hollandais, Assistant Coordinator of the Mauritius Kestrel project, was selected for the February to May 2024 session.
  
- **Fauna teams in house practical training** programme is delivered during the year with support from the Head of Training, Aurélie Henshaw:
  - Passerine team (7 staff): Supplementary feeding of birds, nest monitoring, bird capture and handling, bird ringing, biosecurity & mist netting.
  - Pink Pigeon team (10 staff): Supplementary feeding of birds, nest monitoring, bird capture and handling, bird ringing, biosecurity, predator trapping.
  - All new Fauna staff/volunteers were given a one-day introductory data training session.
  - On the 30<sup>th</sup> of March 2023, an in-house classroom training on the “Fieldwork fundamentals”, “Conservation management” and “Bird population monitoring” was delivered by the Fauna Manager Sion Henshaw, 14 staff attended the session.
  - On the 6<sup>th</sup> of April 2023, an in-house classroom training on the “Monitoring breeding productivity in birds”, “Supplementary feeding of birds” and “Bird ringing” was delivered the Fauna Manager Sion Henshaw, 12 staff attended the training.
  
- **Externals within MWF:**
  - From 17<sup>th</sup> to the 21<sup>st</sup> of July 2023, five Duke of Edinburg Award participants conducted their Gold Residential Project on Ile aux Aigrettes for five consecutive days. They were exposed to the conservation work on island and also conducted some activities.
  - The Flora Coordinator Teesha Baboorun and the Horticulturist Pascal Mucktoom delivered a practical session on “Plant Propagation” for 10 staff of La Vallee de Ferney on the 21<sup>st</sup> of July 2023.
  - A friend of MWF participant volunteered on the Passerine project for three months as part of the Duke of Edinburg Award from the 5<sup>th</sup> of May to the 29<sup>th</sup> of July 2023.
  - Training is delivered to the Durrell Interns (Island Restoration) in plant nursery work including different techniques of propagation by the Horticulturist Pascal Mucktoom throughout the year on Ile aux Aigrettes.
  - In 2023, 10 Mauritians volunteered on the Fauna project for short periods as work experience. They were integrated into the different teams to learn about conservation fieldwork.
  - A practical session visit was organised for Dr Vincent Florens and five students from the University of Mauritius with the theme: “Biodiversity conservation at the level of a Nature Reserve in Mauritius: The case of Ile aux Aigrettes” on the 29<sup>th</sup> of August 2023. Staff from different projects were able to engage and share their experience with the students.
  
- **Talk and Teas** were organised at the MWF Head Office as follows:
  - 10<sup>th</sup> April: Dr Lara Urban, Principal Investigator, Helmholtz Pioneer Campus, Helmholtz AI, Technical University of Munich “Real-time Genomics for One Health and Nature Conservation”.
  - 3<sup>rd</sup> July 2023: Rich Baxter, Indian Ocean Tortoise Alliance, Seychelles “Long-Lasting Conservation: Rewilding and Restoring Island Ecosystems with Aldabra giant tortoises (*Aldabrachelys gigantea*) in the Seychelles”.
  - 3<sup>rd</sup> July 2023: Ryan Law Yu Kam, Mauritian Wildlife Foundation – “Experience on Durrell Endangered Species management Graduate Certificate (DESMAN) course”.

## Visitors

MWF receives visits from our overseas partners and collaborators regularly during the year amongst which were:

- **Dr Malcolm Nicoll**, Senior Research Fellow, Institute of Zoology (ZSL), UK arrived on 22<sup>nd</sup> January and left on 15<sup>th</sup> February 2023. He was accompanied by **Dr Kirsty Franklin**, Postgraduate Researcher affiliated to the University of East Anglia. They visited Round Island to tag Wedge-tailed Shearwaters and collect blood samples from Sooty Terns on Serpent Island.
- **Ms Eleanor Harvie**, Field Programmes Manager, **Ms Amber Dyson**, Global Safety & Risk Manager, **Ms Gemma Charles**, Field Programmes Officer from Durrell Wildlife Conservation Trust, Jersey, Channel Islands, were visiting Mauritius from 15<sup>th</sup> to 24<sup>th</sup> February 2023. They met with key stakeholders for the Islands Restoration Programme, visited Round Island and delivered a first aid training and ran an 'Introduction to Safeguarding' session.
- **Mr Brian Galligan**, Director of Horticulture, Naples botanical Garden, Florida, USA visited Rodrigues from 12<sup>th</sup> – 18<sup>th</sup> March 2023. The purpose of his visit was to advise on the translocation of 5 critically endangered trees that would be otherwise destroyed due to the airport extension planned.
- **Prof. Carl Jones**, MWF's Scientific Director, arrived on 14<sup>th</sup> April, participated in the OWE workshop, advised on MWF's projects and left on 5<sup>th</sup> May 2023.
- **Dr Claire Raisin**, Field Programmes Coordinator - Madagascar & Mascarenes, Chester Zoo (UK) and **Mr Jamie Copsey**, Director of Training, IUCN Conservation planning Specialist Group were in Mauritius in the week 17<sup>th</sup> to 21<sup>st</sup> April 2023 to facilitate a workshop to prepare an OWE Management plan.
- **Ms Morven Ozanne**, Health and Safety Advisor, Chester Zoo visited from 8<sup>th</sup> – 19<sup>th</sup> May 2023 to conduct a Health and Safety review.
- **Mr Alex Hudson**, Plant Conservation Project Manager and **Ms Itxaso Garcia Quintana**, Conservation Assistant Officer from Botanical Gardens Conservation International and **Mr Phakamani Xaba** and **Mr Mpendulo Gabayi**, Conservation Horticulturalists from the South African National Biodiversity Institute (SANBI) ran training in Mauritius on Plant Propagation from 29<sup>th</sup> May to 2<sup>nd</sup> June 2023 and then in Rodrigues from 5<sup>th</sup> June to 9<sup>th</sup> June 2023.
- **Ms Harriet Whitford**, Deputy Head of the bird department, Durrell, arrived on 17<sup>th</sup> September 2023 for six weeks to support the captive breeding of Pink Pigeons at GDEWS
- **Dr David Bullock**, retired, formerly Head of Species and Habitat Conservation for the National Trust and **Dr Steve North**, retired, formerly Team and Operations Manager for Scottish Natural Heritage arrived in Mauritius on 27<sup>th</sup> September 2023 for one month. David and Steve worked in Mauritius in 1975 focusing on Round Island and then returned to follow up on monitoring work carried out every seven years until 2003. With their long involvement with the Northern islets they visited Gunners Quoin and Round Island to revisit vegetation survey sites and advise on the restoration work being carried out. They also visited the southeast islets, including Ile aux Aigrettes to observe the conservation work being undertaken. On the 27<sup>th</sup> October 2023, they participated in a 'Friends of Mauritian Wildlife' conference along with supporting speakers, Dr Vikash Tatayah and Dr Nik Cole, the subject being Round Island.
- **Mr Tokhi Inoue**, Researcher from BirdLife International Tokyo, was in Mauritius in October 2023 to train MWF staff and representatives of civil society in surveying birds.
- **Mr Tom Tooley**, Keeper at Paignton Zoo, arrived on 22<sup>nd</sup> October 2023 for six weeks to support the captive breeding of Pink Pigeons at GDEWS
- **Prof. Carl Jones**, MWF's Scientific Director, arrived on 12<sup>th</sup> November 2023 for three weeks to advise on MWF's projects.
- **Dr Claire Raisin**, Field Programmes Coordinator - Madagascar & Mascarenes, Chester Zoo (UK) visited Rodrigues for the week of 20<sup>th</sup> to 24<sup>th</sup> November 2023 to participate in the Island Wide Bat Count.



# Communication

## Social Media

MWF is present on

**Facebook** (21,834 followers) <https://www.facebook.com/MauritianWildlife>

**LinkedIn** (1542 subscribers):  
<https://www.linkedin.com/company/the-mauritian-wildlife-foundation/>

**Instagram** (3,370 followers) <https://www.instagram.com/mauritianwildlife/>

## Our publications

10 editions of MWF's newsletter Echo News were published in 2023,

No 15 <https://sway.office.com/nK6ZIWxDC6hBjJO5?ref=Link>

No 16 <http://sway.office.com/n9qTiSYVIsI2X05d?ref=Link>

No 17 <https://sway.office.com/CGLZSa83oA3smsYi?ref=Link>

No 18 <https://sway.office.com/jADIS74L550cugdi?ref=Link>

No 19 <https://sway.office.com/smcn9Q9TuN23DASd?ref=Link>

No 20 <https://sway.office.com/kTVJggUOqjyDMyaq?ref=Link>

No 21 <https://sway.office.com/OfgyC2FkW5Ctw8cj?ref=Link>

No 22 <https://sway.office.com/reKlzDdQBnewBOC2?ref=Link>

No 23 <https://sway.office.com/ncdMbZ3qfN9adLBR?ref=Link>

No 24 <https://sway.cloud.microsoft/xLdRr3CTGmLP30GC?ref=Link>

## Media

Regular requests are made from the local media for MWF to comment on current affairs regarding conservation and for visits to projects. Media reports related to Mauritian Wildlife Foundation actions are filed in our library and made available on request. The tables below list most of the coverage MWF obtained in 2023.

### TV and Radio Mauritius

Date	Media	Topic
13/05/23	MBC Radio	Célébration de la Journée mondiale des oiseaux migrateurs à Maurice
13/08/23	Zournal Rodrigues	Anse Quitor-UNDP-GEF-Small Grant Program
27/09/23	Antenne Reunion	Ile Aux Aigrettes
23/12/23	MBC TV-JT	Echo Parakeet-National Park

### Rodrigues

Date	Media	Topic
16/01/23	TV and Radio news-MBC	The effect of drought in Rodrigues on MWF actions
19/01/23	TV and Radio news-MBC	2022 achievements and plans for 2023
07/02/23	Radio programme-MBC	Control of IAS and water resources
22/02/23	TV and Radio news-MBC	Relaunch of Ecoschools in Rodrigues
16/03/23	TV and Radio news-MBC	Airport Development Project- Saving Endangered Tree Species
16/03/23	TV and Radio news-MBC	World Forest Day
21/03/23	Radio news-MBC	World Forest Day
05/04/23	TV and Radio news-MBC	EU Plant distribution
14/04/23	TV and Radio news-MBC	EU Plant distribution and Earth Day celebration
10/05/23	TV and Radio news-MBC	Nursery activities with Anou Grandi Association
21/05/23	Radio news-MBC	World Biodiversity Day
22/05/23	TV and Radio news-MBC	World Biodiversity Day MWF Activities
22/05/23	TV and Radio news-MBC	World Biodiversity Day MWF Activities
22/05/23	Radio programme-MBC	World Biodiversity Day
01/06/23	Radio news-MBC	World Environment Day
10/06/23	TV and Radio news-MBC	Plant Propagation Training
29/06/23	Radio programme-MBC	Plant Propagation- BGCI SANBI Training/Rare endemic plants
21/08/23	TV and Radio news-MBC	Le projet d'eradication du 'pongam' a Anse Quitor

24/08/23	TV programme-MBC	Emission Escapade: AQNR Description, discovery of the reserve
31/08/23	TV and Radio news-MBC	Closing event of UNDP-GEF-SGP funded AQNR restoration project
12/09/23	Radio Talk-MBC	Rodrigues Fruit Bat
27/09/23	Radio talk-Live MBC	Exhibition for Tourism Day 2023
29/09/23	Radio programme	Grande Montagne Nature Reserve
22/11/23	TV and Radio news-MBC	Rodrigues IWBC and Master's Student bat dataset analysis
12/12/23	TV and Radio news-MBC	EU Ambassador visit to MWF

### Newspapers Mauritius

Date	Media	Topic	Page
22/01/23	Weekend Newspaper	20 ONG Locales Selectionnees, Les 20 Projets Selectionnees pour 2023	Pages 26-27
22/01/23	Weekend Newspaper	Offensive Legale du GM Contre Raphael Fishing Ltd	Page 5
22/01/23	Weekend Newspaper	Raphael Fishing Ltd Communique	
22/01/23	Weekend Newspaper	Saint-Brandon-Le GM ouvre le front de la revendication de l'archipel	Cover Page
22/01/23	Weekend Newspaper	4 Olive White-Eye et 9 Echo Parakeet relaches a Chamarel	Page 33
22/01/23	Weekend Newspaper	Maurice est la 1er Destination NATURE et se Classe 3e Sur La Liste Tendances	Page 3
22/05/23	Le Mauricien	Alive as a Kestrel-an emblem for preventing extinctions	Pages 14-15
03/09/23	L'express	Marie Michelle Jean Pierre-Le chemin qui est le sien	Pages 14-15
13/09/23	Le Defi	Bonne saison en perspective mais gare aux nombreux problemes	Page 17

### Rodrigues

Date	Media	Topic	Page
26/03/23	Newspaper-Le Weekend	Rodrigues Airport development and MWF tree relocation	
09/06/23	Newspaper-La Vie Catholique	La faune et la flore, sa passion	
05/10/23	UBP Mauritius, a MWF funder	Conservation in the AQNR	

## Magazines

Date	Media	Topic	Page
16/01/23	La gazette mag	Vikash Tatayah - sauveteur en terre	

## Rodrigues

Date	Media	Topic	Page
01/08/23	Magazine-Air Mauritius Islander	Grande Montagne Nature Reserve	

## TV Crews

Date	Media	Topic
03 February 2023	Sur La Piste de la Crecerelle - Episode 01 Les Nids du Morne Seche- MBC	<a href="https://www.youtube.com/watch?v=...">Sur La Piste de la Crecerelle - Episode 01 Les Nids du Morne Seche (youtube.com)</a>
10 February 2023	Sur La Piste de la Crecerelle - Episode 02 La Forêt de Pétrin- MBC	<a href="https://www.youtube.com/watch?v=...">Sur La Piste de la Crecerelle - Episode 02 La Forêt de Pétrin (youtube.com)</a>
17 February 2023	Sur La Piste de la Crecerelle - Episode 03 La Pellicule de la Mémoire- MBC	<a href="https://www.youtube.com/watch?v=...">Sur La Piste de la Crecerelle - Episode 03 La Pellicule de la Mémoire (youtube.com)</a>
24 February 2023	Sur La Piste de la Crecerelle - Episode 04 Les Tresors de la Vallée de Ferney- MBC	<a href="https://www.youtube.com/watch?v=...">Sur La Piste de la Crecerelle - Episode 04 Les Tresors de la Vallée de Ferney (youtube.com)</a>
12 March 2023	Le Jardin Extraordinaire sent you Emission Le Jardin Extraordinaire Ile Maurice- RTBF.be	<a href="https://www.youtube.com/watch?v=...">Île Maurice : voyage en plein océan indien et merveilles de la nature - Le Jardin Extraordinaire 🌐 (youtube.com)</a>
01 June 2023	Conservationists want humans and flying foxes to coexist- CNN	<a href="https://www.cnn.com/...">Conservationists want humans and flying foxes to coexist   CNN</a>
23 July 2023	Mauritius Kestrel Special: Rounded Wings and Pink Pigeons	<a href="https://www.youtube.com/watch?v=...">MAURITIUS KESTREL SPECIAL: Rounded Wings and Pink Pigeons (youtube.com)</a>
01 October 2023	Île Rodrigues film Kite Surf Festival 2023-Go Green-Zone Australe Production	<a href="https://www.youtube.com/watch?v=...">Île Rodrigues: film Kite Surf Festival 2023 - Go Green (youtube.com)</a>



Online source Mauritius

Date	Media	Topic	Page/ URL
16/01/23	La Gazette Mag	Vikash Tatayah, sauveur en terre	<a href="https://www.lagazette-mag.io/vikash-tatayah-sauveteur-en-terre/">https://www.lagazette-mag.io/vikash-tatayah-sauveteur-en-terre/</a>
22/01/23	Lexpress.mu	Insolite   Python à Albion: il y a «serpent» sous roche	Insolite   Python à Albion: il y a «serpent» sous roche   lexpress.mu
12/03/23	Lexpress.mu	Campagne d'éradication: le ministère vole dans les plumes du corbeau	<a href="https://lexpress.mu/article/420104/campagne-deradication-ministere-vole-dans-plumes-corbeau">https://lexpress.mu/article/420104/campagne-deradication-ministere-vole-dans-plumes-corbeau</a>
10/05/23	atlasobscura	This Mauritius Palm Is the Last of Its Kind in the Wild	<a href="https://www.atlasobscura.com/articles/mauritius-round-island-hurricane-palm">https://www.atlasobscura.com/articles/mauritius-round-island-hurricane-palm</a>
19/05/23	Birdlife International	Alive as a kestrel: An emblem for preventing extinctions	<a href="https://www.birdlife.org/news/2023/05/19/alive-as-a-kestrel-an-emblem-for-preventing-extinction/?utm_source=BirdLife+International+News+Notifications&amp;utm_campaign=6790f204ec-Summary_news_notification&amp;utm_medium=email&amp;utm_term=0_4122f13b8a-6790f204ec-131694237&amp;mc_cid=6790f204ec&amp;mc_eid=d94afd56c6">https://www.birdlife.org/news/2023/05/19/alive-as-a-kestrel-an-emblem-for-preventing-extinction/?utm_source=BirdLife+International+News+Notifications&amp;utm_campaign=6790f204ec-Summary_news_notification&amp;utm_medium=email&amp;utm_term=0_4122f13b8a-6790f204ec-131694237&amp;mc_cid=6790f204ec&amp;mc_eid=d94afd56c6</a>
21/11/23	The Dallas morning news	Dallas' Colossal Biosciences finds home for one extinct species	Dallas' Colossal Biosciences finds home for one extinct species (dallasnews.com)
23/11/23	The Start Telegram	The Texas company reviving the extinct woolly mammoth adds the dodo to its to-do list	TX company seeks to 'clone' extinct animals dodo, woolly mammoth   Fort Worth Star-Telegram

## Rodrigues

Date	Media	Topic
22/03/23	Facebook	AEWA Training of Trainers Workshop on the Flyway Approach to Conservation
29/03/23	Facebook	Airport Development Project-Saving Endangered Tree Species
02/05/23	Facebook	One Take-off, One Tree project and the visit of Air Mauritius CEO, Mr Krešimir Kučko
08/05/23	Facebook	Air Mauritius Facebook post covering the Rodrigues Fody ( <i>Foudia flavicans</i> )
29/05/23	Facebook	MWF Facebook post covering the Fock Seng Ho Tu Nam Mangues Government School event.
12/06/23	Facebook	Air Mauritius Facebook post covering the <i>Sarcanthemum coronopus</i>
28/06/23	Facebook	Air Mauritius Facebook post covering students from Anou Grandi Association visit Solitude nursery.
12/07/23	Facebook	Air Mauritius Facebook post covering One plant-one story: <i>Pittosporum balfourii</i>
27/07/23	Facebook	MWF Facebook post covering the US Ambassador to Mauritius visits to Grande Montagne Nature Reserve and the Information Centre at Grande Montagne.
02/08/23	Facebook	Air Mauritius Facebook post covering the <i>Latania verschaffeltii</i>
04/08/23	Facebook	Grande Montagne Nature Reserve awarded 3 achievements from TripAdvisor
07/08/23	Facebook	Air Mauritius Facebook post covering <i>Polyscias rodriguesiana</i>
23/08/23	Facebook	Air Mauritius Facebook post covering the <i>Terminalia bentzoe</i> ssp. <i>Rodriguesensis</i>
04/10/23	Facebook	The Grande Montagne Nature Reserve and the Ile aux Aigrettes Nature Reserve Ecotours both win the '2023 Choice experts award'.
06/12/23	Facebook	One Plant-One Story: The Grande Montagne Nature and its treasures.
12/12/23	Facebook	The International Volunteers Day 2023.

## Newsletter

## Rodrigues

Media	Topic
Echo News 15	Air Mauritius and the Mauritian Wildlife Foundation renew their collaboration
Echo News 15	<b>La Mauritian Wildlife Foundation (Rodrigues) célèbre la Journée Internationale du Volontariat</b>
Echo News 17	Eco-schools Indian Ocean Programme
Echo News 18	<b>Airport Development Project - Saving Endangered Tree Species</b>

Echo News 19	<b>One Take-off, One Tree</b> One Take-off, One tree : Bois fer ( <i>Eugenia rodriguensis</i> )
Echo News 20	Open Day at the Solitude Nursery
Echo News 21	One Take off, One Tree Students from Anou Grandi Association visit Solitude nursery <b>One plant one story: <i>Sarcanthemum coronopus</i></b>
Echo News 22	The US Ambassador to Mauritius visits the Grande Montagne Nature Reserve and information centre in Rodrigues One plant one story: <i>Pittosporum balfourii</i>
Echo News 23	Grande Montagne Nature Reserve Ecotour awarded 3 achievements from TripAdvisor One plant – one story: <i>Terminalia bentzoë</i> ssp. <i>Rodriguesensis</i>
Echo News 24	<b>One Take-Off, One Tree</b> <b>One plant – one story: <i>Dracaena reflexa</i></b>

## Local Committees, Consultations and Workshops

### National Committees

MWF continued to actively participate in various national committees: National Ramsar Committee, National Invasive Alien Species Committee and Wakashio-related e.g. Integrated Environment Monitoring Plan meetings, and in policy dialogues.

MWF is represented on the National Eco-School committee.

### Consultations and Meetings

MWF was closely involved in nearly all meetings, dialogues, plans etc. related to the National Oil Spill Contingency Plan, National Invasive Alien Species Strategy and Action Plan, Highly Pathogenic Avian Influenza, amongst others.

We also contributed to regional and international policies such as the Birdlife Africa Marine Strategy.

Other consultation and discussion meetings included:

- Discussion with BirdLife about threats to a Mauritian Important Bird Area
- Mauritius Standards Bureau sub-committee on biodiversity
- Business Mauritius. Biodiversity Committee meeting (under Business Mauritius)
- African Bird Club meeting with country representatives attended by Dr Vikash Tatayah, Conservation Director.
- Discussions with BirdLife South Africa for the holding of a 'Business and Biodiversity' Forum in Mauritius.
- Environment and Social Impact Assessment, Wakashio Oil Spill
- Durrell Alumni Class Reps meetings
- Mauritius Marine Conservation Society Annual Meeting
- Feasibility study for the tagging/banding of Mascarene Fruit Bats (*Pteropus niger*) on Reunion.
- Setting up of an exchange programme with Reunion on the issue of seabird light induced mortality that may be observed in Mauritius as well
- Proposal to conduct the red-list evaluation of plants endemic to Mascarenes (i.e. shared by more than one of the islands, or all three islands).
- Meeting with the US ambassador to discuss environmental matters
- Methods to assess loss of forest on Mauritius
- Drone course to assess vegetation and conduct rare plant search on Mauritius with the Department of Civil Aviation and BGCI
- Discussion about a potential Japan International Cooperation Agency supported project in the Southeastern Mauritius on ecotourism
- BirdLife Regional Plan
- Various meetings to discuss the setting up of a Marine Protected Area in the Chagos
- Online discussion between Central Electricity Board and Endangered Wildlife Trust (S Africa) on bird and bat mortality reduction on powerlines, organised by MWF.
- Support to Michele Rusconi, Swiss composer of contemporary music, for a radio piece on the Dodo.
- Meeting with Suvarna Parboo (inter-alia Regional coordinator: City Nature Challenge and Great Southern Bioblitz – Africa Node) on introducing Bioblitz to Mauritius



- Jury for Mauritius Tourism Promotion Agency's Sustainability Tourism Awards (Nature Based Tourism category).
- Visit to Montebello construction site to advise on impact and conservation of Lowland Day Gecko *Phelsuma guimbeui*
- Discussion with Dr Marie Cherchelay (Universite de Limoges, France), consultant on coastal zone vulnerability for Mauritius and Rodrigues
- Sharing on experience with Pierre Emmanuel Bastien, Groupe Chiropteres Reunion, on bat collision with powerlines
- Meeting with Ombudsperson for Children, Mrs Rita Venkatasawmy, on impact of climate change on children (see: <https://oco.govmu.org/DocumentsList/FinalAnnualReport2022-2023.pdf>)
- Various discussion and experience sharing between MWF, RSPB, Nature Kenya, Birdlife on the conservation of the Taita Apalis, a bird that is highly threatened in Kenya.
- Discussions with BirdLife about a site that may trigger IBA in danger status
- Meeting with SPYGEN, French laboratory specialising in environmental DNA (eDNA) and biodiversity from aquatic environments.
- Assistance in planting and selection of a viewing point at the State House
- Assistance for a Mauritius Union Assurance booklet production on the Mauritius Fody
- Interview with Univ of Oxford (UK) MSc student, Alexander Collins, on the role and potential impacts of taxon substitution non-native species in rewilding.
- Exchanges and participation in a local stocktake for International Council for Local Environmental Initiatives (ICLEI)
- Participation for the World Environment Day organised by Mitsui OSK Lines (MOL)
- Consultation Meeting for Coastal Protection Works at Pointe Jerome and Blue Bay
- Dr Peter Carrick from University of Cape Town/Nurture Restore and Innovate on habitat restoration
- Jury member of the PWC Sustainability Awards
- Feasibility Study for implementation of Offshore Wind in Mauritius
- Consultations and visits through Medine Sugar Estate for the Jeannot Labat walkway
- Mauritius Standards Bureau subcommittee on ISO/WD 17298, *Biodiversity – Strategic and operational approach for organizations – Requirements and guidelines* - for Committee Draft (CD) ballot.
- BEST & BIOPAMA Knowledge Sharing Event
- Webinar on The Toolkit for Ecosystem Service Site-based Assessment (TESSA)
- Exchange of experience with Auckland Zoo (New Zealand) about the rescue of the New Zealand Fairy Tern (*Sterna nereis*).
- BirdLife International's Graham Gibson Fellowship Programme mentorship

## Conferences and Workshops

These can be overseas or local. MWF receives a lot of invitations but will select to attend on various criteria which include whether it is fully funded (overseas), the relevance to MWF's work or to influence national policy.

Some MWF was involved in were:

- On the 15<sup>th</sup> of February 2023, the Flora Coordinator Teesha Baboorun attended a seminar on "Forensic Science for the 21st Century" organized by the Rajiv Gandhi Science Centre in collaboration with the Australian High Commission.
- 25th January 2023 - Green Status workshop for NPCS run by Rebecca Young (Durrell), facilitated by Nik Cole.

- 23<sup>rd</sup> February 2023: MWF Rodrigues Manager participated in Les Assises de l'Eau organised by the RRA.
- SIG Strategy workshop with Boston Consulting Group, organised by Business Mauritius on the 15<sup>th</sup> March 2023.
- A 'Doctoral Colloquium' was organised by the Doctoral School (UOM), in collaboration with the school of management, information technology and governance at the University of Kwazulu-Natal (UKZN) on the 31<sup>st</sup> of March 2023 and was attended by the Conservation Director Vikash Tatayah.
- On 18<sup>th</sup> April 2023, Heritage and Climate Change conference organised by the National Heritage Fund to mark the International Day for Monuments and Sites, attended by Vanessa Coralie.
- A three-day "Strategic planning workshop for the conservation of the Mauritius Olive White-eye (*Zosterops chloronothos*)" run by Chester Zoo from the 18<sup>th</sup> to the 20<sup>th</sup> of April 2023 and was attended by the Fauna Manager Sion Henshaw, the Conservation Director Vikash Tatayah and the Executive Director Deborah De Chazal.
- A five days' workshop on "FAO Invitation to the Good Emergency Practices" organised by the FAO Mauritius from the 24<sup>th</sup> to the 28<sup>th</sup> of April 2023 was attended by the Head of Training Aurélie Henshaw.
- In May 2023, World Environment Day, Conference on Environment and Ecology, by Institut Cardinal Jean Margot. Panelist: Jean Hugues Gardenne. Attended Vanessa Coralie.
- On the 11<sup>th</sup> of May 2023, the Head of Training Aurélie Henshaw attended a seminar on "National training and reskilling scheme" organised by MITD (Mauritius Institute of Training and Development).
- 18<sup>th</sup> May 2023: MWF Rodrigues Manager attended a half-day workshop on Blue Economy at the Human Resource and Development Centre at Malabar
- On 20 June 2023, Jean Hugues Gardenne participated in a Consultative brainstorming session @ Labourdonnais Hotel organized by Forestry Service under the aegis of the Ministry of Agro Industry and Food Security to discuss on the management practices and projects implemented pertaining to the Sustainable Land Management.
- From 27 – 30 June 2023, the Fundraising and Communications manager attended the Experts Validation Workshop for Cluster Studies on the Nexus Between Climate Change, Peace and Security in the COMESA Region. For Small Islands, we had participants from Madagascar (2), Seychelles (2), Comoros (1) and Mauritius (Jean Hugues and Manoj Seeborun, President of Falcon Club). There were in all about 40 delegates from Zambia, Ouganda, and Zimbabwe amongst others. The Island Cluster draft report was presented by Musa Chibwana, PhD and Olga Mapanje and was debated during the first two days, and the nexus identified largely discussed. All the Island delegates had the opportunity to highlight local cases and also share good practices.
- 6<sup>th</sup> July 2023: Management Support Officer, Taila Roussety participated in the UNDP HACT training workshop at Les Cocotiers Hotel at Anse aux Anglais.
- Charles Telfair Centre and University of Copenhagen, workshop on: "*Shipping Risks: Lessons from the Wakashio Disaster for the Islands of the Western Indian Ocean*" run on the 18<sup>th</sup> August 2023.
- A "Brainstorming session on Conversion of Full Time NC3 Tour Guiding Course into the Apprenticeship mode" on the 5<sup>th</sup> of September was organised by Ecole Hôtelière Sir Gaëtan Duval and was attended by the Marketing Officer Mithil Pullwan and the Head of Training Aurélie Henshaw.
- 26<sup>th</sup> September 2023: the MWF Rodrigues Manager and Scientific Officer (SO) both participated in the launch of the World Ozone Day Workshop in the presence of the Honourable Kavydass Ramano, Minister of Environment, Solid Waste Management and Climate Change and the Deputy Chief Commissioner, Franceau Aubret Grandcourt. MWF's SO stayed on for the remainder of the day participating in the actual workshop aimed at compiling information for Mauritius' Kigali plan.
- Global Ocean Biodiversity Initiative workshop on new tools to support ocean conservation, planning and sustainable use in the NW Indian Ocean, held in Oman from the 2<sup>nd</sup> to the 4<sup>th</sup> October 2023.

- 5<sup>th</sup> to 7<sup>th</sup> October 2023 - The Giant Tortoise Workshop 2023 – Giant Tortoises: The Past Present and Future. Hosted by the Indian Ocean Tortoise Alliance in the Seychelles. Attended by Cacey Cottrill and Roberto Cesar.
- 11<sup>th</sup> October 2023: MWF Rodrigues Manager participated in the 3-day EAZA on-line workshop, specifically regarding the Rodrigues Fruit Bat and ongoing ex-situ conservation measures.
- Introduction to Shorebird Monitoring, a two-day workshop was organised in collaboration with Birdlife Tokyo on “Beach Clean Up & Field Monitoring” on 16<sup>th</sup> of October with 23 participants and on the 17<sup>th</sup> of October, with 32 participants. All participants came from various NGOs and the private sector.
- 17<sup>th</sup> October 2023: The Environment Educator, Liliana Meunier and the Scientific Officer, Sweetie Felicite attended the SADC Strategy for the Implementation of the Great Green Wall Initiative workshop at the Commission for Agriculture at Citronelle.
- On 26<sup>th</sup> October 2023, Seminar on ‘Nurturing Curiosity in Non-Formal Education’ at the Rajiv Gandhi Science Centre. The session was led by Dr Sue D. Tunnicliffe. Attended by Vanessa Coralie.
- A workshop on the “Promotion of Volunteering” was organised by the National Social Inclusion Foundation on the 26<sup>th</sup> of October 2023 and was attended by the Head of Training Aurélie Henshaw.
- 13<sup>th</sup> and 14<sup>th</sup> November 2023: The Scientific Officer, Sweetie Felicite attended a Validation Workshop for Oil Spill Contingency.
- 7<sup>th</sup> December 2023: The Scientific Officer, Sweetie Felicite participated in the online session on Communication Strategy and Action Plan workshop - Mainstreaming Invasive Alien Species (IAS) Prevention, Control and Management project.
- On 7<sup>th</sup> December 2023, a Communication Strategy and Action Plan workshop on creating awareness about the risks posed by Invasive Alien Species organised by UNDP Mauritius and Com & Biz Co. Ltd. Participation of Vanessa Coralie.

## Other Events and meetings

MWF also gets invited to other events or meetings, some we attended were:

- 10<sup>th</sup> January 2023: The Nature Reserve Officer attended the 1<sup>st</sup> PAPAM Community Organisation Project meeting.
- 17<sup>th</sup> February 2023: MWF Rodrigues ran a set of teambuilding activities with all the MWF staff including all the restoration labourers in collaboration with Shoals Rodrigues. The day start with a walk from the Dominique Farla Information Centre to Riviere Banane where interested staff were introduced to swimming and snorkelling.
- 4<sup>th</sup> March 2023: Rodrigues Manager attended the launch of the Commission for Tourism 1 Visitor – 1 Tree project at the François Leguat Reserve
- 7<sup>th</sup> March 2023: Rodrigues Manager attended a meeting with World Bank Environmental consultant Nadia Seesaram to give information on possible impacts of the Airport Development on Endemic snails, the Rodrigues Fruit Bat and seabirds in the Southwestern region
- PWC Ideathon on 16<sup>th</sup> & 17<sup>th</sup> March was attended by Jean Hugues Gardenne, Fundraising and Communications Manager to support this initiative.
- 24<sup>th</sup> March 2023: Rodrigues Manager met with World Bank Environmental expert Julien Boule and Social Science expert, INSUCO Intl Jean Taguchi, to discuss how stakeholder communication has been handled by the RRA and ARL in conjunction with the Rodrigues Airport Development Project.
- 13<sup>th</sup> April 2023: The Rodrigues Manager met with 2 Eco Med Ecology specialists, Mr Pierre Yves Fabulet and Mr Antoine Baglon to discuss the presence and absence of the Rodrigues Fruit Bat and *Tropidophora articulata* snail at the site of the future airport runway.

- 14<sup>th</sup> April 2023: To commemorate the World Earth Day, 325 native and endemic seedlings were distributed to students from Polytechnic Campus Rodrigues at Baie Malgache. On the same occasion a talk was delivered by the REEP Educator to 60 students present.
- 20<sup>th</sup> April 2022: the Rodrigues Manager attended a project Steering Committee meeting for the upgrading of the Ile aux Cocos building and tourist facilities chaired by the Commissioner for tourism, Mr Alain Wong So and presented a draft biosecurity protocol to the committee to prevent the arrival of IAS during the construction phase.
- 20<sup>th</sup> April 2023: The REEP Educator attended the Rodrigues Regional Eco-School Committee meeting organised by the Commission for Education at the Antoinette Prudence Human Resource Development Centre at Malabar. The objective of the meeting was to promote the Eco-School Programme in all educational institutions in Rodrigues.
- 20<sup>th</sup> April 2022: the Rodrigues Manager attended a Teams meeting with Viki Pandu and Sameer Kaudeer for them to give an update on the UNDP Mainstreaming IAS project Rodrigues
- 26<sup>th</sup> April 2023: Ecotour Officer, Stephen Kirsakye participated in an online meeting for Rodrigues' Circular Economy Development Project Tourism component.
- 29<sup>th</sup> April 2023: Through the One Take-off, One tree Project, the CEO of Air Mauritius, Kresimir Kucko symbolically planted 1 *Hibiscus liliiflorus* in the reserve in the presence of the Air Mauritius Rodrigues Manager, the MWF Rodrigues Manager, the Nature Reserve Officer and the MWF Ecotour Officer.
- 10<sup>th</sup> May 2023: MWF Rodrigues Manager attended the official launch of the updated Sustainable Integrated Development Plan for Rodrigues (SIDPR) at Port Mathurin.
- 12<sup>th</sup> May 2023: MWF Rodrigues Manager participated in a meeting organised by Airports of Rodrigues Ltd and the Rodrigues Regional Assembly and attended by the EU Ambassador and a World Bank representative. An update was presented on the status of the tree conservation programme by the Rodrigues Manager. A site visit was then carried to each of the 5 trees with the EU Ambassador to assess progress.
- 12<sup>th</sup> May 2023: A site visit was carried out by the MWF Rodrigues Manager and reserve staff MWF with 2 persons from the EU delegations, including the EU Ambassador, HE Vincent Degert.
- 16<sup>th</sup> May 2023: MWF Rodrigues Manager met with Swiss composer Michele Rusconi to discuss MWF conservation actions in Rodrigues.
- 17<sup>th</sup> May 2023: MWF Rodrigues Manager met with two consultants (Dr Marie Cherchelay-Université de Limoges and Dr. Zyaad Boodoo-Université des Mascareignes) carrying out a coastal risks assessment of the Republic in partnership with the Commission for Agriculture.
- 22<sup>nd</sup> May 2023: Biodiversity Day: MWF organised an open day on the Solitude nursery and the public was invited to collect native and endemic plants for free. 35 plants were donated on that day, under the EU donation activity.
- Book launch of 'Le Ti Cardinal de Moris', a booklet designed and published by Mauritius Union with the support of MWF. Vikash Tatayah, Conservation Director, Jean Hugues Gardenne, Fundraising & Communications manager and Benoit de Lapeyre, Fundraising executive attended the ceremony at Residence Vallijee Government School, on Friday 16<sup>th</sup> June 2023.
- 17<sup>th</sup> June 2023: The REEP Educator attended and participated in the prize giving ceremony at l'Alliance Française Antenne Rodrigues for the painting and poetry competition on '*Raconte-moi une ile Rodrigues écolo*'.
- 19<sup>th</sup> to 21<sup>st</sup> June 2023: MWF staff had meetings in Swansea with research partners.
- On 23<sup>rd</sup> June 2023 Vanessa Coralie was a panelist at a Webinar organised by Chester Zoo and the University of Chester on Conservation Education.
- 26<sup>th</sup> to 30<sup>th</sup> July 2023, MWF Rodrigues attended the Rodrigues International Kitesurf Festival Committee, manning the green corner exhibition at Mourouk based on the theme 'Go Green'. Various MWF staff were present at the MWF stand.
- 11<sup>th</sup> August 2023: The Ecotour Officer, Stephen Kirsakye attended a Consultative Meeting on Tourism Status and Development in Rodrigues et the Antoinette Prudence Human Resource Centre, Malabar



- 3<sup>rd</sup> August 2023: MWF Scientific Officer, Sweety Félicité attended a cocktail organised by the Australian High Commission, met with the visiting delegation and was awarded her certificate for a Climate Change Adaptation and Mitigation course completed in 2022.
- 31<sup>st</sup> August 2023: Closing ceremony of the UNDP SEF SGP funded AQNR conservation project entitled: *Community restoration of the Anse Quitor River system and protection of the critically endangered endemic species in a nationally declared Nature Reserve in Rodrigues*. Attended by the Deputy Chief Commissioner, Franceau Aubret Grandcourt, National Coordinator of the GEF SGP in Mauritius, Pamela Bappoo-Dundoo, National Coordinator of the GEF SGP in the Seychelles, Lindy Bastienne, representatives of the GEF SGP Steering Committee, the MWF Fundraising Manager, Jean Hugues Gardenne, Rodrigues Manager, other key MWF staff and the AQ restoration labourers at the Anse Quitor Community Centre
- 31<sup>st</sup> August 2023: Debriefing working session was held in the afternoon at the Anse Quitor Community Centre closing the UNDP GEF SGP Project in the presence of 12 MWF staff and 8 labourers, chaired by the Rodrigues Manager.
- 16<sup>th</sup> September 2023: To celebrate the World Clean Up day, the Environment Educator participated in the cleaning campaign organised by the Commission for Environment at the Mourouk beach.
- 26<sup>th</sup> and 27<sup>th</sup> September 2023: To celebrate the World Tourism Day, the Commission for Tourism organised a mass and an exhibition in Port Mathurin for all stakeholders in the tourism sector. The Rodrigues Manager, the Environment Educator and the Ecotour staffs participated in the two days exhibition, promoting the GMNR Ecotour.
- The Launching of the Annual Report 2022-2023 of Ombudsperson for Children on 25th October 2023 was attended by Mantee Badal.
- 7<sup>th</sup> November 2023: The Environment Educator, Liliana Meunier attended a meeting on the Setting up of the Acquisition Steering Committee in connection with the Rodrigues Museum, held on Tuesday 7th November 2023 at the Commission for Arts & Culture, Alfred North Coombes Building.
- 8<sup>th</sup> November 2023: MWF Scientific Officer, Sweety Felicite attended a meeting at the Public Infrastructure to discuss a call for proposal of a RECOS Application under Technical ICZM Committee.
- 9<sup>th</sup> November 2023: The Scientific Officer, Sweety Felicite attended a workshop on Consultancy Services for Enhancement of Oil Spill Response (AFD Project).
- 25<sup>th</sup> November 2023: The MWF Educator and Senior Nature Reserve Assistant, Jenifer Cesar carried out a visit at the GMNR with Director of the Global Operations, Edwin Kibuthu Kimani, Manager of the Global Operations of the Duke of Edinburgh's International Award, Kenya, Ms Joanne Waweru, National Director of the Award Programme in Mauritius, Mrs Roomeela and Youth Officer from Rodrigues Commission for Youth, Mrs Arline Larose.
- 8<sup>th</sup> December 2023: The Eco-Schools Award Ceremony held at the Cote d'Or Sports Complex was attended by Mantee Badal representing MWF.

## Presentations

MWF is invited to give presentations and will organize them for training or education and awareness purposes. Some MWF was involved in are listed below but they exclude those given for MWF staff inhouse training (see Training section):

- Conservation Director Vikash Tatayah presented 'Wildlife Conservation in Mauritius and the Law' to LLM Law students of Universite Pantheon-Assas on 3<sup>rd</sup> February 2023
- Presentation by the Environment Educator, Liliana Meunier at the AEWA Training of Trainers course on Flyway Conservation, Mauritius, 6-10<sup>th</sup> February 2023.
- Talk to Friends of Mauritian Wildlife Foundation on the theme 'Partnerships for Wildlife Conservation' in the context of World Wildlife Day. 3<sup>rd</sup> March 2023, by Vikash Tatayah
- A "Bat conservation in the Indian Ocean islands" workshop was organised by the Reunion University on the 31<sup>st</sup> March and the Conservation Director Vikash Tatayah delivered an online presentation on "Human-Bats conflict – where are we now".
- Talk to BirdLife Africa staff entitled 'Island News and Species Recovery' on 3<sup>rd</sup> April 2023 by Vikash Tatayah
- Presentation at the Indian Ocean Rim Association- Ministry of Tourism workshop, entitled 'Eco-tourism – the Ile aux Aigrettes experience' on 3<sup>rd</sup> May 2023 by Vikash Tatayah
- The Conservation Director Vikash Tatayah presented "Conservation in the land of the dodo" as part of BirdLife South Africa initiative on the 4<sup>th</sup> April 2023.
- A presentation was delivered by the Head of Training Aurélie Henshaw at a Career Guidance initiative organised by the Université des Mascareignes on the 5<sup>th</sup> April 2023.
- Presentation delivered by Project Support Officer, Alfred Begue a on Biohazard security on Ile aux Cocos to contractors SDR Co LTD, at the Pointe Monier Community Centre. 18<sup>th</sup> May 2023
- Lecture to Central European University, Austria MSc students 3<sup>rd</sup> June 2023 on conservation by MWF 3<sup>rd</sup> June 2023 by Vikash Tatayah.
- 'Rescuing rare plants in Mauritius and Rodrigues, and a note on plastic pollution' by Vikash Tatayah to Omnicane staff 13<sup>th</sup> June 2023 by Vikash Tatayah
- Lecture to students of A P Leventis Ornithological Research Institute (APLORI), Nigeria, entitles 'Conservation in the Land of the Dodo' on 29<sup>th</sup> June 2023 by Vikash Tatayah
- Rebuilding the lost reptile communities of Mauritius (by Nik Cole), presented to the Ladies Corona Club 5<sup>th</sup> July 2023.
- Oil spill impact on lesser night geckos (by Nik Cole), presented to the National Parks and Conservation Service, 13<sup>th</sup> July 2023.
- Conservation Director Vikash Tatayah presented 'A brief history of Mauritian natural art' at the Economic Development Board for the launch of the art exhibition by Palmesh Cuttarree on 19<sup>th</sup> July 2023.
- Presentation on seabirds and their conservation to MWF's Ile aux Aigrettes ecotours staff 21<sup>st</sup> July 2023
- 'Les forets mauriciennes : quel avenir ?', a presentation done by Jean Hugues Gardenne, Fundraising & Communications manager at 'Les après-midis du CCEF (Centre Culturel d'expression française)' on Friday 15<sup>th</sup> September 2023.  
<https://www.facebook.com/photo/?fbid=700742232097492&set=a.564433149061735>
- Presentation by Ecotour Officer, Stephen Kirsakye on the Grande Montagne Nature Reserve at Chester Zoo to members of the Chester Zoo staff during his visit from the 6<sup>th</sup> to 26<sup>th</sup> September 2023.
- Marine biodiversity initiatives in the NW Indian Ocean region - Presentation of case studies of marine biodiversity initiatives from experts in the region (Mauritius – by Vikash Tatayah). Global Ocean Biodiversity Initiative meeting in Oman. 3<sup>rd</sup> October 2023

- Restore and Revive talk given at the 2nd Meeting of the International Avian Genetic Rescue Consortium on 4<sup>th</sup> October 2023 by Prof Cock Van Oosterhout (University of East Anglia) and Mr Sion Henshaw (MWF).
- Saving Round Island's Lost Grasslands (by Cacey Cottrill), presented at the IOTA Giant Tortoise Conference, Seychelles 5th October 2023.
- Conservation Lessons from Aldabra Tortoises in Mauritius (by Roberto Cesar), presented at the IOTA Giant Tortoise Conference, Seychelles 5th October 2023.
- A virtual presentation on "The Pink Pigeon: Genomic Erosion and Species Recovery in Mauritius" was delivered by the Fauna Manager Sion Henshaw as part of the 2<sup>nd</sup> meeting of the International Avian Genetic Rescue Consortium" on the 11<sup>th</sup> of October 2023.
- Round Island The Way Forward (by Nik Cole) – presentation at the 'Friends of Mauritian Wildlife' conference – 27th October 2023.
- High Seas Treaty Webinar for Birdlife International entitled 'Challenges and successes of marine protection work in Mauritius' by Vikash Tatayah on 28<sup>th</sup> October 2023.

# Research and Publications

## Research

There are a number of research initiatives being conducted by MWF, many in collaboration with overseas partners and other initiatives are under development. They are listed below.

Ongoing:

- Rodrigues Fruit Bat (*Pteropus rodricensis*) long-term data analysis with Chester Zoo (Dr Claire Rasin) and University of Chester Department of Biological Sciences Senior Lecturer in Conservation Biology (Dr Achaz von Hardenberg) and M.Phil. student Ms Amber Williams
- Long-term research by Dr Sylvain Hugel, CNRS, France on crickets and grasshoppers in the Grand Montagne Nature Reserve and across Rodrigues.
- Research by Dr Christine E. Edwards & Brock Mashburn, Missouri Botanical Gardens, USA on the connectivity and phylogeny of the Hibiscus genus in the Indian Ocean
- Research by Dr Mattias Herrmann of the Max Plank Institute for Biology in Germany, investigating and cataloguing of Rodrigues microfauna (Nematodes)
- Research by Associate Professor Vincent Famin (University of La Réunion) and Dr Loraine Gourbet, both from the Laboratoire Géosciences Réunion, France., reconstructing the volcanic history of Rodrigues Island from the first emerged lavas to the most recent eruption; comparison of the chemistry of Rodrigues' lavas with those of Réunion and Mauritius to determine the relative influence of the hotspot and the ridge on the volcanic activity, and quantification of fluvial erosion related to extreme precipitation events.

Agreed but not implemented:

- Observation of 2 Rodrigues endemic snails (*Tropidophora articulata* and *Dancea rodriguezensis*) in enclosures in the Grande Montagne Nature Reserve with Bioculture Joint Managing Director, Owen Griffiths and François Leguat Reserve

Completed during the year:

- Rodrigues Fruit Bat (*Pteropus rodricensis*) long-term data analysis with Chester Zoo (Dr Claire Rasin) and University of Chester Department of Biological Sciences Senior Lecturer in Conservation Biology (Dr Achaz von Hardenberg) and M.Sc. student Ms Holly Slatter

## Joint Research with Durrell

The following research initiatives are conducted as joint research projects with Durrell related to the Island Restoration Programme, in collaboration with academic partners.

Ongoing:

- Optimising genetic markers of endemic reptiles to investigate the impact of the Wakashio oil spill on threatened reptile populations in the southeast islets – Cardiff University
- Conservation genetic research on the orange-tailed skink – Cardiff University

- Investigating the genetic diversity and population structure of the lesser night gecko (*Nactus coindemirensis*). MSc Research at Cardiff University by Olivia Fitzpatrick
- Competition amongst endemic lizard species on a tropical island (Round Island, Mauritius), PhD research at Cardiff University by Charlotte Taylor
- Genome sequencing of the Critically Endangered hurricane palm – London Natural History Museum, Oxford Nanopore and the University of Nottingham
- Investigating the genetic structure of the Critically Endangered hurricane palm to direct conservation management – Cardiff University
- Genome sequencing of the Critically Endangered Bojer's skink – London Natural History Museum, Oxford Nanopore and the University of Nottingham
- Seabirds Without Borders. Dr Malcolm Nicoll (Institute of Zoology, Zoological Society of London), Prof Matthieu Le Corre (University of Reunion) and collaborators in Mauritius including National Parks & Conservation Service (Government of Mauritius) and the Mauritian Wildlife Foundation.
- BioBlitz to Discover Hidden Diversity on Mauritian Islets - Identification of invertebrate species. Samples obtained by Durrell, MWF, Forestry Services and invertebrate identification by London Natural History Museum.
- Gecko Adaptation to Surface Textures in Mauritius. Research into mainland day gecko species and speciation within the blue-tailed day gecko *Phelsuma cepediana*. Dr Travis Hagey Travis Hagey (Mississippi University for Women, USA), Dr Nik Cole (Durrell Wildlife Conservation Trust and the Mauritian Wildlife Foundation, Mauritius), Dr Scott Rush (Mississippi State University, USA) and Dr Chris Raxworthy (American Museum of Natural History, USA) with collaboration from the Alteo Limited Sugar Estate, Forestry Services, Kestrel Valley, National Parks and Conservation Service and SSR Botanical Gardens.

Completed during the year:

- Modelling the Monitoring and Management of Cryptic Threatened Lizard Species in Mauritius, PhD research at University of Kent by Katie Bickerton



## Publications

The following publications were issued in 2023 which had a connection with MWF's work or a MWF author. All publications on Mauritian species are filed in our library and made available to staff and researchers.

- Tatayah V, and Baret, S. 2023. 2022 Report of the Mascarene Islands Plant Specialist Group. In: Nassar, JM, García, L, Mendoza, L, Andrade, ND, Bezeng, S, Birkhoff, J, Bohm, M, Canteiro, C, Geschke, J, Henriques, S, Ivande, S, Mileham, K, Ramos, M, Rodríguez, A, Rodríguez, JP, Street, B, and Yerena, E (Eds.). 2022 Report of the IUCN Species Survival Commission and Secretariat. International Union for Conservation of Nature. 4 pp
- Bickerton, K.T., Ewen, J.G., Canessa, S., Cole, N.C., Frost, F., Mootoocurpen, R. and McCrea, R. (2023), Avoiding bias in estimates of population size for translocation management. *Ecological Applications*. e2918. <https://doi.org/10.1002/eap.2918>
- Garde, B., Fell, A., Krishnan, K., Jones, C.G., Tatayah, V., Cole, N.C., Lempidakis, E., & Shepard, E.L.C. (2023) Thermal soaring in tropicbirds suggests that diverse seabirds may use this strategy to reduce flight costs. *Marine Ecology Progress Series WINDav5*. <https://doi.org/10.3354/meps14410>.
- Shepard E L C, Garde B, Krishnan K, Fell A, Tatayah V, Jones C G, Cole N C, and Lempidakis E (2023). Changing Air Density Affects Flight Costs in Low-Flying Birds. *Current Biology*. <http://dx.doi.org/10.2139/ssrn.4630697>
- Mashburn, B., Jhangeer-Khan, R., Bégué, A., Tatayah, V., Olsen, K.M., and Edwards, C.E., (2023) Genetic assessment improves conservation efforts for the critically endangered oceanic island endemic *Hibiscus liliiflorus*. *Journal of Heredity*, 114(3):259-2. doi: 10.1093/jhered/esad021.
- Nourani, E., Safi, K., de Grissac, S., Anderson, D.J., Cole, N.C., Fell, A., Grémillet, D., Lempidakis, E., Lerma, M., McKee, J.L., Pichegru, L., Provost, P., Rattenborg, N.C., Ryan, P.G., Santos, C.D., Schoombie, S., Tatayah, V., Weimerskirch, H., Wikelski, M., & Shepard, E.L.C. (2023) Seabird morphology determines operational wind speeds, tolerable maxima, and responses to extremes. *Current Biology*, 2023 27:33 (6). <https://doi.org/10.1101/2022.05.02.490292>