



ANNUAL REPORT

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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 located in Vacoas, Mauritius and the Rodrigues branch is based in Solitude. MWF is the only 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. 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 Mauritian 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 lle aux Aigrettes, Round Island, lle 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 activity conducted on Ile aux Aigrettes. The MWF promotes local capacity building and provides employment through its activities. The Mauritian Wildlife Foundation wishes to remain a strong, vibrant and innovative organization.

MWF's Missions

• To save threatened Mauritian species through the restoration of entire ecosystems.

• To seek new information through field research, data management, captive studies and scientific collaboration for direct application to restoration methods and management.

• To share knowledge gained through restoration programs with fellow Mauritian and international conservationists.

• To share the joys and benefits of native wilderness and wildlife with the Mauritian people.

• To secure the future of Mauritian species through income generation and sound management of human, fiscal and capital resources.

Organizational Structure

MWF is governed by a Council of 12 members, made up of prominent Mauritian businessmen and women, representatives from the Mauritian Government's National Parks & Conservation Service, the

Durrell Wildlife Conservation Trust, Chester Zoo and other international partners. MWF employs around 90 Mauritian staff at all levels of responsibility, and up to 8 expatriate staff. Their work is supported by up to 25 Mauritian and expatriate self-funded volunteers. MWF and its Council are also advised by a number of scientific associates from organizations that fund or support it, namely The Durrell Wildlife Conservation Trust, The International Zoo Veterinary Group, North of England Zoological Society, the Institute of Zoology (UK) and various universities.

Significant Events of 2019

The translocations of Pink Pigeons and Echo Parakeets were completed to Ebony Forest.

The handrearing and releases of the Mauritius Kestrel have continued for both breeding seasons: 2018/2019 and 2019/2020.

Two strong cyclones badly affected Rodrigues in February and March 2019. The forest restoration work was not impacted. The Rodrigues Fruit Bat dispersed from roosts to find food which was scarce. The impact on their population will only be able to be assessed fully in 2020.

To modernize our image and move with the times the MWF website and logo were redesigned. The 'old' logo is being gradually phased out on uniform and other items.

Completion of the first stage of a project to promote the sustainable use of St Brandon with a fact-finding visit looking at invasive species eradication, multistakeholder workshop and subsequent meeting to establish collaboration.

The passing away of Gabiel d'Argent aged 94, our oldest staff member, who had faithfully cared for the Mondrain Nature Reserve for so many years and shared his knowledge with young staff.

A collaboration with Botanical Gardens Conservation International was established to support some of our Flora work.

The islets sensitisation education work was expanded from the South East islets to the Northern islets. An office was opened in Blue Bay to facilitate the Island Restoration work and for MWF meetings.

A change of overseas staff accommodation was effected with houses in both Black River and Blue Bay. MWF facilitated a one-day training workshop for port inspectors on seabird bycatch assessment and mitigation on foreign flagged vessels.

Three Pink Pigeons were successfully repatriated from Europe (Durrell Wildlife Conservation Trust) as the first step for genetic enhancement of the population.

Construction work has begun to improve the infrastructure on Round Island adding an office, quarantine area and rebuilding the field station.

An Education Strategy Workshop was facilitated by Chester Zoo to review our education work going forward.

Two workshops were carried out within the Human Wildlife Conflict project (Mauritius Fruit Bat) for Backyard Fruit growers and for the Media.

An island wide count of the Mauritius Fruit bat was carried out by NPCS and a cull authorised in December 2019. No official figures are available.

The IUCN Mascarenes Islands Plant Specialist Group, co-chaired by Dr Vikash Tatayah was awarded the SSC Chair's citation of excellence, an international recognition.

The Echo Parakeet was down-listed from Endangered to Vulnerable.

The Mascarene Swiftlet *Aerodramus francicus*, a bird endemic to Mauritius and Reunion, entered the red-list of species for the first time as 'Near-Threatened'.

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 birds in 1974, including a single breeding female, to a peak of about 800 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 degradation of the Mauritian native forests the kestrels are now found only on the eastern and western part of the island where they continue to face the effects of habitat degradation and predators. 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. However, the western subpopulation suffered a decline and MWF had to resume monitoring there in 2008 after an island wide survey found a drastic reduction in kestrel numbers from the estimated 800 to around 300 birds. The findings sadly confirmed the disappearance of introduced kestrels from the Moka Mountain Range. The current monitoring has enabled us to identify the management which is required to reverse the downward trend in numbers and secure the population. Measures include placing more nest boxes in suitable habitats to increase breeding pairs, studying the genetics of the populations to identify if certain bird's genes need to be introduced into the other sub-population and hand-rear birds to boost population numbers and to reintroduce birds into new nesting areas. The field team will harvest eggs and/or chicks from nests in very tall trees. The eggs and chicks will be hand-reared at the Gerald Durrell Endemic Wildlife Sanctuary in Black River (GDEWS) under the supervision of staff from the Zoological Society of London, and then moved to nest boxes in the new release sites (like Bel Ombre) for a period of adaptation before leaving the box to go into the forest.

Releases have been done in Bel Ombre in the South west of the National Park over the last three years; eggs were harvested from the east coast and were incubated and hand reared at GDEWS, and then

the chicks were released in nest boxes in Bel Ombre, and they were fed every day until they reached independence. In 2016 five birds were released, in 2017 21 birds were released and in 2018 a further 21 birds were released.

In the 2019/20 breeding season, 17 kestrels were released in to the 'Gorges' subpopulation in the North of the National Park. The release boxes were located along the Maccabe and Plaine Lievre tracks.

The latest scientific findings illustrate that there is no room for complacency and we still need to look after the Mauritius Kestrels.

Main Actions

- Population monitoring in the west, south and east was carried out as usual
- Hand-rearing and hacking from nest boxes of Kestrels was carried out in the 'Gorges'.
- 31 eggs were harvested from the eastern population. 23 eggs were fertile; from these 14 chicks were reared to fledglings. Four chicks were also rescued from the wild from a well-established Kestrel breeding site in the 'Gorges'. Kestrel breeding attempts in this cliff cavity almost always fail.
- 17 birds (14 hand-reared and three rescued) were released into the wild in the 'Gorges' from five nest boxes; this puts the total number of kestrels released in the National Park to 64 (47 in Bel Ombre and 17 in the 'Gorges') in the last four years.
- One released bird died at the release site, and this is believed to be due to an accident while learning to fly. One bird was injured at the release site, and was taken to the Gerald Durrell Endemic Wildlife Sanctuary for treatment. All other birds were healthy and were fed mice and birds until they become independent at around 100 days old.

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 approximately 470 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. Additional subpopulations are planned in the future in areas of good quality native forest habitat. In 2017, 30 Pink Pigeons were released in Ferney Valley. In 2018, 50 Pink Pigeons were released in Ebony Forest, 30 in January to April 2018 and 20 in November to December 2018. These releases will increase the area occupied by Pink Pigeons and to help increase the population size to over 600 birds, a figure 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. In 2019, six pairs of pigeons were used for captive breeding and two young birds were obtained.

A study supported by our University partners has identified that birds from European & USA zoos have genes that are missing or underrepresented in the wild birds in Mauritius. These genes, reintroduced to the birds in Mauritius, should 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 the genetic diversity of the current population.

In September 2019, three male Pink Pigeons were repatriated to Mauritius from Jersey Zoo (Durrell). As recommended by the government vets, they were held in quarantine for 21 days at Bras D'Eau National Park. The three Pigeons completed their quarantine in October, and all looked healthy. They were brought to GDEWS, and each of the males were paired up with a female, with the hope that they would be productive breeders. Two of the pairs have already began breeding, but have yet to be successful.

This first repatriation attempt for the Pink Pigeon has been very successful. The birds survived the long journey from the UK, and seem to be in good health. The birds have been paired with captive females, and two of those pairings have become breeding pairs – this is very positive as acceptance of a pairing is often an issue with captive birds.

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 (see: file:///C:/Users/mwfvi/AppData/Local/Microsoft/Windows/INetCache/Content.Outlook/U11YRACB/Pink %20Pigeon%20article%20BirdLife%20Magazine.pdf).

Main Actions

- Populations were managed as usual at eight sites (Ebony Forest took over the management of their subpopulation as of August 2019) with an estimated population of some 450 birds
- Carried out captive breeding and hand rearing of Pink Pigeons at the Black River Aviaries with the use of Barbary doves as foster parents when needed
- Successful repatriation of three male Pink Pigeons from Jersey Zoo (Durrell), two have already formed breeding pairs with captive Mauritian birds.

Echo Parakeet



Background

The Echo Parakeet (*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 decline and degradation, which cause shortage of food and tree cavities for nesting. Predators and diseases severely impact on the survival of Echo Parakeets.

The population is currently close to 800 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 large scale habitat restoration that will provide for natural food and nest sites. Despite the disease, the population is still growing which would indicate that the current minimum management is adequate.

However, the total population is 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 Mountains and translocations started in February 2015: 14 birds were released in 2015, 29 birds in 2016 and 30 birds in 2017. In 2018 translocation to a new area of suitable forest in the south west, Ebony Forest in Chamarel, was initiated. In total, 26 birds were released in Ebony Forest in 2018 and 24 in 2019.

Monitoring of the Echo Parakeet population is carried out to understand population dynamics and the provision of supplementary food will support general bird fitness and breeding success. Our university partners are undertaking a number of studies which look at PBFD, supplementary feeding, genetics and population dynamics all of which will inform conservation actions in the future.

Main Actions

- Monitoring and supporting the population in the Black River Gorges National Park was ongoing.
- Estimated population: over 800 birds.
- A total of 73 birds were released in the Ferney Valley from 2015-2017. In the Bambou Mountains, Echo Parakeets are seen regularly at the 'Ferney gardens' near the visitor centre, in a fruit plantation in Domaine de l'Etoile and in Vallée de l'Est.
- The first Echo Parakeet nest site in the Bambou Mountains was found in a tree cavity in Vallée de l'Est during the 2018/19 breeding season, though unfortunately the attempt failed at chick stage.
- 50 Echo Parakeets were released in Ebony Forest from 2018 to 2019.



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 on 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 the area they live in and maintaining a population of birds on the predator free island of Ile aux Aigrettes. Our biologists based in Combo (Black River Gorges National Park) identify nests and protect them from predators, as well as 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 raise chicks and then release the fledglings onto Ile aux Aigrettes. The population is now around 73 birds and may be approaching carrying capacity. 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.

Main Actions

• The population on IIe aux Aigrettes is supported by supplemental feeding which is very labour intensive. Research was carried out to investigate replacing perishable food in the feeds. This experiment was discontinued as it had a negative impact on the breeding of birds. It has been replaced by investigations to see if the birds can be fed every two days rather than daily.

- A 'Mainland island' intensive trapping grid was set up in Brise Fer in the Black River Gorges National Park in October 2018, covering an area of 5.6 ha. It consists of 115 A24 GoodNature self-resetting traps to control rodents, 31 wooden box traps to control feral cats and mongooses and five large mammal traps. This continues to be operated to test its effectiveness.
- The agreed way forward to protect the Olive White-eye was the creation of a population in a 'Mainland Island' of 7 ha or more in an area of suitable forest within their former range. This will include areas on the mainland, but also potentially Flat Island in the future.

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 on 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 the area they live in and maintaining a population of birds on the predator free island of Ile aux Aigrettes. 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 is now around 400 birds and may have reached carrying capacity. 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 Mauritius Fody on a visit to Ile aux Aigrettes.

Main Actions

- The population on Ile aux Aigrettes is monitored and supported by supplemental feeding.
- Another outbreak of avian pox was recorded on Ile aux Aigrettes this season.
- Discussions continued with partners around the best way forward to protect the Mauritius Fody.
- Discussions concerning translocation of Mauritius Fody to the mainland island and Flat Island continued.

Mauritius Cuckoo-Shrike



Background

The three-year island wide survey of Passerines confirmed 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. Urgent 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 that was once found in the valley, but it was probably extirpated in the 1950's by organchloride pesticides no longer in use. To re-introduce the cuckoo-shrikes, hand-rearing birds is thought to be the best method as it will allow us to increase the probability of birds fledging. From 2014, at the start of the season, a field team of two staff have been based in the Black River Gorges National Park to locate nests and clutches of eggs and chicks. The field team harvest eggs and/or chicks form nests in very tall trees. The eggs and chicks are 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 a release aviary before being released into the forest. In the 2015/16 season, five birds were translocated to Ferney Valley and two were released. In the 2016/2017 season, nine birds were released in Ferney Valley. In the 2017/18 season, six birds were translocated to Ferney Valley and five were released.

This is the first time a Cuckoo-shrike has been handreared and released and we found a number of difficulties in doing so successfully. Therefore, no handrearing took place in 2018/2019 or 2019/2020 while the project methodologies were reviewed and researched.

Main Actions

• The 5.6 ha 'Mainland Island' was managed and maintained throughout 2019 as part of an experiment to determine whether intensive trapping can be effective at reducing rat densities; initial results are promising.

- Birds in the wild were surveyed as from October 2019, at Brise Fer, in the mainland island and in the control area (no predator control). At least two fledglings are believed to have been produced this year, though the nest was not found.
- Discussions and preparations for a course of action for resuming handrearing and releases of Cuckoo-shrikes were ongoing.

Mainland Island at Brise Fer Background

A 'Mainland Island' is an area where rats are controlled intensively using self-resetting traps. The traps would lower rat abundance significantly and allow the creation of new sub-populations of endangered passerines in new suitable areas while also helping the remaining bird populations to survive.

The species which would benefit the most are the Olive White-eye and Mauritius Cuckoo-shrike. The benefits for other species would also be quite significant as rats impact negatively on other endangered birds, plants and invertebrates.

Two pilot studies with A24 GoodNature[®] traps were carried out. The first pilot placed the distance between the traps at 25 m and this maintained a rodent free zone. The second pilot extended the distance to 50 m but this was found to be inefficient at keeping a rodent free zone.

A project proposal was submitted by MWF to National Geographic Society and entitled 'Creating an island on an island' and funds were obtained to create a Mainland Island of 5 ha.

The Mainland island grid was set up in Brise Fer in the Black River Gorges National Park (Mauritius) in October 2018, covering an area of 5.6 ha. It consists of 115 A24 GoodNature[®] self-resetting traps to control rodents, 31 wooden box traps to control feral cats (*Felis catus*) and mongooses (*Herpestes auropunctatus*) and five large mammal metal traps for pigs (*Sus scrofa*). Box traps for cats and mongoose were placed at a distance of 50 m and pig traps were placed at the four corners of the grid and with one in the middle.

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 2019 as predator tracks were often too difficult to discern, and would be washed away by rain.

The GoodNature[®] traps are checked every month to see if the gas canister resetting the trap needs to be changed and that the trap is functioning correctly. The box and large mammal traps are checked every morning after being set and recorded for any activity. Traps are reset, if required.

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

Preliminary results show that the rodent index monitored by chew cubes reduced by 48% in the mainland island and by 6% in the control during the first 3 months of monitoring. This indicates that the GoodNature[®] traps are effective at reducing rat density in the mainland island. Furthermore, more pairs of Mauritius Cuckoo-shrike *Lalage typica* (8 pairs) were found in the mainland island compared to the control (no predator management, 4 breeding pairs of birds recorded) between September 2018 and January 2019. One juvenile Mauritius Cuckoo-shrike was produced in the mainland island compared to none in the control.

Main Actions

- Maintain the mainland island grid with a low index of predators
- Monitor Cuckoo-shrike population and breeding to see in the mainland island has a beneficial effect on these.
- Consider translocation of passerines to the mainland island.

Gerald Durrell Endemic Wildlife Sanctuary (GDEWS)



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. 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. Additionally, GDEWS houses a collection of Critically Endangered endemic plants in a secure environment (e.g. palmiste blanc de l'ile 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. In 2018, 6 pairs of pigeons were used for the captive breeding and 4 young birds were obtained. Six Pink Pigeon of season 2018, were released at Petrin. In 2019 hand-rearing of cuckoo shrikes was put on hold. Handrearing of Mauritius Kestrels was continued, as planned. In 2019, seventeen kestrels were successfully reared at GDEWS and released into the wild subsequently. Of significant note, three

Pink Pigeons were repatriated from Jersey Zoo, Channel Islands, UK (https://www.mauritianwildlife.org/news/2019-10-07/rapatriement-du-pigeon-des-mares--un-nouveau-tournant-pour-laconservation), and after quarantine at Bras D'Eau National Park, the birds were sent to GDEWS. The three 'Jersey' birds have been paired with 'Mauritian' birds, and have started breeding.

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. Chester Zoo, Durrell, Zoological Society of London, Wildlife Vets International).

Main Actions

- New aviaries are being built to be able to hold more Pink Pigeons pairs and other birds.
- Captive breeding and hand rearing of Pink Pigeons at GDEWS with the use of Barbary Doves as foster parents continued
- Old generator room will be modified to accommodate insect breeding
- 6 Pink Pigeons were released at Petrin
- 17 Mauritius Kestrel chicks were hand-reared to 30 days
- Hand rearing of rescued adult and baby Mauritius Fruit Bats and stranded seabirds continued. 17 Mauritius Fruit Bats were rescued, of which 5 survived
- 25 seabirds were rescued, including two rare species in our region, the Brown Booby (*Sula leucogaster*) and the Lesser Fregatebird (*Fregata ariel*)

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 endangered 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. A total of 2,266 reptiles from seven species were moved to seven different release sites. 62 individuals of three species have been moved from Mauritius to captivity at Jersey Zoo for captive breeding for research, as assurance populations or to augment translocations and 214 juvenile Telfair's skinks have been headstarted for release on Ile aux Aigrettes. Major threats (e.g. introduced predators, habitat loss / degradation) have been addressed to lessen the risks of extinction to the reptile species and reintroductions have contributed to the rebuilding of lost Mauritian ecosystems. These actions are enhancing the distribution and abundance of endangered reptiles. To date the distribution and abundance of five threatened Mauritian reptile species have been increased by an average of 85% and 55%, respectively and the extinction of the orangetailed skink has been prevented. These actions have led to the down-listing of the Günther's gecko and keel-scaled boa through the IUCN red-list of threatened species. To maintain this success MWF needs 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

- The 2018-2019 breeding season was very successful for the re-introduced population on Ile aux Aigrettes with an increase in both number of eggs found and hatching success, compared to the previous season. A total of 97 eggs were found with a hatching success of 87.6% hatching.
- The hatching success of Günther's gecko eggs on Round Island for 2018-2019 breeding season was 90.6%, which does not differ substantially from Ile aux Aigrettes. This indicates that there are currently no major threats on Günther's gecko eggs from invasive species on Ile aux Aigrettes.

- Genetic samples continued to be collected from Günther's geckos on Ile aux Aigrettes to accompany those already collected from Round Island to investigate how many of the founders has contributed to the genetic stability of the population. It is also hoped that through genetic research, we may find the underlying cause to the metabolic bone disorder seen in a low percentage of geckos on the island.
- The first eggs for the 2019-2020 breeding season were found in September. By the end of December 2019, 32 eggs have been found, out of which eight have hatched.
- Round Island: See Round Island section in this report.

Telfair's skink

- Ile aux Aigrettes: We were unable this year to estimate the abundance of the skinks as too few detections are made, following the invasions of non-native predators: dogs (threat removed), tenrecs (still present) and crows (still present). It is thought that less than 100 adult skinks remain. Despite trapping, it has proved to be very difficult to eradicate tenrecs from the island and no further skink translocations will occur until the island is free from this invasive predator.
- 18 wild hatchlings were collected from Ile aux Aigrettes during 2018-2019 breeding season and were headstarted in the reptile nursery. However, tenrecs were found in the secure nursery and all the skinks were predated. The team found no bio-security breach in the enclosure and it is suspected that the tenrecs were deliberately placed inside.
- Gunner's Quoin: The abundance of Telfair's skinks on Gunner's Quoin was estimated at 23,878 (95% confidence intervals: 17,739-32,143). To note that 350 skinks have originally been translocated to Gunner's Quoin and with no pressure from invasive species there, the species is thriving as compared to the population on IIe aux Aigrettes.
- Round Island: See Round Island section in this report.

Keel-scaled boa

- Gunner's Quoin: Seventeen boas were detected during the annual monitoring trip in December 2019 of which 14 were caught. The data remain to be analysed, but their range has increased. Of the boas caught DNA cloacal swabs were obtained to check on the genetic status compared to the release cohort.
- Round Island: See Round Island section in this report.

Southeast Bojer's skink

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.

Capture Mark Recapture: Each year we monitor the population abundance through Capture Mark Recapture and monitor their health to determine the status of the populations and detect any emerging threats:

- Ile aux Fouquets: 155 Bojer's skinks (76 males, 73 females and 3 juveniles) were captured over a four-day period. The population was estimated at 421 (95%CI: 297-639). The estimate is lower than usual.
- Ilot Vacoas: Capture Mark Recapture surveys were carried out over four days and 118 Bojer's skinks (43 males and 75 females) were caught during the trip. However, there were too few recaptures to generate an abundance estimate, but this indicates that the population size is relatively abundant.

- Ile de la Passe: Capture Mark Recapture surveys were carried out over four days and 139 skinks were captured (58 females, 63 males and 18 juveniles). The population was estimated at 540 (95%CI: 329-961).
- Health assessments showed that the skinks on all three islands are healthy and doing well.

Translocation of Bojer's skink: In line with genetic management recommendations through our work with Cardiff University translocations of Bojer's skink from Ilot Vacoas and Ile aux Fouquets to Ile de la Passe were conducted on the 19th of February and 18th of April respectively. On each occasion 20 skinks (10 females and 10 males) were translocated. A small tissue sample was collected from each skink and in two years' time we will reassess the genetic variation to determine whether the releases were successful in enhancing genetic variability on Ile de la Passe.

Lesser night gecko

- Capture Mark Recapture surveys were conducted on the translocated population on Ile Marianne and from source population on Ilot Vacoas.
- The population abundance of lesser night gecko on Ile Marianne was estimated at 99 (95%CI: 68-172). The previous estimate was 528 (95%CI: 373-747). Whilst this raises concern, it is thought that the extremely poor weather and conditions during the survey meant that a vast majority of the geckos remained hidden within the deep fissures of the bedrock. No other reason was detected to explain this low estimate.
- No abundance estimate could be obtained for llot Vacoas in 2019 due to poor weather during the monitoring. However, no sign of decline in observed abundance was noted.

Orange-tailed skinks

Gunner's Quoin: Visual estimate surveys of orange-tailed skinks were conducted in six locations over the island, giving an encounter rate per person per hour of 1.28 skinks, almost half from the previous year. This decline in encounters is thought to be due to the incredibly dry state we found the island in and also the excessive heat during the surveys. The range of the skinks across the island had increased from 16.9 ha in 2018 to 25.2 ha in 2019. 17 orange-tailed skink tail tips and 16 faecal samples were obtained for genetic analyses.

Ilot Gabriel: A monitoring trip to llot Gabriel was conducted from 15th to 18th July to monitor orangetailed skinks. Two drift fences and pitfalls were placed at strategic points on the island to detect orangetailed skinks. These pitfalls were checked every two hours. Searches were also made at previous orange-tailed skink release sites and in other potentially suitable areas on the island. No Orange-tailed skinks were found. The last sighting was in 2014. Searches will continue in 2020.

Other

Two Red List accounts were submitted to the IUCN in November. One for the lowland forest day gecko *Phelsuma guimbeaui*, which has been listed as Endangered. The other for the ornate day gecko *Phelsuma ornata*, which has been listed as Least Concern, but with the recommendation of uplisting to Near Threatened should the introduced Madagascar day gecko *Phelsuma grandis* increase its range on the mainland or reach any of the offshore islets.

Tortoises



Background

Mauritian tortoises had an important role in the native ecosystem as browsers, grazers and seed dispersers. Many native and endemic plants have evolved with, and are 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 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 26 adult tortoises free-roaming on Ile aux Aigrettes and currently an estimated 658 (of the 685 that have been released) free roaming tortoises on Round Island. The tortoises on both islands are monitored closely and studies have been set up to assess their impact on the ecosystem.

Ile aux Aigrettes

- The island had 26 adult free-roaming Aldabra tortoises by the end of December 2019.
- The morphometric measurements of the adult free roaming tortoises was taken in May to assess their health and were found to be in good body condition.
- Vegetation surveys within 20 exclosures and their control plots are established on IIe aux Aigrettes to monitor the impact of the tortoises, however, these were not surveyed in 2019, due to staffing issues.
- Juvenile tortoises, kept for education purposes, were fed and provided water on daily basis. Morphometric measurements were carried monthly for each tortoise to assess their health. Underweight tortoises were given supplementary feeding and were soaked in critical care solution so they could absorb electrolytes and nutrients.
- Sixteen protocols covering each aspect of the tortoise work on Ile aux Aigrettes were drafted in 2019.
- In December, a large adult male adult Aldabra tortoise was donated by Mr. Olivier Maurel from Grand Gaube, which was successfully transported to Ile aux Aigrettes and placed in quarantine prior to being released.

Round Island

- Daily sightings and monthly quadrat searches were carried out in the seven habitat types to obtain abundance, movement and distribution data. 585 individual Aldabra giant tortoises were detected in 2019. The encounters were used with previous years' data to estimate the population size at 658 (95%CI: 644-671) individuals on Round Island.
- The morphometric measurements of the 585 individual Aldabra tortoises were recorded through two surveys in the year. Of these 37, thus 6.32% were found to have weights significantly lower than expected for their size.
- On the basis that Aldabra tortoises with a plastron length of greater than 500 mm are considered as adult, 32.65% of the 585 individual tortoises measured were classed as adult.
- In December, tortoise A354 with a growth on the neck, was translocated from Round Island to Ile aux Aigrettes and placed in an enclosure for quarantine purposes.
- Faecal samples of 48 tortoises were collected in August and from 15 tortoises in December for parasitic worm screening. In August, less than 23 worms per sample were detected compared to less than ten per sample in December. Worm loads are monitored twice per year to ensure there are no substantial increases and to indicate when deworming is required.
- Feeding observations were recorded during surveys and during random encounters to relate to the impact upon the vegetation, detected within the six exclosures compared to control plots.
- Due to staff shortage and poor weather, vegetation surveys and fixed point were not carried out in 2019.
- GPS locations were obtained from 1,642 tortoise encounters during searches throughout the year and through surveys of 60 x 1 ha grid system established on the island. The range of the tortoises was calculated at 51.4 ha, thus 23.5% of the island.
- Three wild Aldabra tortoises' hatchlings were found on Round Island, two were large enough to be PIT tagged and all were released back to their original capture location.
- Part of the tortoise enclosure on Round Island was fortified and mended in February and June, but it requires rebuilding, which will be started in 2020.

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 19th century that 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 and this has allowed MWF and its partners to achieve a greater impact to protect and restore the island, control or eradicate invasive plants and restore over 15 ha of the island. A permanent staffing of the island has supported reptile recovery through reintroduction to other islands from 2006, leading to the down-listing in the IUCN's Red-List of threatened species of the Günther's gecko Phelsuma guentheri and keel-scaled boa Casarea dussumieri, a greater understanding of seabirds including resolving the identity of the Round Island Petrel (Pterodroma arminjoniana), and a host of field studies. The restoration of Round Island has been initiated, but we need to continue to restore the island, conserving its unique plants and animals. This will include saving from extinction two endemic plants that are in precipitous decline (Aerva congesta and Phyllanthus revaughanil), 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 invaded by rats or non-native 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.

Round Island Management Plan

- 2019 saw the launch of a six-year adaptive management plan for Round Island. This plan was developed through the Open Standards Approach to Conservation Planning and will be tracked through the software Miradi.
- There are seven Conservation Targets: Palm Savannah Mosaic, Native Mauritian Reptiles, Giant Tortoises, Invertebrate Community, Seabird Community, Marine Ecosystem and Land Birds in the plan.
- A Conceptual model was developed around the conservation targets, identifying direct threats and contributory factors that influence these threats from which 6 Restoration Strategies, 6 Threat Reduction Strategies and 5 Enabling Strategies were created. 258 activities were then planned towards meeting these strategies all of which is being tracked in Miradi, with indicators of progress.

Red-tailed Tropicbird

• During monthly surveys of the Red-tailed Tropicbird colony in the south of the island a total of 1,087 birds (403 juveniles and 684 adults) were found of which 185 birds were ringed (55 juveniles and 130 adults). These data will be used in the ongoing survey to estimate population growth, survival and recruitment.

Round Island Petrel

- From July we moved to a bi-monthly survey method to reduce disturbance to the bird colonies. The new survey will be trialled for a year and the results investigated.
- 473 individual adults were detected of which 38 were newly ringed and 56 chicks were ringed and fledged.
- 448 nest sites were active.
- 21 geolocators were recovered and 31 deployed as part of the tracking research conducted with ZSL.
- The annual survival estimate for adults was 96.5% (95% confidence limits of 96.2-96.7%).
- The abundance of adult petrels using the island in 2019 was estimated at 1,451 (95%CL 1,376-1,530), the highest abundance recorded to date.
- Research on existing data collected as part of the long-term monitoring programme is being 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.

Keel-scaled Boa

- A total of 143 boas (107 adults and 36 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.
- There were 0.603 (95%CL 0.521-0.685) adult boa encounters per person hour in 2019, compared to 0.482 (95%CL 0.409-0.0.554) encounters in the previous year.
- 65 newly detected boas were PIT-Tagged for the year.
- A study conducted under an EDGE project with ZSL on the Round Island boa, profiled the snake through social media, radio and through school visits. The research conducted found that capture mark recapture surveys were unlikely to work to obtain abundance estimates, but were good for estimating survival. A protocol was prepared for conducting surveys of the boa.

Günther's Gecko

- A total of 155 geckos (87 adults and 28 juveniles) were found during the monthly quadrat surveys as part of the long-term study to monitor their relative abundance.
- There were 1.664 (95%CL 1.385-1.943) adult gecko encounters per person hour in 2019, compared to 0.859 (95%CL 0.705-1.013) encounters in the previous year.
- 20 Günther's Gecko sites were monitored fortnightly.

- For the 2018 to 2019 reproductive season 298 eggs were monitored at the 20 nest sites of which 270 hatched, giving a success rate of 90.6%, similar to what is expected for a good season.
- Research was completed on the habitat related nest site success. Unlike on Ile aux Aigrettes, a
 preference for hardwood trees was not found, as they are yet too small and sparse on Round island.
 Contrary to what was thought, Latan palms offered suitable nest sites, harbouring 78.8% of all nests
 with 56.3% of all eggs with a similar hatch rate to nest sites in rock coves. Pandanus trees were
 seen to give the highest hatch rates at 96%, with recommendations that we extend the distribution
 of this threatened plant species.

Durrell's night gecko

- A total of 315 geckos (280 adults and 35 juveniles) were found during the monthly quadrat surveys as part of the long-term study to monitor their relative abundance.
- There were 1.182 (95%CL 0.903-1.461) adult gecko encounters per person hour in 2019, compared to 0.859 (95%CL 0.705-1.013) encounters in the previous year.

Invertebrates

 A PhD study is being conducted to determine the impact of the invasive big-headed ant upon Round Island's invertebrate community. This ambitious project will investigate the diet of the ants through genetic techniques and will lead to many of the invertebrates on Round Island being identified and described.

Plant restoration work

- Approximately 76,300 seeds (66,800 from Round Island; 9,500 from the mainland) of 20 hardwood species and six non-hardwood species were collected.
- Approximately 1,250 seeds of *Aloe tormentorii* were collected and sent to NPCS.
- Approximately 9,900 seeds from 24 species were sown.
- 855 seedlings which germinated in the nursery were potted.
- 298 seedlings collected in the field were potted.
- 1,127 plants were planted, with 645 in the mixed weed, 480 in the palm rich habitat and two around the field station. This was made up of 933 hardwood plants of 18 species and 194 softwoods of five species.
- Approximately 1,000 direct transplants of the tussock grass *Chrysopogon argutus* were planted around the planting sites in the Mixed Weed.
- By the end of December 2019 the Round Island nursery contained 1,120 plants of 25 species.
- Eight sites of the rare plants *Aerva congesta*, *Phyllanthus revaughnii* and *Phyllanthus mauritianus* were checked monthly. Only one site of *A. congesta*, two sites of *P. revaughnii* and one site of *P. mauritianus* were active.
- Wardens have regularly worked in Ile aux Aigrettes nursery and have collected and sowed seeds from Ile aux Aigrettes, Le Morne, Trou d'Eau Douce and GDEWS aviaries to build up a stock for the planting season.
- An MSc study with Imperial College London began using satellite remote Sensing to track the habitat restoration efforts of Round Island.
- Two plant genetic projects were established with Cardiff University to support the genetic management of *Diospyros egrettarum* and *Fernalia buxifolia*.

Weed management

- Chromolaena odorata, Heteropogon contortus, Lycopersicon esculentum and Leucaena leucocephala sites were checked on a monthly basis.
- Eleven new sites of *C. odorata* and three new sites of *H. contortus* were found in 2019.

- By the end of the year there were 68 known sites for *C. odorata* plus one megasite encompassing several old individual sites, 19 for *H. contortus*, two for *L. leucocephala* and one for *L. esculentum* being monitored.
- 640 seedling, sapling and adult plants of *C. odorata* and 294 *H. contortus* were found and removed in 2019.
- One Nicotiana tabacum was also found and removed.

Infrastructure

- A shelter was built in the small nursery to protect sensitive seed trays from heavy rains.
- New benches were built in the nursery.
- A new washing water tank was installed near the field station, replacing the previous one which developed a large leak.
- 2019 started with National Coast Guard (NCG) changeovers being suspended, due to the difficulty
 of docking at the landing rock. A temporary tyre-system was made for the landing rock which
 protects the boats during changeovers and allowed NCG to resume changeovers. However, a more
 permanent system is required.
- Technicians from SFER came on the island in June to service the solar panel system, which continues to work well.
- Work started for some major renovations of the existing facilities on Round Island to enhance the working and sleeping infrastructure. Primarily funded through Durrell with helicopter support through the NPCS, more than 30 tonnes of biosecured materials were taken onto Round Island. The renewal of foundations for the office and quarantine structure was completed and started for the field station. The work will continue into 2020.

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 restoring 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
- Learning with Nature Education programme
- Ecotourism

Rare Plant protection

- Rare Plant Nursery propagated critically endangered plants such as *Ochrosia borbonica* (4 individuals in the wild), *Zanthoxyllum heterophyllum* (2 individuals in the wild) and *Sideroxylon boutonianum* (4 of 218 on IIe aux Aigrettes)
- Field Gene Bank
- Forest: Weeding and Planting: 6.4 Ha of forest was weeded, and 304 endemic and native plants were planted



Ile Cocos & Ile aux Sables, Rodrigues

Background

Ile 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 support 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 (MWF) has had a long history of

involvement with these islets, and has advised the Government in formal and informal capacities for over two decades on their management, giving advice on planting, weed control and on the management of the bird populations. In February 2014, the Rodrigues Regional Assembly (RRA) approved the up-scaled role of MWF for the conservation of the two islets, in particular Ile aux Sables and discussions on future plans have been ongoing. 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.

Main Actions

- Clean up of the islets
- No seedlings were planted in 2019
- Plant Monitoring of 10 x 10 m quadrats
- Seabird censuses were carried out four times during the year
- 5 information boards were deployed on the visitors centre veranda walls covering the nesting and non-nesting seabirds as well as the restoration work done there

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 seabird colonies 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. The 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 Raphael Fishing Ltd, the Outer Islands Development Corporation (OIDC), and other relevant departments and Ministries of the Government of Mauritius support the actions. Thus, it is necessary to enter into discussions with the various stakeholders to agree a common goal and work together to establish guidelines and an action plan which all stakeholders will uphold.

Main Actions

- Funding received from the Critical Ecosystems Partnership Fund to help develop common strategies for the sustainable management of St Brandon
- MWF continues to consult widely to obtain views from the government, private sector, NGOs and members of the public about management of the islands' environment and natural resources, receiving constructive comments and criticisms from a wide cross section of respondents
- An expedition to assess the feasibility of eradication of invasive species, was conducted between 8th and 20th March 2019
- Stakeholder workshops were held on 23rd May and 30th August 2019 and led to agreement about several key actions such as invasive alien species eradications, quarantine, research, management plan development, ecotourism, seabird and turtle protection, marine and terrestrial surveys and protection, funding etc.

Invasive Alien Species control and bio-security on Islands

Islands throughout the world have and continue to be recognised as sanctuaries for biodiversity. Often 'small', the invasive species on islands can be more effectively controlled, if not eradicated, biosecurity can be set-up more cost effectively than on the mainland or on continents, and ecosystems restoration is more feasible. With climate change, islands may also continue to sustain rich biodiversities. Islands are also living laboratories, and provide great learning opportunities for visitors and students. There is also a special appeal about islands, which attracts support for conservation. However, the long-term survival of plants and animals native to these islands, or which have been 'marooned' there, depends on the implementation of strict quarantine and biosecurity measure, removing and keeping out invasive alien plants and animals. The Mauritian Wildlife Foundation is a recognised specialist of island conservation work, with Round Island and Ile aux Aigrettes, being regarded as ecosystems that are well on their way to restoration.

Ile aux Aigrettes

Bio-security checks: Eight sooted tiles were placed on a monthly basis to detect presence of rodents or other potential problematic species. No suspicious footprints were found. Eighteen cocoa candle chew cubes were placed on a monthly basis at strategic points around lle aux Aigrettes for detecting the presence of rats if they arrived on the island. No suspicious chew marks were found. However, a male black rat (*Rattus rattus*) was caught on lle aux Aigrettes. Rat trapping was conducted in the area and elsewhere on the island for six weeks, but no other rats were detected.

Tenrec trapping: Five tenrecs (*Tenrec ecaudatus*) were trapped. With funding through Durrell, an attempt to eradicate tenrecs from Ile aux Aigrettes was planned in November using tenrec hunters and a trained dog from Reunion Island. Part of this funding was used to purchase new Tomahawk style cage traps, which are proving effective. The trial with hunting dogs has been delayed until 2020.

Crows: A fledgling crow was captured on Ile aux Aigrettes in October and is being hand-reared by the field staff. In 2020 this crow will be used as a decoy to help trap the other crows on the islet.

Southeast and northern islets

Bio-security checks: Trapping using Sherman live traps was conducted during every islets expedition. No novel exotic animal introductions were detected during trapping and searches on any of the focal islands.

Rodrigues

Geckos: One experienced reptile staff from Mauritius supported by Rodrigues staff searched for two invasive Madagascar giant day geckos *Phelsuma grandis* that had been reported. Despite cyclonic weather an individual adult male was caught. There have been no sightings of the geckos since. However, during the search, invasive green iguanas (*Iguana iguana*) were detected in the wild. An island wide call for sightings was broadcast by the media so this large invasive reptile can be removed from the wild.

LA 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 biodiversity and to advise on Flora restoration and ecotourism.

Under the UNDP Strategic Grant four endemic bird species were re-introduced to the Ferney Valley. Two of the species, the Echo Parakeet and the Pink Pigeon need a certain level of management which is provided from the Ferney Field Station. Supplementary feeding is provided to both species and the area around the field station protected with predator control. Nest boxes are provided for the Echo Parakeet. All species of birds are monitored.

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 & support for the Flora work including plant nursery, forest restoration (weeding and planting) and rare plant monitoring.

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

A yearly training plan is prepared and agreed with Ferney to cover the key areas of conservation information for the guides as well as providing some general knowledge of conservation in Mauritius.

La Valley de Ferney is the only site in Mauritius to offer Kestrel feeding daily which is supported by MWF having trained the birds and the staff to both feed and deliver commentary. This is an opportunity for the public to see a Mauritius Kestrel up close.

Fauna

Pink Pigeons

- Translocation and release of 30 Pink Pigeons to Ferney in 2017
- Pink Pigeons are breeding at Ferney, 6 Ferney born Pink Pigeons were ringed in 2019 with a total of 15 since releases begun
- A total of 35 birds in the valley but 31 seen regularly

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 ringed
- There could be up to 55 birds living independently on the East Coast
- Echo Parakeets are seen regularly at the 'Ferney gardens' near the visitor centre, in Le Vallon, villages near Ferney and in Vallée de l'Est

Mauritius Cuckoo-shrike

- 19 birds were translocated up to March 2018
- One adult male has been seen on multiple occasions within the Conservation Management Area in the last three months of 2019

Mauritius Paradise Flycatcher

- A total of 48 birds were hard released in the valley
- Trials were carried out with different ages and combinations of birds: Juveniles worked best
- Translocations were carried out in January 2019 with the hard release of 16 birds, a mix of independent juveniles or a whole family group
- One bird from the December 2016 release was observed in November 2019 possibly with another bird

Flora

Weeding, Planting, Propagation of Plants

- Monthly visits carried out by the MWF Horticulturist
- Advice given where required covering plant nursery practices, propagation, weeding and planting
- Training given to Ferney staff

Ecotourism

- Reinforcement sessions were held on the Mauritius Kestrel feed presentation
- Guides received refresher training sessions on the Echo Parakeet, Pink Pigeon, Mauritius Cuckoo shrike and Mauritius Paradise Flycatcher translocation
- Training sessions were carried out on the Mauritius Kestrel, the Mauritius Fruit Bat, the Aldabra Tortoise and its role in the Ecosystem, Mahebourg Bay and Northern islets conservation including Round Island, and Rodrigues
- Guides received training on the Flora project covering Plant Nursery Management
- A visit to Ile aux Aigrettes was carried out for guides to compare the handling of their respective trails and to Brise Fer, Black River Gorges National Park to see the restoration work there

FLORA

Rare Plants Project



Background

Mauritius is home to 644 native species of flowering plants. 287 (45%) are endemic to the island, of these over 90% are considered to be threatened and about 100 species have less than 100 individuals in the wild. The project undertakes to propagate and plant the rarest species to increase their numbers and protect them from extinction. The Mauritian Wildlife Foundation (MWF) horticulturists search in forests and map the locations of these species and propagate the rarest plants by growing them from seeds, cuttings, and sometimes seedlings in the MWF nurseries at Pigeon Wood (Black River Gorges National Park), Ile aux Aigrettes and Round Island. The plants, when grown, may be planted in the Field Gene Bank found at Pigeon Wood or on Ile aux Aigrettes. This safeguards the remaining genetic diversity of the species and will provide propagation material in later years. Plants are also re-introduced to their original locations or to protected rediscovered plant species that were thought extinct and found new populations of rare plants. MWF holds the co-chair ship of the IUCN (International Union for the Conservation of Nature) Mascarene Islands Plant Specialist Group, with overview on Mauritius and Rodrigues from 2017-2020. The group brings specialists together and is working on completing the red-list of Mauritian plants.

Main Actions

Pigeon Wood Nursery and Field Gene Bank

- A list of 28 critically Endangered upland species were identified to be propagated between July 2016 and June 2019.
- Field visits and searches allow plant parts to be collected for propagation in the Pigeon Wood nursery. In 2019 the following species were propagated: *Diospyros boutoniana*, *Dombeya mauritiana*, *Colea colei*, *Dombeya sevathianii*.

Red Listing of Mauritian Plants

- The IUCN Red Listing has been compiled and finalized for the endemic plants of Mauritius, with the collaboration and input of the Mauritius Herbarium, National Park and Conservation Service and the Forestry Service with the support of the Missouri Botanical Gardens.
- We have worked out and finalized a list of 281 endemic species for Mauritius.
- Updates from the Mauritius Herbarium are being awaited.
- The draft list is being used as a reference in publications, research, planning and practical conservation despite full-validation not finalised.

Red Listing of Rodriguan Plants

- 55 Rodriguan endemic and native plants underwent an IUCN Red-listing evaluation, during a 5-day workshop held in Rodrigues supported by Botanical Gardens Conservation International under a grant from Franklinia
- 30 species have been registered on the IUCN website where they will be worked on to complete their assessment.

Mondrain Nature Reserve

- The Management plan for Mondrain has to be finalized
- Mr Gabriel D'Argent, MWF Flora Consultant passed away in February 2019. No large scale weeding was conducted in 2019; however, other MWF staff visited the reserve regularly for clearing of weeds, and plant monitoring, and to make arrangements for the repairs to the gate

Ile aux Aigrettes

The following critically endangered plants were successfully grown and planted on Ile aux Aigrettes: *Trochetia boutoniana* (57), *Poupartia borbonica* (8), *Pandanus vandermeeschii* (8), *Hyophorbe lagenicaulis* (8), *Barleria observatrix* (4), *Terminalia bentzoe* (2), *Crinum mauritianum* (3), *Latania loddigesii* (5), *Sideroxylon boutonianum* (1), *Diospyros tessellaria* (3), *Myonima violacea var violacea* (2), *Coffea myrtifolia* (1), besides other endemic / native species.

Other

- Visits from Brest (France) scientists took place during the year. This is part of the project submitted by l'Arche des Plantes (Conservatoire Botanique National de Brest, France) to the Critical Ecosystems Partnership Fund (CEPF) in collaboration with MWF for re-introduction of rare plants to Mauritius and Rodrigues and assistance in plant conservation projects. Plants were also repatriated to Mauritius and were kept in quarantine at the NPCS nursery in Curepipe. These plants (in addition to plants sent in November 2017) are designated to be despatched to NGO, private sector and government project partners in Mauritius and Rodrigues. Brest is also supporting the development of plant databases, training in horticulture, nursery upgrades, equipment, rare plant rescues under the CEPF project
- Brest are supporting seed banking in Mauritius and the search for ancient seeds in soil deposits on Rodrigues.
- Dr Phil Lambdon (Durrell/MWF) completed an assessment of the success of past planting conducted on Round Island under a Mohamed Bin Zayed Species Conservation Fund support.

RODRIGUES

Solitude's nursery



Main actions

- 16,064 endemic and native plants propagated in stock in the nursery at 31/12/19
- 10,255 endemic & native plants were transferred from the nursery for conservation purposes in 2019
- 17 octopus fishers worked in the Solitude Endemic Nursery during the 1-month summer and 2month winter closures, helping in all aspects of plant propagation

Rodrigues Environmental Education Program (REEP)



Background

The Rodrigues Environmental Education Project (REEP) has been operational since 1998. From its inception REEP has been involved with the community, changing people's attitudes towards the environment. This is achieved through awareness-raising and informal environmental education initiatives. These involve talks in schools and to the media, visits to restoration areas and environmental education campaigns including outreaching to community groups in order 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 began on developing an effective and unbiased way of evaluating the education visit to Grande Montagne via a questionnaire aimed at school children of various ages with the assistance of Government and RCA schools.

Main Actions

- 1,695 plants were donated to primary schools, colleges, villages and other organisations
- 1,466 students and 204 teachers participated in educational visits of the Grande Montagne Nature Reserve, Anse Quitor Nature Reserve and the Solitude Nursery
- 432 school children and 20 adults were present during educational talks
- 251 volunteer work-days helped contribute towards terrestrial conservation in Rodrigues
- 18 interviews were broadcast on TV and 5 interviews on local radio providing media coverage for conservation actions carried out by MWF
- 12 monthly blogs were published online for MWF's and PZ's social media
- MWF continued to work closely with Reef Conservation Mauritius in parallel with Shoals Rodrigues on the Indian Ocean Ecoschools programme, that led to a ceremony with 2 Primary Schools and 1 college received the Green Flag Award
- 9 special events namely: International Forest Day, World Tourism Day, International Bat Weekend, World Biodiversity Day, World Environment Day, World Ocean Day, International Volunteer Day and World Clean-up Day, were celebrated with actions by MWF Rodrigues, liaising with various

commissions and departments of the RRA and other partner organisation namely: Shoals Rodrigues, RCSS, Francois Leguat, Ecobalade.

• Four new postcards on the endemic Rodrigues flora and fauna were designed and produced. These feature the Rodrigues Warbler, Rodrigues Fody and Rodrigues Fruit Bat and a postcard with 4 species of endemic plants.

Grande Montagne Nature Reserve



Background

The Mauritian Wildlife Foundation (MWF) has been working in the Grande Montagne Nature Reserve for more than twenty years and the visitor is now able to enjoy areas of maturing forest while witnessing other more recently restored areas or view restoration underway. Around 86% of the 25.5 ha fenced area at Grande Montagne has been restored to date and the aim of MWF is to complete the initial restoration of this reserve within the next few years. Over 166,771 plants have been planted in the reserve by MWF so far and 40 rare Rodriguan plant species are successfully conserved on Grande Montagne.

The forest is a habitat to the surviving endemic animals and insects of Rodrigues. From about only 30 birds, the population of the Rodrigues Fody has reached an estimate 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. This 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 included in the Rodrigues Environmental Education Programme where students visit and are taught about the reserve and its importance. The reserve is also open to the public for paid guided visits. In 2013 the Rodrigues Regional Assembly approved plans for the MWF to conduct ecotourism activities in this nature reserve, which began in February 2016. In 2018, 5 Aldabra Giant Tortoises were introduced in the Reserve and a viewpoint was also installed together with a CCTV system.

Main Actions

- 10,255 endemic and native plants were planted in the GMNR.
- 125 access steps leading to the plateau were completely upgraded, affording a safer and more pleasurable access into the reserve for visitors and staff
- 16 octopus fishers worked in the GMNR during the 1-month summer and 2-month winter closures, doing general maintenance, cleaning, planting, weeding and assisting with all MWF activities

Eco-Tours Grande Montagne



- The new signage developed with Chester Zoo was manufactured and delivered to Rodrigues.
- Flyers and posters produced under the IOC project were distributed around Rodrigues and an active campaign of promotion was carried out by the Ecotour Officer
- The Ecotour Officer and Ecotour Ranger manned the GMNR information Centre and conducted ecotour visits and the Administration Assistant assisted in the welcoming and registering of visitors
- 1,213 paying clients visited the GMNR in 2019, representing a doubling in the number of visitors from 2018
- Educational visits were given to Rodriguan students free of charge.
- The new flight of steps going into the reserve have generated extremely good feedback from visitors and tour operators

Anse Quitor Nature Reserve



Background

Forest clearance, introduction of invasive plant and animal species, predators (e.g. rats and cats), over exploitation 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 Anse Quitor Nature Reserve contains critically endangered plants within some of these last relics of forest on Rodrigues, although even these are highly degraded. Small-scale restoration began in Anse Quitor in the mid-1980s and the Mauritian Wildlife Foundation (MWF) began a larger scale restoration project in 2010 with a focus on employing conservation labourers from the local community. So far, 32.3 of the 35 ha fenced reserve have been restored, with MWF planting approximately 111,505 native Rodriguan plants. By restoring this area, extremely rare plants are safeguarded and endemic and native habitat is recreated for the critically endangered Rodrigues Fruit Bat (Pteropus rodricensis) and it is hoped that the recolonisation of this area by the Rodrigues Warbler and Rodrigues Fody, both redlisted-species according to the International Union for the Conservation of Nature, may be possible thus helping increase their numbers. The restoration work is being carried out by labourers residing in the surrounding villages with a focus on supporting poverty alleviation through training and employment so they may acquire a marketable skill. It is to be noted that Anse Quitor ranks as one of the poorest regions of the Republic of Mauritius. Restoration working days are organized with grassroots associations to sensitize and empower local people in habitat restoration and conservation. The reserve is included in the Rodrigues Environmental Education Program, where students visit and are taught about the reserve and its importance.

Main Actions

- 3,550 endemic and native plants were planted in the AQNR
- 10 Octopus fishers worked in the AQNR during the 1-month summer and 2-month winter closures, doing general maintenance, cleaning, planting, weeding and assisting with all ongoing MWF

activities, but mainly concentrating on the control of the highly invasive Pongam (*Miletia pongamia*) growing along the riverbed

Rodrigues Fruit Bat (RFB)

- Censuses were carried out 4 times island-wide and fortnightly at one site.
- The highest RFB count was in March 2019 counting 9,810 bats. When the counts at temporary roosts were added the total was 13,330 bats.
- The RFB was down listed from Critically Endangered to Endangered in 2017, but is still threatened.
- 22 fortnightly bat counts were carried out the Malabar site in 2019.
- Rodrigues was seriously affected by 2 tropical cyclones, namely: Gelena and Joaninha, that cause considerable damage to the vegetation and hence the habitat and food source of the RFB
- For a certain amount of time in mid to late 2019, there were reports of bat mortality assumed to result from a lack of food and likely dehydration, in the absence of fruit, tender leaves and flowers that the RFB consumes. All reports stopped following the reappearance of RFB food.

Grenade Community Forest (GCF)

- 6 octopus fishers worked in the GCF during the 1-month summer and 2-month winter closures, doing general maintenance, cleaning, weeding and assisting with all ongoing MWF activities, but mainly concentrating on the control of the highly invasive Pikan loulou (*Acacia nilotica*) growing inside the plot and along the access path
- To date the land is still vested in the Commission for Forestry and there is no fresh water connection to the site

EDUCATION IN MAURITIUS

Learning with Nature on Ile Aux Aigrettes



Background

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. As from 2009, the MWF developed 'Learning with Nature' (LWN), 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 especially designed to reinforce learning.

Main Actions

 2,882 students, teachers and youth groups followed the LWN trail in 2019 on 76 visits from institutions.

- 1,062 students, teachers and youth groups on 29 visits were CSR sponsored and received educational and food packs.
- A Mauritian PhD student is using the Learning with Nature programme to collect data for her study 'Investigating Situational Interest and Learning about Biodiversity: A case study of how Students experience a field trip to a Nature Reserve in Mauritius'.
- Training of Rangers was continuous during the year.

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 100 bats+), whilst a second species (*Pteropus rodricensis*) has survived on Rodrigues Island. Due to lack of major cyclones, the population of the *Pteropus niger* (also known as the Mauritius fruit bat) has increased over the last 20 years, shifting its IUCN status from Endangered to Vulnerable in 2014. The most recent bat surveys done by the National Parks and Conservation Service found that the population size of the Mauritius Fruit Bat is around 62,000 individuals.

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 2017. However, the species faced a serious threat to its existence as 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 and 2019 but the official number of bats culled has not been released. The Mauritian Wildlife Foundation along with International Union for the Conservation of Nature (IUCN) and Bat Conservation

International (BCI) provided scientific and management advice to the Government to convince them that the culling could have catastrophic effects on the bat population in Mauritius especially if there was a severe cyclone. The Mauritius Fruit Bat was uplisting to Endangered in 2018, the direct result of the official culling conducted in 2015 and 2016, and the parallel illegal killing of fruitbats.

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 to share information and lobby against a cull
- MWF was invited to the 'Special Technical Committee', which is a committee set up under the Native Terrestrial Biodiversity and National Parks Act 2016, which discusses culling of species. MWF was the only non-government institution invited. Of the c. 12 institutions present, all except MWF voted in favour of a cull. MWF is fiercely opposed to culls and provided its views to the Minister of Agro-Industry, press and on its facebook page
- MWF has initiated a Human/Wildlife Conflict initiative for the Mauritius Fruit Bat. 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
- Carry out various actions under a 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.
 - The10 minute film "Mauritius Fruit Bats under threat" is used in presentations and accessible from the MWF website
 - Presentations given to schools & community groups
 - Creation of a bat ecotour, which is run upon request

Mauritius Beyond the Dodo



- This Photographic Exhibition on local endemic species was exhibited 4 times during the year being available on request for exposure by organisations.
- The panels are also used for public exhibitions where MWF is participating to illustrate MWF's work.

Islets Sensitisation Project



Background

The project begun 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 how to help protect the 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 were lle aux Fouquets, lle de la Passe, lle aux Aigrettes, lle Marianne, and llot Vacoas and are home to endemic species of skinks, birds and plants as well as native seabirds.

New funding was secured from July 2019 to continue the project in the southeast and start 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 activities include questionnaire surveys to assess change in knowledge, stakeholder meetings, participative training workshops, educational visits to islets, monitoring of the project impact on the islets and production of educational and promotional materials. Those who follow the programme to completion receive an 'Eco-Aware Skipper' certificate during an award ceremony.

Main Actions Southeast islets



- 1 stakeholder meeting held with 13 attendees from the National Parks and Conservation Services, Forestry Services, Tourism Authority, Ministry of Fisheries, National Coast Guards, National Heritage Fund, representatives from the leisure boat companies and fishermen.
- 3 training workshops with skippers conducted with a total of 41 participants attending.
- 2 refresher courses with skippers conducted with a total of 18 participants from the 2017-2018 cohort attending
- 4 education site visits to islets conducted, 3 to Ile aux Aigrettes and 1 to Ile de la Passe Ile aux Fouquets. A total of 44 participants participated in the site visits.
- 9 questionnaire surveys completed with the skippers
- 3 monitoring of the impact of the project on the islets conducted.

Northern islets

- 1 stakeholder meeting conducted with 13 participants from relevant ministries, representative from catamaran companies, hotel boat house, fishermen and NGO.
- 2 training workshops with skippers carried out with 34 skippers invited and 24 attending.
- 2 training workshops with the National Coast Guard (NCG) who are directly involved with islets with a station on Flat Island. They patrol the sea around the northern islets. To cover all the 100 NCG officers based in the five stations in the north, (Grand-Baie, Grand-Gaube, Cap Malheureux, Troux aux Biches and Poudre D'Or) 3 more workshops are planned for 2020.
- 2 educational site visits on llot Gabriel were conducted. For the first visit, 10 skippers were expected but only 5 attended. 15 NCG officers participated in the second visit.
- 24 questionnaire surveys were conducted with the skippers and NCG officers.
- 1 monitoring trip to llot Gabriel and Flat Island was organised to conduct a baseline survey to assess the situation with regards to human-mediated threats on the islands.
- The situation in the North was found to be very different to that of the South and we have had to adjust our approach.
 - Recruiting skippers for the education programme has been more challenging than expected not helped by the fact that we didn't manage to recruit an assistant who lived locally

• Site visits are more difficult to organise with the skippers because they generally work for a company compared to the South when they are often self-employed.

Other activities

- National Training of Fishermen at Fisheries Training and Extension Centre (FiTEC): The team was invited on two occasions to do a presentation about islets during the annual fishermen training. A total of 46 fishermen attended. Those fishermen also visited lle aux Aigrettes in two groups.
- National Training of Skippers at Tourism Authority: The team did a presentation on islets on two occasions during the annual skipper's training session, with a total of 86 skippers attending.
- Media coverage: 6 articles and 1 radio interview with MBC.
- Educational materials: 7 PowerPoint presentations were put together. Caps were ordered and work on flyers begun.
- Activities with funder: 3 visits to IIe de la Passe and 1 Power Point presentation about the Islets Education project were carried out.

OTHER

Staffing

Training

- Aurelie Hector finished her in-depth research on the Round Island Boa under the two-year EDGE fellowship scholarship obtained in March 2017.
- Nadine Andriamanolo, Staff in Charge of GDEWS, was invited by Chester Zoo for a placement from 5th to 25th May 2019 with the aim of giving her experience which would help her perform her duties at GDEWS. She received both practical and theoretical training.
- Two MWF staff attended a four day 'Training of Trainers' course in September 2019. It was delivered by Durrell Conservation Training (Mauritius) (DCT) within a regional training course funded by the Critical Ecosystems Partnership Fund.
- Managing & Leading Conservation Projects, a one-week course held at the University of Cambridge, UK was attended by Martine Goder, Islet Restoration Senior Coordinator.
- A first aid training course for staff was held in February 2019
- An induction course was held for new staff in October 2019.
- Presentations and Talks were delivered in 2019. These are held when we have visitors as part of our staff capacity building and our staff also deliver talks on MWF project developments:
 - Dr Peter Hodum, Associate Professor, Biology Department & Environmental Policy & Decision Making Program, University of Puget Sound, Washington State & Director of Chile Program for Oikonos Ecosystem knowledge on 'Of petrels and people: Communitybased bird conservation in Chile'
 - Dr Nik Cole, MWF Islands Conservation Manager on 'Rodents and Rabbits in the Carajos Cargados Shoals'
 - Mr Jean Hugues Gardenne, Fundraising and Communications Manager, Mr Benoit de Lapeyre, Fundraiser and Mr Keshav Ramful, Communications Officer, MWF on 'the new MWF logo' and 'the new MWF website' both which were launched that same day.
 - Prof Carl Jones, Scientific Director, MWF on "Parrots and Partners": Twinning parrot projects, how MWF can contribute to and learn from other conservation projects" and "Conservation and Science": Vision for the next century
 - Max Tercel, PhD student from Cardiff University on Alien Invasion! Studying the ecology of the African big-headed ant Pheidole megacephala on Round Island
 - Dr Malcolm Nicoll, Senior Research Fellow, ZSL Institute of Zoology on "How long-term data and scientific evidence can drive the conservation of Mauritian endemic birds: the latest contributions from the Institute of Zoology."
 - Ms Kirsty Franklin PhD student from University of East Anglia, supported by the Institute of Zoology on "Drivers of ocean movement patterns in Round Island Petrels"

Movements

We had the following Senior staff movements in 2019:

- Mr Gabriel d'Argent, Plant Consultant with MWF since 1984 and retired in June 2018 sadly passed away in February 2019.
- Dr Nicolas Zuel, Fauna Manager resigned and left MWF on the 30th April 2019.
- Mr Sion Henshaw, formerly Senior Coordinator for Mauritius Kestrels and Echo Parakeets was appointed Fauna Manager with additional responsibility for Pink Pigeons and Passerines.
- Mr Reshad Jhangeer-Khan, Rodrigues Manager was granted extended leave as from 14th December 2018 and resumed his duties on 1st July 2019.
- Dr Phil Lambdon has joined Island Restoration to lead on the plant restoration work.
- Ms Martine Goder has accepted the promotion to Flora and Education Manager which will be implemented in early 2020.

Training Delivery

MWF works in collaboration with Durrell Conservation Training (Mauritius) (DCT). In 2019 MWF delivered field school content and also delivered some lectures for a regional training course funded by the Critical Ecosystems Partnership Fund with participants from Madagascar, Mauritius, Seychelles and Comoros spending 5 weeks with in Mauritius on two occasions, in January/February 2019 and in August/September 2019.

Visitors

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

- Dr Rachel Bristol, Project Officer on a Darwin Grant project based in the Seychelles and with expertise in translocation of the Seychelles Flycatcher was in Mauritius from 6th January to 3rd February 2019 to advise on and carry out a translocation of the Mauritius Paradise Flycatcher from Combo to Ferney Valley.
- Dr Peter Hodum from the University of Puget Sound in Washington State, USA, and the Director of Chile Programs for Oikonos Ecosystem Knowledge, working on the Juan Fernandez Islands in Chile was on holiday in Mauritius in March 2019 and visited some of MWF's projects.
- Dr Stéphane Buord and Dr Sylvie Magnanon: from the Conservatoire Botanique National de Brest (France) arrived in Mauritius on the 18th and left on the 30th March. The visit was primarily to run workshops on the flora database working towards implementation but also to follow up on the distribution of rare plants that had been repatriated and were quarantined at the NPCS nursery at Robinson Road, Curepipe, designated to be allocated to different partners in Mauritius and Rodrigues for planting in protected forest reserves. The action is under a CEPF project, partnered with MWF.
- Dr Paul Smith, Secretary General, Botanic Gardens Conservation International (BGCI) was in Mauritius from the 23rd to the 27th April 2019. The visit was to sound out possible areas of collaboration with MWF for the Rare Plant work. He visited Rodrigues with Dr Tatayah on the 26th April 2019.
- Dr Richard Young, Head of Conservation Knowledge at Durrell was in Mauritius with Mr Tim Wright, Head of Durrell Training Academy. They were meeting partners and collaborators of Durrell Conservation Training (Mauritius) Ltd. Dr Young has been holding discussions for the Island Restoration work led by Dr Nik Cole and overall strategy for the education work.
- Dr Claire Raisin, Field Programmes Coordinator Madagascar & Mascarenes, Chester Zoo arrived in Mauritius on the 6th May and left on the 9th May 2019. This was a short visit to discuss

the programmes that Chester Zoo are supporting and the funding support for the next three years 2019 to 2022.

- Dr Cindy Froyd and Dr Luca Borger from Swansea University visited Mauritius from 20th May to 8th June 2019. They obtained coring samples from wetlands in the north of Mauritius to develop research on plant functional traits and community composition.
- Ms Harriet Whitford, Deputy Head of Birds at Durrell was in Mauritius from 7th to 12th September 2019 having accompanied 3 Pink Pigeons being repatriated to Mauritius for breeding purposes to provide genetic diversity to the Mauritian population.
- Dr Stéphane Buord and Ms Catherine Gautier, from the Conservatoire Botanique National de Brest (France) arrived in Mauritius on the 10th September, visited Rodrigues from the 12th to 17th and returned to Mauritius 18th to 21st September 2019. The visit was primarily to run workshops in Rodrigues on the flora database working towards implementation but also to finalise actions under a CEPF project. They advised on the 'Graines Anciennes' project, seedbanking techniques also collected seeds and cuttings from Critically Endangered plants of Rodrigues for further conservation in Brest.
- Dr Claire Raisin, Field Programmes Coordinator Madagascar & Mascarenes, Chester Zoo arrived in Mauritius on the 22nd September and left on the 7th October 2019. She participated in a Chester Zoo led Education Strategy Workshop from 1 – 4th October led by Charlotte Smith Head of Discovery and Learning, assisted by Gregory Counsell. Charlotte and Greg also visited Rodrigues to assess the education evaluation methodology.
- Alex Hudson, BGCI Project Manager and Dr Ethan Freid, Botanist, Leon Levy Native Plant Preserve, Bahamas visited Rodrigues and Mauritius in the period 6th – 18th October 2019. Ethan was preparing a report on the Mourouk Botanical Garden and Alex was discussing the BGCI Flora project plans.
- Mr Virat Singh, Journalist from Mumbai with experience in Human Wildlife Conflict for Indian Leopards and a member of the IUCN task force, Dr Ewan MacDonald, Post-doctoral Researcher with Oxford University, UK specialises in the application of marketing approaches to the field of wildlife conservation, Dr. Simon Tollington, Lead Conservation Scientist, Chester Zoo were in Mauritius in the week 21 – 25 October for the Human Wildlife Conflict for Mauritius Fruit Bat workshops.
- Dr Malcolm Nicoll from the Institute of Zoology, London was in Mauritius from the 12th to the 29th November to discuss joint projects and research initiatives.
- Dr Claire Raisin, Field Programmes Coordinator Madagascar & Mascarenes, Chester Zoo was in Mauritius from15th to the 20th November. This was a short visit to discuss the programmes that Chester Zoo are supporting and project plans.

Media Coverage

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.

Filming

The following were aired, presenting MWF'S work:

Repatriation of plants			
from Brest Botanical	MBC TV	24-Mar-19	MBC. IT-downloaded
Release ceremony with		24 1010 10	
respect to repatriation of			
Pink pigeon birds from			
Durrell Wildlife			
Conservation Trust			
Jersey UK	MBC TV	09-Oct-19	MBC JT-downloaded
La grosse câteau verte désormais espèce vulnérable	MBC TV	17-Dec-19	https://mbcradio.tv/article/vid eo-la-grosse-c%C3%A2teau- verte-d%C3%A9sormais- esp%C3%A8ce- vuln%C3%A9rable
	MBC-Asia Pacific		
	Broadcasting Union-		Dresented et Asien
Vikash the Conservator	System	8 Oct 2010	Broadcasting Union
	System	0 001 2019	Broadcasting Onion.
Ile aux Aigrettes	Claire Obscurr producer	07-Feb-19	https://www.youtube.com/wat ch?v=xB94rVitl9Y
Ile aux Aigrettes	Defimedia web TV	07-Mar-19	https://www.youtube.com/wat ch?time_continue=393&v=bf 5Ngd5Gti0
Ile aux Aigrettes	CoteNord Magazine	30-Apr-19	https://www.youtube.com/wat ch?v=VB7FeD2QKnU
lle aux Aigrettes fruit	Des îles d'enfer l Île		
bats, plants	Maurice, Océan indien	27-Sep-19	https://on.frame.io/8lag5IPZ

Written media

- There has been a focus on Facebook in 2019 with regular posts about MWF's work or related topics.
- MWF staff in Mauritius and Rodrigues are interviewed and MWF asked for information on numerous
 occasions which has resulted in radio talks, radio interviews, TV shows and many local and
 international press articles.
- The MWF Files published every Tuesday on "Osmose' was discontinued by L'Express in March 2019.
- A library is kept of all the articles published in the media and is available on request.

Local Committees, Consultations and Workshops

National Committees

MWF continued to actively participate in various national committees: Native Terrestrial Biodiversity and National Parks Advisory Council, National Invasive Alien Species Committee, National Ramsar Committee, Marine Spatial Planning, Mahebourg Village Touristique and in policy dialogues: Forest Code revision, Assises de l'Environnement. MWF is also represented on the National Eco-School committee.

Consultations

MWF was invited to the 'Special Technical Committee', which is a committee set up under the Native Terrestrial Biodiversity and National Parks Act 2018, which discusses culling of species. MWF was the only non-government institution invited to these meetings to discuss culling of Mauritius Fruit Bats. Of the c. 12 institutions on the committee, all except MWF voted in favour of a cull.

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 attended were:

- Lokal is Beautiful, Mauritius
- UNDP GEF Small Grants Programme Ferney Closing Workshop, Mauritius
- UNDP GEF Small Grants Programme strategic planning meeting, Mauritius
- CEPF Workshop in Mauritius in the context of introducing the Global Climate Fund
- Island Biology Symposium, Reunion
- Research Workshop, UK
- MWF Education Strategy Workshop, Mauritius
- Human Wildlife Conflict Backyard Fruit growers' Workshop, Mauritius
- Human Wildlife Conflict Media Workshop, Mauritius
- Mainstreaming Biodiversity into the Management of Coastal Zones in the Republic of Mauritius
- Second Feasibility Workshop for United Nations Technology Innovations Lab (UNTIL)
- World Association Club Association / Air Mauritius Zero Flight Waste Summit
- GCF Country Programme Meeting with the Mauritian Wildlife Foundation.

Research and Publications

There are a number of research initiatives being conducted in collaboration with overseas partners and others under development:

- Tortoise movement behaviour
- Optimal survey design and modelling to track species abundance trends
- Impact of habitat restoration on the Round Island Gunther's gecko population and reproductive biology
- Weather and soil erosion on Round Island
- Conservation status of the Round Island Boa and setting future monitoring protocols
- The movement behaviour of Red-tailed Tropicbirds
- The movement behaviour of Round Island Petrels
- Ant diversity on Round Island
- Modelling optimal strategies for the translocation of lesser night geckos into the predator packed system of Round Island
- Genetic management of threatened plants and reptiles on the islands
- Determine the success of invasive species eradications and species reintroductions
- Modelling approaches for cost effective surveys of the reptile populations
- Evidence based decision making for reintroduction success: translocating threatened prey reptiles into an endemic predator-packed system in Mauritius: the optimal release strategy for the establishment of lesser night geckos that will be translocated from Gunner's Quoin to Round Island in 2020.
- Genetic management of the reptile populations.
- Tracking of Pink Pigeons
- Climate changes effects on birds
- Supplementary feeding of Mauritius Olive White-eyes
- Ancient DNA research of cores from Mauritius to describe historical habitats and guide restoration
- The use of satellite imagery to track changes in plant species distributions and habitat on Round Island
- Marine pollutants in seabird eggs of St Brandon

There were over 12 publications issued in 2019 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.

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