

ANNUAL REPORT 2014



**NATIONAL PARKS AND CONSERVATION SERVICE
MINISTRY OF AGRO INDUSTRY AND FOOD SECURITY**

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INTRODUCTION

The National Parks and Conservation Service (NPCS) is one of the institutions falling under the Ministry of Agro Industry and Food Security. It was established on 9 May 1994 under Section 8 of the Wildlife and National Parks Act of 1993. The mission statement of NPCS is:

“To ensure a sustainable management and restoration of native terrestrial Mauritian fauna and flora so as to retain its genetic diversity for the future generations through in-situ and ex-situ conservation strategies, ecosystem restoration, public awareness, promotion of ecotourism and implementation of international biodiversity agreements.”

Since its creation, NPCS has initiated several actions in different areas of biodiversity. In the initial stage focus was laid on endangered species recovery and park management but with time, NPCS has become one of the major institutions responsible for terrestrial biodiversity. As focal point to several biodiversity conventions, NPCS is also abiding to their various obligations and ensures their implementation. It has also reviewed its legal framework and has made provisions for protection of fauna and flora.

NPCS also works in close collaboration with MWF which is a non-governmental organisation through a MoU between the two institutions.

This institution is headed by a Director whose role is to manage the institution as well as to advise the Ministry of Agro-Industry Food Production and Security on all matters related to the conservation of native terrestrial biodiversity in accordance with section 10 of the Wildlife and National Parks Act (1993). In this task he is assisted by the Deputy Director and a team of experienced scientists, park officers, establishment staff and casual labourers.

In line with the thematic programme “Native terrestrial/forest Biodiversity “ under the approved National Biodiversity and Strategic Action Plan (2006-2015) and NPCS’s mission statement, this Service has structured into the following units.

- a) **Policy and Management** – responsible for the drafting of policies and legislative framework, preparation of budget and strategic planning

- b) **Park management unit** – responsible for the management of BRGNP, BDPN and any protected areas entrusted to this unit
- c) **Fauna unit** – responsible for the conservation and management of the native fauna
- d) **Flora unit** – responsible for the conservation and management of the native flora
- e) **Islets management unit** – responsible for the management of islets declared as Islets National Park and any Islets Nature reserves assigned to it
- f) **Wetlands unit** – responsible for the management and wise use of wetlands legally proclaimed under our Act.
- g) **Public Awareness and Education Unit** – responsible for the sensitization of our native biodiversity and any other themes
- h) **CITES unit** – responsible for the issue of permits, certificates for all CITES listed species and other permits under the Wildlife and National Parks Act of 1993
- i) **Human Resources Development and Attendance to International Meetings and Conventions**

Other collaborations with international institutions (Kew, Brest) and national institute namely University of Mauritius and other Ministries also exist. Other outdoor sections of National Parks and Conservation Service include:

- i. Robinson Native Plant Propagation Centre (NPPC)
- ii. Rivulet Terre Rouge Estuary Bird Sanctuary (RTREBS)
- iii. Gerard Durell Endemic Wildlife Sanctuary (GDEWS)
- iv. Bras d'Eau National Park
- v. Black River Gorges National Park which include 3 sections:
 - Pétrin
 - Lower Gorges
 - Bel Ombre

NPCS has its main headquarters at Réduit, in the premises of the Ex Dairy Chemistry Lab near the Veterinary Division of the Ministry for Agro Industry, Food Production and Security.

Chapter 1

POLICY AND MANAGEMENT

This unit which is managed/implemented by seniormost staff of NPCS undertakes the following work:

1.0 Implementation of PMS and PBB

In line with the recommendations of the PRB report 2008, NPCS embarked itself on the implementation of the PMS and PBB. Mr. S. Gopal (SO) was nominated as facilitator and helped in the elaboration of work plans for the different grades. A total of 73 performance appraisal forms were filled and sent to the Human resources Division of our Ministry in 2014.

In line with Government policy to move from the traditional line budgeting to a performance oriented budget, NPCS prepared its 2014-17 budget along the guidelines provided by the Ministry of Finance which includes outcomes, outputs, priority objectives and targets. The NPCS's programme is entitled **“Programme 486: Native terrestrial biodiversity and conservation”**.

A monitoring meeting with all heads of sections under the chairmanship of the Deputy Director is held quarterly to report on progress under each performance indicator and corrective measures proposed. This draft monthly report is sent to the Director for vetting. The final report is forwarded to the Programme Manager (Mrs. C Jhowry- PAS).

This Service has achieved remarkable performance of more than 100% in its two indicators listed under PBB for year 2014 as illustrated in the Table 1.

1.1 Financial resources

Delivery Units	Services To Be Provided	PERFORMANCE			Achievement as at end of December 2014	Projection (Milestone up to Dec 2014)	On Track / Off Track	% Achievement of Performance Indicators
		Service Standards (Indicators)	2013 Actual	2014 Targets				
National Parks and Conservation Service	Services to control Invasive Alien Species	Land brought under conservation management (hectares)	212	250	338.4	250	On track	188.4
National Parks and Conservation Service	Species recovery Program	Number of threatened species (fauna and Flora) maintained in the wild	55	75	77	75	On track	110.04

Table1: Achievements of NPCS in 2014 for its indicators under PBB

NPCS was allocated a total sum of Rs 88,994, 000 from Government to meet its various expenses for the year 2014 such as offshore islets restoration.

This budget covered the cost of all recurrent and capital expenses. In addition, fund was also tapped from the National Parks and Conservation fund to implement other projects such as offshore islets restoration and crow control. Fund was also tapped from Global Environment facility for implementation of PAN project, NBSAP and National Report.

1.2 New legislation in the wildlife sector

In a bid to render our legislative framework more CITES compliant and to respond to new developments in the wildlife sector amendments were proposed to our existing Wildlife and National Parks Act (1993) and its associated regulations.

Our new legislation has been renamed as “NATIVE TERRESTRIAL BIODIVERSITY and NATIONAL PARKS BILL 20xx). Most of the provisions of the existing Wildlife regulations (1998) have been moved to this new Bill. The remaining provisions of the Wildlife regulations have been merged with the existing National Parks and Reserves Regulations (1996) and are being renamed “National Parks, Reserves and Native Terrestrial Biodiversity Regulations 20xx”. The Bill has been vetted by the State law office and is being looked upon by the Parent Ministry.

1.3 Implementation of international conventions, Agreements and Co-operation

The Republic of Mauritius is a contracting party to most of the major Multilateral Environment Agreements (MEA'S)while NPCS has been designated as the national focal point to these various biodiversity related conventions and agreements. These include:

- The Convention of Biological Diversity(1992) National focal point since 2012
- The Ramsar Convention on Wetlands (1971); since 30 May 2001
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), (1973);
- The Convention on Migratory Species of wild animals (1994) since 1st June 2004

- The African Eurasian Water Bird Agreement (1999) since 1st January 2001

The obligations under these conventions are being implemented by the policy and management unit in collaboration with the other responsible units. The main conventions are described below

1.3.1 The Convention on Biological Diversity (CBD)

Opened for signature at the Earth Summit in Rio de Janeiro in 1992, and entering into force in December 1993, the Convention on Biological Diversity is an international treaty for the conservation of biodiversity, the sustainable use of the components of biodiversity and the equitable sharing of the benefits derived from the use of genetic resources. With 193 Parties, the Convention has near universal participation among countries. The Convention seeks to address all threats to biodiversity and ecosystem services, including threats from climate change, through scientific assessments, the development of tools, incentives and processes, the transfer of technologies and good practices and the full and active involvement of relevant stakeholders including indigenous and local communities, youth, NGOs, women and the business community. Mauritius was among the first countries to ratify this Convention in 1992.

a) National Biodiversity Strategy and Action Plan (2006-2015)

To meet its commitment under Article 6a of CBD, Mauritius has developed a National Biodiversity Strategy and Action Plan for the next ten years (2006-2015). The document includes sections for Mauritius and Rodrigues, and is divided into three thematic areas:

- 1) Forest and Terrestrial Biodiversity
- 2) Freshwater, Coastal and Marine Biodiversity
- 3) Agricultural Biodiversity, Biotechnology & Biosafety

This strategy and action plan was based on the 2010 BD targets, global strategy for plant conservation, Millennium Development Goal and the work programmes of CBD.

Cabinet approved the NBSAP in December 2006 all relevant sectors namely NPCS, Forestry Service, Agricultural services, MCIA; Ministry of Environment / Ministry of Tourism; local

government, water resource unit and other relevant governmental institutions have to implement their areas. NPCS is implementing all activities related to the terrestrial part.

b) **Updating of existing NBSAP**

Following the adoption of the CBD 2011-2020 Strategic Plan and the new Aichi Biodiversity targets, Mauritius as a contracting party to CBD has the legal obligation to update its existing NBSAP so as to reflect the two above mentioned policy documents. In that respect a project was prepared and submitted to GEF for funding in 2013. Under its enabling activities GEF is providing each eligible country with a sum of 220,000 US dollars for the updating of the existing NBSAP.

The project goal is to enable Mauritius to integrate its CBD obligations into national planning process, in light of the CBD's Strategic Plan 2011-2020.

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The project outcomes are:

- Outcome 1 – A participative stocktaking exercise on biodiversity planning takes place and national biodiversity targets are developed in response to the global Aichi Targets
- Outcome 2 – The NBSAP is revised/updated and it fully integrates new aspects of the CBD strategic plan, such as mainstreaming and anchoring the implementation of the plan into national development frameworks, valuing ecosystem services and promoting ecosystem-based adaptation and resilience
- Outcome 3 – National frameworks for resource mobilization, Convention reporting and exchange mechanisms are established and strengthened.

The following was carried out in 2014.

- A list of 32 relevant stakeholders was identified. The list is available in Appendix I Consultative meeting was held with each stakeholder either in their office or at NPCS.
- A project manager and an international consultant were recruited. The project manager Daksh Beeharry Panray started working as from 19th August 2014. The international consultant Dr. Aline signed her contract on 22 August 2014 with UNDP and started working on the project as from 1st September 2014. A draft fifth national report to CBD has been submitted

to the CBD secretariat. NBSAP project is not up-to-date. The international consultant and project manager have already initiated necessary action for the update of NBSAP.

- Stock taking exercise through consultation with relevant stakeholders has been carried out from 9th February to 16 February 2015.

A fifth draft national report was prepared in 22nd of September 2014 and as an obligation to the CBD, a draft report was submitted to CBD on the 1st week of October 2014. However, a correspondence was addressed to CBD Secretariat to apprise the latter that a final validated report after stakeholders approval will be submitted by end of March 2015. The draft was circulated to all relevant stakeholders for reviews and comments. Two stakeholders RRA and MMCS (NGO) submitted comments. Others were still awaited.

- In November 2014, the project manager and UNDP discussed the draft TOR for the recruitment of International Experts with the University of Mauritius (Dean of Faculty of Ocean Mr. Nowbuth).

Outcome: Due to inadequate fund in the project, it was noted that recruitment of international consultant would not be feasible. Even for local consultant the University informed the project manager / UNDP that the fund will not be adequate. In view of the above, it was proposed to review the scope of the key studies on Ecosystem Evaluation. Due to election, the matter was postponed for the following year.

c) THE NATIONAL INVASIVE ALIEN SPECIES STRATEGY and ACTION PLAN (NIASSAP) FOR THE REPUBLIC OF MAURITIUS: 2010-2019

Invasive alien species (IAS) are introduced plants, animals and micro-organisms whose establishment and spread threaten ecosystems, habitats or species (including humans). IAS represents a major threat to the economy, environment and society of the Republic of Mauritius. Over the years, a variety of actions have been undertaken to address this threat. However, in spite of some significant successes, the problems posed by IAS appear to be increasing in the country. The negative impacts of IAS are cross-sectoral as are the management solutions. In contrast, traditional approaches to IAS management throughout the

world have been sectoral and have focused on “fire fighting” actions. With some notable exceptions, this has been the case in the Republic of Mauritius to date as well.

The NISSAP (2010-2019) was approved by Cabinet in January 2010. Many of the initial activities under the Action Plan (NIASSAP) concern the establishment of a baseline situation with regard to the above elements. Establishing the baseline situation will provide a reference point for the undertaking of activities which will help to achieve the NIASSAP’s Vision. It was proposed to carry out a follow up of this action plan through consultancy services.

d) Protected Area Network project

This project enables Mauritius to meet its commitment under Article 8(a) of CBD and is a priority objective under NBSAP (Strategic Objective No 1)

Strategic Objective 1: Establish a representative and viable Protected Area Network (PAN)

This project seeks to strengthen the systemic, institutional and operational capacity to:

- (i) identify, prioritize and target gaps in representation that can be filled through protected area expansion, and complementary conservation, efforts on private and state-owned land;
- (ii) develop regulatory drivers and an incentives framework to support PA expansion, and complementary conservation, efforts on private and state-owned land;
- (iii) establish and administer a conservation stewardship program to implement PA expansion initiatives on privately owned or managed land;
- (iv) effectively plan, resource and manage an expanded PAN comprising both private and state protected areas;
- (v) Cost-effectively mitigate the threats to, and pressures on, the unique biodiversity contained within the expanded PAN (notably the spread of invasive alien species);
- (vi) ensure better integration of the PAN into the country’s socio-economic development priorities, in particular development of the tourism industry, to ensure its long-term financial sustainability; and
- (vi) Respond effectively to the needs of, and meaningfully involve, different stakeholder groups in the ongoing planning and operational management of the expanded PAN.

The Forestry Service (FS) and National Parks and Conservation Service (NPCS) will be the main services within the ministry responsible for different aspects of the project development and implementation process. They will work in close cooperation with other affected Ministries, including the Ministry of Environment and Sustainable Development, the Ministry of Housing and Lands, Ministry of Tourism and Leisure, municipal and district councils through the Ministry of Local Government and Outer Islands and the Ministry of Finance and Economic Development.

The project will technically collaborate with NGO's, commercial associations and academic and research institutions, including *inter alia*: Mauritian Wildlife Foundation (MWF); University of Mauritius; Mauritius Sugar Industry Research Institute (MSIRI); and Mauritius Meat Producers Association (MMPA).

The project is of five (5) years duration 2010-2015 and is funded as follows:

UNDP/GEF (United Nation Development Programme/Global Environment Facility) will provide US\$ 4,000,000 while the private sector will co-finance US\$ 2,400,000. The Government of Mauritius US\$ will provide support to the tune of US\$ 2,500,000.

(e) PROJET REGIONALE DE BIODIVERSITE

Background:

The EU-funded “Bio-diversity Programme” (“*Coastal, Marine and Island Specific Biodiversity Management in ESA-I0 Coastal States*”) covers six countries (**Comoros, Madagascar, Mauritius, Seychelles, Kenya and Tanzania**) and is implemented by the Indian Ocean Commission.

The area covered by the programme includes island and coastal States with extensive coastlines, offshore islands and Exclusive Economic Zones which are rich in natural resources. It aims at building on existing tools, or developing new tools that are appropriate for enhancing biodiversity conservation and the use of coastal, marine and island specific biological resources at regional, national and community levels. It will promote social and economic policies and associated mechanisms contributing towards sustainable development and poverty alleviation; and strengthen national and regional institutional capacities for sustainable management of biological resources in line with priorities set in the existing and future regional strategies' and policies.

The **Overall Objective** of the Programme is : To contribute to regional integration by

ensuring more effective, coherent, coordinated and adaptive biodiversity management in line with international and regional agreements and priorities for sustainable development and to improve livelihood.

The **Specific Objective** of the Programme is: To develop and strengthen national and regional capacity to manage the direct and indirect use of coastal, marine and island-specific eco-systems towards the sustainable conservation of bio-diversity.

The **Expected Results** at regional, national and community levels are:

Result 1: Improved and harmonised policies, and legal and institutional frameworks for the sustainable use of bio-diversity are developed across the region.

Result 2: Education, sensitisation, communication and information tools for the management of the use of bio-diversity are developed, enhanced and applied in support of decision-makers at regional, national and community levels.

Result 3: Improved systems for networking and exchange of data, statistics and other biodiversity-related information are established.

Result 4: Bio-diversity Thematic Centres are created (or enhanced) as mechanisms for exchanging information, and experience and best practice in, the sustainable use of biodiversity.

Result 5: The contribution of bio-diversity to sustainable economic development and sustainable livelihoods is supported or enhanced.

The Result 5 will be achieved through Calls **for Proposals / grants** scheme aiming at promoting active involvement of Non States Actors in the sustainable management of Biodiversity in ESA-IO region.

The Programme is managed by a Programme Management Unit (PMU) based at the IOC Headquarters in Mauritius. In each country a National Focal Point (NFP) has been designated by the Ministry responsible for biodiversity. NPCS has been designated as the NFP and is represented on the technical committee and project steering committee by the Director and Deputy Director.

Progress achieved in 2014

Under its Devi Programme No 1 three concept notes have been submitted under the project for potential funding and they are elaborated below.

1 Rapid assessment of freshwater biodiversity in Mauritius and Rodrigues (Result 2)

Partners:

NPCS, ARDA, MWF, IUCN (Mauritius), RRA

Background

The Island of Mauritius is divided into 25 major river basins and 21 minor ones with catchment areas varying from 3.9 to 173 km². Almost all major rivers are perennial with most of the streams having their sources in the central plateau. Flows in streams and rivers vary from a few litres per second to more than 500 m³/s during floods. The latest inventory was carried out in 2003 by “Association Réunionnaise de Développement de l’Aquaculture” (ARDA).

The freshwater biodiversity of Mauritius is contained within 92 rivers and 232 rivulets, several manmade reservoirs, natural lakes and marshy areas. Following a survey carried out in 2002, 18 species of fish and 10 crustacean species were recorded in the main rivers of Mauritius. Three endemic crustacean species were also inventoried: *Cardina mauritii*, *Cardina spathulorostris* and *Cardina richtersi* (petite chevrette). However, most of those species are few in number.

Many of the watercourses in Mauritius become overgrown with invasive plant species while in many cases; discharge and leaching of agrochemicals have promoted algae proliferation thus causing eutrophication. The Mauritian Wildlife Foundation also conducted a survey on existing vegetation along riverbanks and riversides (January-February 2004). It was found that watercourses and riversides have become degraded by invasive alien species, which have infested about 95% of riverbanks.

Since 2012 studies on reservoirs and rivers micro-algae are carried out for water quality. 40 to 50 species have been identified. Results of the studies will be available in 2015.

The Island of Rodrigues has been divided into 20 major river basins and 10 minor ones.

The main pressures on lakes and reservoirs are attached to long-term changes to precipitation patterns in response to climate change and increased use of freshwater resources and site facilities by an expanding resident and tourist population. (Source : Draft Fifth National Report to CBD, 2014).

With the introduction of new IAS (catfish, crayfish, etc) in our freshwater courses and the fact that the last survey dates back as far as 2003, there is need to carry out a new survey of our freshwater biodiversity. The latter has been the most neglected sector of BD in Mauritius due to the fact that no institution has been designated up to now to look after it. This project will also look into the IAS species and propose eradication or control measures where feasible. It would be also relevant to look into the institutional set up including the legislative back up (could be linked with result 1) that should be put in place to manage and conserve the remaining freshwater BD. This project will enable to meet our obligations under the 20 Aichi BD targets.

Objectives: to manage and conserve freshwater BD in Mauritius and Rodrigues by proposing the appropriate institutional set up and control of IAS in our freshwater resources.

Activities:

- 1 To carry out a survey of freshwater BD in Mauritius and Rodrigues
- 2 To carry out a survey of the IAS existing in our freshwater resources and to propose methods of control
- 3 To propose an appropriate institutional set up and legislative back up for the management of the remaining freshwater BD.

Links with existing project: IUCN project on IAS in MRU.

Duration of project: 6 months

2 Domestication of the provisions of the various biodiversity related MEA's in our national legislations (activity A.1.2.1)

Background

The Republic of Mauritius is a contracting party to most of the major Multilateral Environment Agreements (MEA'S) and National Parks and Conservation Service has been designated as the national focal point to these various biodiversity related conventions and agreements. These include:

- The Convention of Biological Diversity(CBD)
- The Ramsar Convention on Wetlands (1971);
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), (1973);

- The Convention on Migratory Species of wild animals(CMS) (1994)
- The African Eurasian Water Bird Agreement(AEWA) (1999)
- Nagoya Protocol on access and benefit sharing.

But signing and ratifying MEA's is not an end in itself; the signatory countries need to domesticate the provisions of these international conventions and agreements in their national legislative framework.

The National Parks and Conservation Service of the Ministry of Agroindustry and FS has carried out an exercise in house to incorporate the provisions of CITES in our existing Wildlife and National Parks Act (1993) and a new Bill has drafted entitled “ Native Terrestrial Biodiversity conservation and National Parks Bill”. **This bill has not gone to Parliament yet and it will be golden opportunity to use funding allocated under this project to review this newly drafted bill to ensure that Mauritius is fully compliant not only with CITES but with CBD, CMS and AEWA as well.** This project will enable Mauritius to meet its commitments under the new CBD strategic plan and the Aichi BD targets. In that context the services of an international legal expert in environmental law will be needed.

The NPCS has also drafted a wetland bill to ensure compliance with the provisions of the Ramsar Convention. The services of the same legal expert could be used to review this wetland bill.

Partners: NPCS, IUCN environmental law division, etc.

Objective of project.

To render the legislative framework of Mauritius fully compliant with provisions of the various biodiversity related conventions to which our country is signatory.

Activities

1. To review the Native Terrestrial biodiversity and National Parks Bill.
2. To review the wetland bill
3. To render both bills fully compliant with provisions of MEA's to which Mauritius is a signatory
4. To organise and participate in a consultative workshop with relevant stakeholders

Links with existing project: PAN project

Duration of project: 4 months

3 Economic valuation of Biodiversity in Mauritius- to promote synergies between the IOC project and the updating of NBSAP (Result 2)

Partners:

NPCS (Ministry of Agro Industry and Food Security), UNDP

Context:

Under the project UNDP/GEF Biodiversity Enabling Activity (BD EA) for updating the Republic of Mauritius National Biodiversity Strategy and Action Plan (NBSAP),

Three studies needs to be carried out and they are:

1. Sub-product 1: Study on Ecosystem Valuation in Mauritius
2. Sub-product 2: Study on Advances in cross-sectoral Mainstreaming of Biodiversity in Mauritius
3. Sub-product 3: Study on the Incorporation of Challenges and Opportunities linked to Ecosystem-Based Adaptation and Resilience within Mauritius's protected area network.

In view of achieving Aichi BD target 2, this IOC project has made provision for funding to support the development of training resources and capacity building on BD and ecosystem valuation in the SIDS of ESA-IO region. But only 50,000 US dollars has been made available under the NBSAP which is quite insufficient. Hence the request from Mauritius for additional funding from the IOC for the services of short term experts to support the undertaking of the three above mentioned studies.

Objectives:

1. To assess and capture the value of ecosystems' goods and services based on at least two case studies of collective livelihoods in Mauritius;
2. To develop the mainstreaming elements of Mauritius's NBSAP, following the best international guidance and practice available on the matter; and
3. To ensure that Mauritius's PoWPA Action Plan includes costed options for Ecosystem-based adaptation to climate change.

Possible Coordination Tasks from IOC

1. Technical coordination to ensure that ecosystem services valuation gaps are covered and duplication avoided to ensure efficiency in national study, which should cover terrestrial, marine and coastal ecosystems, agro biodiversity and inland water ecosystems
2. Training session in ecosystem valuation for the national team that will be composed of experts with skills in natural resources economics in terrestrial ecosystems, marine and coastal ecosystems and fisheries, agro biodiversity/genetic resources, inland water and an expert in environment (financial) law expert to analyse and identify potential means of capturing the value of targeted ecosystem services, including through policies such as payments for ecosystem services and other positive incentives.
3. Technical follow-up for Data compilation and analysis and revision of the report

Link with other projects and existing network:

PAN Project; IOC Biodiversity project; MID natural capital study

Total timeframe of the study: 6 months

d) Maurice Ile Durable (MID) Strategy and Action Plan(MIDSAP)

MID is a societal project that aims to deliver sustainable growth, with a vision for Mauritius to become a model of sustainable development. Announced in 2008, the roots of MID lie in the Government's response to the global energy crisis of 2007.

However, MID now aims to facilitate economic growth that respects the limitations of natural resources; a growth that is delivered by an empowered population, able to grasp the new opportunities of a green economy; and also that distributes wealth equitably. The MID process follows the Green Paper in April 2011. It has been highly participatory, taking on board the aspirations of the society at large, in order to create a strong sense of belonging to the nation.

The goal of MID is to achieve sustainable development. A specific goal has been set for each of the five 'Es':

Energy – to ensure that the Republic of Mauritius is an efficient user of energy, with its economy decoupled from fossil fuel.

Environment – to ensure sound environmental management and sustainability of our ecosystem services.

Employment/Economy – to green the economy with decent jobs, offering long term career prospects.

Education – to have an education system that promotes the holistic development of all citizens.

Equity – to ensure that all citizens are able to contribute in the Republic's continuing growth and share its combined wealth.

Under the MIDSAP, NPCS has secured funding to the tune of Rs 12 M in 2014 from the MID Fund for the implementation of three projects described below:

i) PROJECT TITLE: RESTORATION OF 42 Ha OF DEGRADED NATIVE FOREST AT PLAINE RAOUL IN THE BLACK RIVER GORGES NATIONAL PARK

Project Objectives: The specific objective of this project is to increase consequently by 50% the area under CMA. Furthermore this will be the creation of the biggest CMA in the park and will be designed to assist research in native forest and endemic species. This CMA will also be used as a window-case for educating all stakeholders on conservation of our native forest and its biodiversity.

COST OF PROJECT: 6,150,000 MUR

DURATION OF PROJECT: 27 MONTHS

LABOUR FORCE: 15 CONTRACT WORKERS

LOCATION: PLAINE RAOUL

Status at the end of December 2014: Ministry requested to recruit labourers on a contract basis

ii) PROJECT TITLE: RESTORATION OF 5 Ha OF DEGRADED NATIVE FOREST AT GUNNER'S QUOIN ISLET

Project Objectives:

The main objective of this project is to restore the degraded ecosystem of Gunner's Quoin to the original native palm rich community / mixed woodland ecosystem.

COST OF PROJECT: 6,300,000 MUR

DURATION OF PROJECT: 50 WEEKS

LABOUR FORCE: 10 CONTRACT WORKERS

LOCATION: Gunner's Quoin Islet

Status at the end of December 2014: Ministry requested to recruit labourers on a contract basis.

iii) PROJECT TITLE: **Construction of a field Research Centre**

Project Objectives

The main objective of this project is to provide a safe working and residential place for researchers and workers in the island.

COST OF PROJECT: 4, 00,000 MUR

DURATION OF PROJECT: One Year

LOCATION: Gunner's Quoin Islet

Status at the end of 2014: Architectural drawings submitted to PAE. On October 2014 a site visit was carried out by officers of MID on Gunners Quoin. PAE has submitted drawings to the Ministry of Public Infrastructure.

EIA site visits

Officers are called to carry out site visits and submit their views on the impact of development projects on our terrestrial native biodiversity.

In that respect our staff effected 52 site visits in 2014. NPCS did also provide its views on 2 Preliminary Environmental Report.

1.3.2 Ramsar Convention (refer also to chapter 3)

"The Convention's mission is the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world"¹



1.3.3 The Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES)

¹ For activities see section on wetland (chapter 3).

Objectives

The *Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES)* is an international treaty whose terms and conditions have been agreed to by 178 member nations. It was negotiated and signed in 1973 and went into force in 1975. **Mauritius ratified the Convention 27 July 1975.**



CITES was established as a response to growing concerns that over-exploitation of wildlife through international trade was contributing to the rapid decline of many species of plants and animals around the world. The Convention was signed in Washington D.C., US, on 3 March 1973, and entered into force on 1 July 1975. There are currently 175 parties to the Convention. The aim of CITES is to ensure that international trade of wild animal and plant species does not threaten their survival. CITES parties regulate wildlife trade through controls and regulations on species listed in three appendices.

Appendix I list species endangered due to international trade, permitting such trade only in exceptional circumstances.

Appendix II species are those that may become endangered if their trade is not regulated, thus requiring controls aimed at preventing unsustainable use, maintaining ecosystems and preventing species from entering Appendix I.

Appendix III species are those subject to domestic regulation by a party requesting the cooperation of other parties to control international trade in that species. In order to list a species in Appendix I or II, a party must submit a proposal for approval by the Conference of the Parties (CoP), supported by scientific and technical data on population and trade trends. The proposal must be adopted by a two-thirds majority of parties present and voting. As the trade impact on a species increases or decreases, the CoP decides whether or not it should be transferred or removed from the Appendices.

There are approximately 5,000 fauna species and 29,000 flora species protected under the three CITES Appendices. Parties regulate the international trade of CITES species through a system of permits and certificates that are required before specimens are imported, exported or introduced from the sea. Each party is required to adopt national legislation and to designate two national authorities, namely, a Management Authority responsible for issuing permits and certificates based on the advice of the second national body, the Scientific

Authority. These national authorities also assist with CITES enforcement through cooperation with customs, police and other appropriate agencies. Parties maintain trade records that are forwarded annually to the CITES Secretariat, thus enabling the compilation of statistical information on the global volume of international trade in Appendix-listed species. The operational bodies of CITES include the SC and two scientific committees: the PC and AC.

The list of CITES listed species is available on the CITES website (<http://www.cites.org>) and the second schedule of the Wildlife (Amendment) regulations 2013. *Conditions* for the issue of permits and certificates involve questions with regard to whether or not trade as such, or a certain type of trade in a species, will be *detrimental* to its survival, the legal *acquisition* of specimens, the preparation for *shipment* of live specimens and, for Appendix- I species, whether the importer has suitable *facilities* to house and care for live specimens. Imports of Appendix- I specimens cannot take place if they are to be used for *primarily commercial purposes*.

- 1) **The Convention provides for several conditioned exemptions from its provisions.** They concern transit and transshipment, specimens acquired before the Convention became applicable to them, certain specimens that are personal or household effects, captive bred animals and *artificially* propagated plants, the exchange of specimens in the collection of scientists and scientific institutions and of captive bred or pre-Convention specimens held by traveling exhibitions.

The monitoring of trade is an essential tool for achieving the aims of the Convention. Scientific Authorities must monitor export permits granted for Appendix-II species as well as the actual export thereof and advise their Management Authorities of suitable measures to limit the issue of export permis whenever they determine that the export should be limited in order to maintain a species throughout its range at a level consistent with its role in the ecosystems in which it occurs and well above the level at which it might become eligible for inclusion in Appendix I.

- 2) A second important monitoring system is based on the trade records to be kept by all Parties and to be reported to the Secretariat on an annual basis. **The annual reports** of all Parties together should provide statistical information on the total volume of world trade in CITES species, which is an invaluable element for the

assessment of their conservation status. These reports further reflect the performance of Parties regarding CITES implementation when all reported exports and re-exports are compared with all reported imports.

Thus it is important for the compilation of this annual report that the exporter return back to the CITES Management authority all duplicates duly stamped by customs and any unused permits

CITES legislation in Mauritius

The provisions of CITES has been incorporated in our national legislation through the Wildlife and National Parks Act (1993) and Wildlife regulations (1998). Permits are issued under section 17 of the Wildlife and National Parks Act (1993) dealing with trade in prescribed wildlife. More details about the conditions for the issue of permits are found sections 4 to 12 of the wildlife regulations (1998). These two pieces of legislation can be viewed and downloaded on our Ministry's website. Those two pieces of legislation are being amended to make Mauritius more CITES compliant.



1.3.4 Convention of Migratory Species (CMS)

Objectives

The Convention on the Conservation of Migratory Species of Wild Animals (also known on the CMS or Bonn Convention) aims to conserve terrestrial, marine and avian migratory species throughout their range. It is an inter-governmental treaty concluded with the conservation of wildlife and habitants on a global scale. It came into force since 1st October 1983.

By 1st April 2013, 119 countries from Africa, Central and South America, Asia and Europe and Oceania are members of the convention. Migratory species threatened with extinction

are listed in Appendix 1 of the convention and that would benefit from international co-operation are listed in Appendix 11. CMS acts as a framework Convention and have agreements and Memorandum of understanding (MOU). Mauritius has signed one Memorandum of understanding on Conservation of Marine Turtles of the Indian Ocean and South East Asia (on 13 September 2002) and small *cetaceans*.

National Parks and Conservation has recommended the ratification of CMS in a letter dated 28 December 2001 and Mauritius was welcomed as the 86th Party to the CMS with effect from 1st June 2008.

Mauritius has achieved the following:

- (1) Protection and rehabilitation of migratory birds, habitats and feeding sites.
- (2) Monitoring of Avian Flu, from migratory birds. There is a monthly technical meeting monitoring the situation.
- (3) Migratory birds are surveyed during the migratory season (October to April).
- (4) Amendment has been brought to the Wildlife Act to further protect marine and migratory birds.

1.3.5 AEWA

The African-Eurasian Waterbird Agreement (AEWA) is an international agreement aiming at the conservation of migratory waterbirds over the whole of their range and came into force in 1983.



Objectives:

The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), the largest of its kind developed so far under CMS. It was concluded on 16 June 1995 in Hague, the Netherlands and entered into force on 1 November 1999 after the required number of at least fourteen Range States, comprising seven from Africa and seven from Eurasia had ratified. Since then the Agreement is an independent international treaty.

The AEWA covers 235 species of birds ecologically dependent on wetlands for at least part of their annual cycle, including many species of divers, grebes, pelicans, cormorants, herons,

storks, rails, ibises, spoonbills, flamingos, ducks, swans, geese, cranes, waders, gulls, terns and even the South African penguin.

The agreement covers 119 countries and the European Community (EC) from Europe, parts of Asia and Canada, the Middle East and Africa. In fact, the geographical area covered by the AEWA stretches from the northern reaches of Canada and the Russian Federation to the southernmost tip of Africa. The Agreement provides for coordinated and concerted action to be taken by the Range States throughout the migration system of waterbirds to which it applies. Of the **119 Range States and the EC**) currently **71 countries** have become a Contracting Party to AEWA. Parties to the Agreement are called upon to engage in a wide range of conservation actions which are described in a comprehensive **Action Plan**. This detailed plan addresses such key issues as: species and habitat conservation, management of human activities, research and monitoring, education and information, and implementation.

1.3.6 Achievements:

- A total of 19 migratory birds are being given legal protection under our new Bill.
- Celebration of World Migratory Bird Day in 2014 at RTREBS.

Chapter 2

PARK MANAGEMENT

2.0 Introduction

Mauritius has two National Parks namely Black River Gorges National Park and Bras D'Eau National Park. A national park is a protected area (IUCN Category II) and its main objective is to protect functioning ecosystems and native biodiversity.

2.1 Black River Gorges National Park

The Black River Gorges National Park is located in the South West corner of Mauritius and covers an area of 6,574 hectares representing 3.5% of the island. Of volcanic origin, and after millions of years of insidious weathering works, Nature has gifted the Park with breathtaking gorges, cliff and valleys it is the largest area of contiguous native forest of the island. It is home to all the remaining endemic birds species of the island and over 50% of the endemic plant species of Mauritius is found here. In fact it is the only place where the Echo Parakeet, once the rarest parrot of the world, can be seen in the wild.

The parks harbors more than 309 species of flowering plants and 9 species of birds which are found only in Mauritius. These are called endemic species. The parks protect these species while allowing visitors to enjoy this unique place.

The rainfall pattern varying from 1000mm to 4000mm and the altitude ranging from 50m in the lower gorges to 828m to the top of Black River Peak have contributed to punctuate the vegetation throughout the Park leaving an amazing distinction of canopies hardly 1 km apart. The Black River Gorges National Parks proudly exhibits an unparallel distribution of forest type ranging from dwarf scrub-forest and Pandanus marshes in the vicinity of Petrin, Plaine Champagne and Mare Longue to climax forest at Brise Fer, Bel Ombre and Combo and includes the wet mossy forest of Montagne Cocotte and the dry semi-deciduous in the lower gorges

It is divided into 4 ranges namely(1) Plaine Champagne Range, (2)Black River (3)Petrin/Machabbee and(4) Bel Ombre/Combo Range each to be headed by a Park Ranger (PRs) assisted by 2 to 3 Assistant Park Rangers(APRs) however presently Plaine Champagne range and Petrin/Macchabee range is headed by only one PR.

2.2 Bras D'Eau National Park(BDNP)

Bras d'Eau National Park was proclaimed as the second terrestrial National Park of Mauritius on the 25th October 2011 under Section 11(1) of the Wildlife and National Parks Act 1993. It is located in the North East of the island and comprises part of State Land Bras d'Eau, part of Pas Geometriques Bras d'Eau and part of reserves of Poste Lafayette Pas Geometriques. It covers a total area of 497.2 ha and is mainly under Mahogany, Araucaria, Tecoma and Eucalyptus plantations. The name Bras d'Eau originated from the outline of the mass of water protruding in the land in the shape of an arm between Pointe Radeau and Belcourt Bay. Bras d'Eau National Park harbours patches of native vegetation as well as our endemic birds namely:

The very rare orchid *Oenellia Aphrodite* and two spp of ebony (*Diospyros melanida* and *D.egrettarum*

Native birds such as *Terpsiphone bourbonniensis desolata* also known as 'Mauritius Paradise Flycatcher' and *Zosterops borbonicus Mauritius* also known as 'Mauritius Grey White Eye' thrives on site.

Mare Sarcelle forms part of the Bras d'Eau National Park and covers an area of 89.37 ha. It consists of an important thriving population of mangroves, native plant species and also supports a few species of migratory birds. This site is ideal for recreational activities such as hiking and bird watching.

The Parks are mainly for the conservation of native flora & fauna. The remaining native vegetation is highly fragmented. Even the best areas are invaded with Invasive Alien Species (IAS). Conservation work here is conferred around the establishment and maintenance of Conservation Management Areas (CMAs). These are areas of native vegetation where alien plants are weeded and alien animals are excluded through fencing, and are controlled through poisoning and trapping; thus giving a chance to natives to flourish.

The Parks are also favourite places for outdoor recreational activities such as hiking, picnicking, sightseeing.

The major access points to the Parks are: near le Petrin, from Chamarel and Trois Bras, Riviere Noire. And Roche Noire and Poste La Fayette for Bras D'eau..

Access to the Parks is easy through several entry points by different means of transport; however, at present no public transports service these areas.

2.3 Management of National Parks

For better and safe enjoyment of visitors, the parks have laid down some facilities to welcome them.

These include:

- An Information Centre in the lower gorges ,
- A Visitors Centre at Petrin and Bras D'Eau
- 88.40 km of marked tracks & trails,
- One Viewing tower at Alexandra Falls
- 4 pick nick sites at Petrin, Alexandra Falls, Lower Gorges, and Bras D'Eau.
- 6 kiosks, one at Petrin, one at Gorges viewpoint, one at Macchabee viewpoint, two in lower gorges and one at Bras D'Eau
- 5 toilets blocks, one at Petrin, one at Alexandra Falls, one at Lower Gorges and one at Bras D'Eau.
- Parking lots at Petrin, Alexandra Falls Lower Gorges Gorges viewpoint and Bras D'Eau

2.4 New Facilities:

- 5 "Welcome Boards" have been fixed at entrance of Parks, two at Bras D'Eau and three at Petrin.
- 78 concrete posts for signage have been constructed and 15 have already been fixed along Macchabee track
- A new parking lot has been constructed at Gorges viewpoint.
- A new toilet block has been built at Gorges viewpoint.
- 8 monkey proof litter bins in wooden frame along Machabee track

2.5 Additional Facilities:

7.3 km of tracks & trails in BRGNP and 2.3km in BDNP have been added to the to the existing 88.40km of hiking facility.

2.6 Patrol and Enforcement

Patrol duties (including scheduled flying patrol on weekends and public holidays) are a major component of Park management.

Throughout the year **2014** the Park has been patrolled by Park Ranger cadre to enforce the Wildlife and National Park Act (1993) and its associated regulations

An almost permanent presence was maintained through daily patrols and scheduled flying patrols during week-ends and public holidays to:

- (a) Ensure visitors safety particularly at visitors' popular sites such as viewpoints, picnic areas, hiking tracks and trails.
- (b) Enhance visitors feel-safe factor
- (c) Assist visitors in cases of emergency
- (d) Ensure safety of field workers, particularly expatriates and colleagues
- (e) Sensitise visitors and increase awareness about the Park.
- (f) Ensure protection of Parks assets and premises.
- (g) Ensure proper and sustainable use of Park assets and premises
- (h) Discourage misdemeanors and illegal activities.
- (i) Spot and repair traces of vandalism.
- (j) Locate rare species for micro management and collection of propagating materials
- (k) Identify new areas where new tracks and trails, viewpoints, pick nick sites and CMA's can be established
- (l) In the year 2014 a total of 1975 patrols have been diligently effected in BRGNP & BDNP

2.7 Supervision Works

The Rangers are also responsible to monitor and supervise field activities pertaining to conservation works, maintenance and upgrading of infrastructures, assets and facilities for visitors safety and visitors satisfaction

2.8 Maintenance of facilities:

Officers of the park ranger cadre also involved in the maintenance of all assets of our parks so as to keep all facilities to optimum standard and to offer a better service.

These include:

- Visitor's Centre at Bras D'Eau and Petrin.
- Information Centre In the Lower Gorges
- Offices, premises and compound.
- Picnic areas at Petrin, Alexandra Falls, Lower Gorges and Bras D'Eau
- Field stations (4) Plaine Lievre, Plaine Paul, Combo, Fixson.
- Plaine Paul Nectar Garden:
- Petrin Native Garden has been extended by 200m2 and 200 native plants have been introduced.
- 88 kms of tracks & trails as visitors facility(85 km maintained by Le Ravin ltd and 3 km in house at Bras D'Eau)

- Toilets blocks: Petrin, Alexandra Falls, Lower Gorges and Bras D'Eau maintained by general workers posted in the service
- Viewpoints and look outs along Macchabee, Brise Fer, Mare Longue Plaine Champagne road (Noxious growth and grasses are regularly trimmed.)
- Tables and benches in picnic areas have been varnished and bins repainted.
- Birds release compound at Petrin and Lower Gorges (10 Pink Pigeons were translocated from Combo and Plaine Paul to Petrin. 33 native plants have been introduced in the compound)
- Litter picking is scheduled twice weekly (thrice during school holidays which coincides with guava fruiting season) along tracks and trails, at viewpoints, picnic areas and along main road to GVP.
- Litter collected is kept in litter depot at Petrin and regularly carted away to La Brasserie Transfer station by garbage lorry from Reduit.
- However frequency and effectiveness of said operation depends on availability of transport.

Litter picking: 60 Tons of litters were collected in Black River Gorges National Park and in Bras D'Eau National Park.

2.9 Repairs

The following reparation works were carried out in 2014:

- The thatched roof of a wooden kiosk at Macchabee viewpoint has been repaired.
- Another thatched roof of a wooden kiosk in the Lower Gorges has been repaired.
- 6 km of tract along Macchabee and M/Longue repaired by general workers of Petrin
- 3500mt of track has been repaired along Macchabee B/Fer road
- 800mt in the Lower Gorges
- 3000mt in Bel Ombre
- 1.5km of tract along Parakeet trail has been repaired using onsite materials.
- Visitor's toilets at the various points have been regularly repaired to meet visitors' satisfaction.
- Door and piping system at Petrin and Alexandra Falls toilets have been repaired three times during 2013
- Signs boards and signs panels along tracks and at viewpoints are frequently vandalized. Repairs have been effected as and when needed.

2.10 Collaboration with other organisations

The Rangers are also involved in helping other organisations/ bodies like, HSBC, Medine Sugar Estate, Ireland Blyth (University of Mauritius, MIE, Herbarium Section of MSIRI and others which are involved in conservation activities and MWF)

They are also involved in the monitoring and surveying activities (flora and fauna) within and outside the park.

They provide support and assistance to visiting scientists and others .

- (a) 4 practical sessions for students from Lycee Labourdonais
- (b) Visit of Nobel Prize winner Mr.J.M Leclezio
- (c) Visit of 35 SADC delegates accompanied by Mr.E.Dulloo
- (d) Visit of 6 botanists from Missouri Botanical Garden
- (e) Assistance given to 3 scientist from Reunion island
- (f) 7 Students from Northfield school
- (g) 32 students from UNICEF

2.11 Conservation activities

The Rangers also provide support for many conservation activities namely among others; bat survey, crow control project, islets restoration, islets cleaning, pink pigeon project, control of alien mammals, creation and maintenance of CMAs, vegetation survey, micro management of endangered native spp.

They also actively participate in collection of propagation materials and re- introduction of propagated spp

2.12 Assistance to visitors in the park

The Rangers also provides the necessary information and assistance to the increasing number of visitors in the park passing through Petrin and Lower Gorges National Parks from Black River village (Trois Bras Yemen). In year 2014, 585,000 visitors (Mauritians and tourists) visited the Black River Gorges National Park.

Along with disseminating interpretative information to visitors the Rangers are very often called to assist visitors in cases of emergency such as, rescue of visitors gone astray, visitors having lost their personal stuffs, car stuck in mud, ignition key locked in car, car ran out of petrol, hikers with no means to reach public transport facilities, re-organising the picking facilities of visitors encountering unforeseen changes in their programmes.

2.13 Control of alien mammals: In view of habitat restoration for our native birds, geckos, skink and insects, intensive control of alien mammals (predators) is ongoing. 5 feral cat and 4 stray dogs were caught.

2.14 Park Flyers

A flyer of the Park is two page brochure which highlights the main features and facilities of park and gives first-hand information to visitors It is handy and useful to help visitors organize their trip in the park

Visitors Centre, Information Centre and Rangers on field are effective channels to vehiculate interpretative information about Park. Brochures and pamphlets/flyers are handy tools for sensitization. Desk officers usually see to it that every visitor leaves the Centres with at least one Park flyer.

A total of 2878 flyers have been sold for 2014 amounting to Rs. 14,370.00.

2.15 Weed control

Weeds, particularly invasive ones have proved to be one of the major threats to native flora in Mauritius. Further to suppressing natural regeneration by their proliferation and density, weeds host insects and borers that destroy native essences. So weeds control is primordial for the benefit of conservation of native species. Weeds control parallel with re-planting of local essences highly contributes to the restoration of the pristine canopy. This effort is exercised every time situation stands favourable. No least chance is missed to clear areas and replant with specific native species.

2.16 Events: Beyond usual happenings, the Park hosts unparallel events such as:

RandoTrail Competition	29/3, 30/3, 14/6 & 6/12.2014
Royal Raid Competition	10.05.2014
VTT Competition	25-26.10.2014
Ultra trail	26.07.2014

(Details of these events are described in Chapter 7 - Table 21)

American Embassy weeded 900 m² and planted 500 plants at UNESCO plot. IBL effected a tree planting function and planted 400 plants at Petrin. M of Environment & SD planted 7000 plants along Macchabee track.

2.17 Closure of Park on special emergency situations

After torrential rains the western part of the Park namely the Lower Gorges gets flooded and access to the Park from Black River becomes difficult and risky. On these circumstances this part of the park is exceptionally closed to visitors. As far as possible announcement is made via radio and TV to apprise visitors. However so soon as water subsides and all clearing and cleaning works are completed the park is re opened to visitors. In 2014, the Lower Gorges section was closed on five occasions.

Chapter 3

FAUNA UNIT

3.0 Introduction

The Gerald Durrell Endemic Wildlife Sanctuary (GDEWS), also known as the Black River Aviaries, is a captive breeding centre for critically endangered animals, endemic to Mauritius and Rodrigues. It has been set up in 1976 with focus on the captive breeding of the Mauritius Kestrels *Falco punctatus*, the Pink Pigeons *Nesoenas mayeri* and the Echo Parakeets *Psittacula eques*. The wild population of the Mauritius Kestrels was reduced to only four individuals including a single breeding female by May 1974. Similarly, in 1986, only 12 Pink Pigeons were known. The Echo Parakeet dwindled to less than 25 individuals in the 1980's. These three species of birds have been saved from extinction by intensive management of the wild population in conjunction with the release of captive bred or captive reared birds from the Aviaries. The centre has also been involved in several other projects like the hand rearing of the Mauritius Fody *Foudia rubra* and the Olive white-eye *Zosterops chloronothos*, both endemic songbirds, head starting tortoises for analogue species translocation, and native animal rehabilitation.

It was set up in 1976 by the Forestry Service and International Council for Bird Preservation (now Birdlife International) for saving endangered endemic birds and bats. The NPCS fund a range of management costs, animal maintenance costs, infrastructural upkeep and development. MWF provides significantly to technical assistance (animal husbandry including hand rearing and medical aspects) and management of collections. GDEWS is a small facility but yet has been critical for saving near extinct animals. GDEWS also houses a collection of Critically Endangered endemic plants (for example, palmiste Blanc de l'île Ronde *Dictyosperma album* var *conjugatum*, mazambron marron *Lomatophyllum purpureum*, lys endemique du pays *Crinum mauritianum*, bois tambour *Tambourissa quadrifida*, bois de lait *Tabernaemontana mauritiana*).

The work at GDEWS is varied and consists mainly of:

- captive breeding (involving hand rearing) of birds and bats
- rehabilitation of sick/injured or orphaned animals,
- head starting of tortoises ,
- provide support to MWF field staff

3.1 MAURITIUS PARAKEET (*Psittacula eques*)

Captive Echo Parakeets

The Echo Parakeet Programme is one of the most successful parrot recovery programmes in the world. Its population has increased from 8-12 known individuals in 1986 to over 500 in 2011. The wild population of Echo Parakeets is estimated to be 579 as of April 2012 (Smith, 2012).

GDEWS has been involved in hand rearing of Echo Parakeets to produce up to fourteen chicks annually, some of which were used in brood manipulations in the wild but most of them boosted the number of chicks released to the wild. Even if captive breeding of this bird is not a priority now, a small *ex- situ* population is still being kept at GDEWS.



Figure1. Echo Parakeet

Echo Parakeets are susceptible to a fatal disease called the Psittacine Beak and Feather Disease (PBFD), caused by a circovirus. The virus spreads through feather dust, faeces or crop fluids and it is very resistant in the environment. It attacks growing cells and can cause acute immunosuppressive disease depending on the age of the host when infected. The immune compromised birds develop fatal secondary infections. There is no known treatment and control includes euthanasia (Stanford, 2004).

In the recent past years, there has been development of an interferon, a protein that has the ability to interfere with the viral replication and activate immune cells and tested on African Grey Parrots and the results were encouraging (Stanford, 2004).

If successful, this vaccine will help save endangered parrots suffering from PBFD worldwide.

Table 2.: Evolution of echo parakeet numbers for year 2014 at GDEWS.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Adult male	6	6	6	6	6	6	6	6	6	6	6	6
Adult female	3	3	3	3	3	3	3	3	3	3	3	3
Juvenile												
Eggs												
Chick												
Total Bird	9	9	9	9	9	9	9	9	9	9	9	9

i. Target

Since captive breeding of these birds is not a high priority now, the birds are kept because they cannot be released back to the wild. Diseases have become a major constraint to the successful breeding of the species.

Breeding season has started in September this year with the pairing of the *two* adult birds at GDEWS during this period of the year.

Currently GDEWS has nine adults (6 males + 3 female)

3.2 PINK PIGEON (*Nesoenas mayeri*)

The wild Pink Pigeon population has been experiencing a decline in the past years, and so there is a need to increase the number of birds by providing additional birds to the Lower Black River Gorges (LBRG) sub population and establishing new sub populations at different sites starting with Petrin. Birds are moved between existing subpopulations to enhance genetic diversity. The goal is to hand rear and release a minimum of thirty birds a year into new sites for the next five years.



Figure 2: Pink Pigeon

Currently 15-19 days old chicks are harvested from Ile aux Aigrettes and taken to GDEWS for hand rearing ideally in groups of two where they can be socialised.

When they are completely weaned they are released in a subpopulation, where required. Feathered nestlings have been identified as the ideal age as older birds tend to return to their original site.

At GDEWS, the chicks are kept in sky packs which are cleaned daily. The chick is fed two to three times a day, depending on its weight and the time taken for digestion. It is tube fed Kaytee Exact ® Hand Feeding Formula (mixed with Critical Care Formula for the first few days to boost up the bird's weight) and hand fed finely chopped fruits and vegetables. When the bird reaches more than 200g, the amount of fruits and vegetables hand fed is decreased every two to four days taking into consideration at the same time the bird's weight. Hence, a small amount of fruits and vegetables and a bowl of grains (red and white millets, whole wheat and dried maize) accompanied with a bowl of water need to be given to the bird so that the latter learns to eat by itself. When the bird is completely weaned, it is kept in an aviary for at least a week before being translocation to the required site.

Table 3: Evolution of pink pigeon numbers for year 2014 at GDEWS.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Adult					1							
Juvenile												
Squabs	2	1							1		1	
Total												
Released												

Target: Most of the pink pigeons brought to GDEWS were sick and requires immediate attention; they were given medication and tube fed.

3.3 KESTREL (*Falco punctatus*)

The Mauritius Kestrel population is declining in the wild and the cause is thought to be due to the loss of nesting sites on the West Coast (tree cavities and cliffs). The number of artificial nest sites will be increased, and at the same time a small number of birds (2-3 pairs) will be maintained in captivity at the Aviaries for breeding purposes and to gain experience in kestrel management techniques. Eggs from the wild may also have to be harvested and compromised wild chicks in the nest rescued



Figure 3. Kestrel

for hand rearing.

There are currently two rescued female Kestrels at the centre. The younger female was brought on 27/01/12 from the East Coast with pox lesions on the right eye, beak and right leg. It was successfully treated but will not be released back to the wild.

Table 4.: Evolution of kestrel numbers for year 2014 at GDEWS.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Male												
Female	2	2	2	2	2	2	2	2	2	2	2	2
Juvenile												
Total												

i.Target

No real target; bird brought in as injured animals. In January 2013 five infertile eggs were removed.

3.4 Bats

(a) Rodriguan fruit bats (*Pteropus rodricensis*)

To constitute a safety net for the Rodrigues Fruit Bat, a small population has been kept at GDEWS since the late 1970's, when the species was the World's rarest fruit bat. A similar captive population has been set up at the Durrell Wildlife Conservation Trust (DWCT, Jersey), from which animals were distributed to zoos throughout the world on collaborative breeding programmes. Bats have also been sent abroad from GDEWS. Thankfully, the wild population has recovered since the 1970's, not necessitating re-introduction to Rodrigues. However, the GDEWS population still contains valuable genes and they continue to be bred and offspring sent abroad intermittently to improve the genetic representation of captive populations. Currently, there are 16 captive Rodrigues Fruit Bats (8 males and 8 females) being reared

Table 5 a.): Evolution of Rodrigues fruit bats numbers for year 2014 at GDEWS.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Adult male	7	7	7	7	7	7	7	7	7	7	7	7
Adult female	9	9	9	9	9	9	9	9	9	9	9	9
Juvenile												
Total	16	16	16	16	16	16	16	16	16	16	16	16

(b) Mauritius fruits bats (*Pteropus niger*)

Orphaned Mauritius Fruit Bats, not killed by illegal hunting that targets adults, are brought to the centre where they are reared. Thus, a small population of this endangered species is held at the aviaries. Presently, there are one male, three females and a baby bat at GDEWS. This population of bats can be used for



Figure 4. Mauritius Fruit Bat

comparative studies on ecology and breeding biology and we are seeking a student to carry out these studies.

Table 5 b).: Evolution of Mauritius fruit bats numbers for year 2014 at GDEWS.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Adult male	3	3	3	3	3	3	3	3	3	3	3	3
Adult female	3	3	3	3	3	3	3	3	3	3	3	3
Juvenile	2	2	2	2	2	2	2	2	2	2	2	2
Baby	1	1	1	1	1	1	1	1	1	1	1	1
Total	10	10	10	10	10	10	10	10	10	10	10	10

i. Target

There is no real target of keeping them at GDEWS. The bats were obtained as sick/ wounded/ orphaned animals and have since remained at GDEWS. They are also used for observation/monitoring of the species and they are likely to be transferred to IAA one day.

ii. Problem

None.

3.5 HYBRID FODY

There were two Fody hybrids at the Aviaries which have been brought to GDEWS from Ile aux Aigrettes in 2008. These were offspring of a male Madagascar Fody and a female Mauritius Fody. The pair's nest was abandoned and the chicks were found and brought to GDEWS. They have been kept to conduct researches on their fertility. On 09/10/11, the male hybrid was found dead. A male Madagascar Fody has been brought to replace the male hybrid and put together with the female hybrid.



Figure 5. Hybrid Fody

Four nests have been built since January 2012. The first three nests were abandoned before completion, but the female was seen in the last nest built in April 2012. 3 eggs have been laid in November 2013 two hatched in the same month. One chick fledged while the other one died.

i. **Table 6.: Evolution of hybrid fody numbers for year 2014 at GDEWS.**

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Adult male	1	1	1	1	1	2	2	2	2	2	2	2
Adult female	1	1	1	1	1	3	3	3	3	3	3	3
Chicks	1	1	1	1	1							
Juvenile	2	2	2	2	2							
Total	5	5	5	5	5	5	5	5	5	5	5	5

ii. **Target**

A male Madagascar Fody and the female hybrid Fody have made multiple nest attempts.

iii. **Problem**

None

3.6 Land Tortoises

Tortoises are reared at GDEWS both by NPCS and MWF. The main purpose of keeping them at GDEWS by MWF is for translocation purposes. Table 7 shows the number of tortoises reared at GDEWS for later translocation, particularly to Round Island.



Figure 6. Aldabra giant tortoise

Table 7: Number of tortoises reared at GDEWS in 2014.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Aldabra <i>(Aldabrachyles gigantea)</i>	171	184	184	142	131	131	131	131	131	131	200	200
Madagascar tortoise <i>(Astrochyles radiata)</i>					1	1	1	1	1	1	1	1

The tortoises performed well and their growths are monitored every 3 months.

Death: nil

Performance: good

Translocation: in January 2014 a number of 71 tortoises were sent to Round Island

Unfortunately during the month of April and May 2014, 56 tortoises were reported lost and same was reported to the police department. The enquiry is still ongoing

3.7. HANDREARING UNIT

In November 2014 hand rearing activities were carried out for cuckoo shrike, *Coracina typical* and as at end of December 2014 three squabs and 3 eggs were being monitored.

3.8. CRICKET BREEDING

Adult crickets are used as feed for newly hatched chicks for hand reared chick birds. Table 8 shows the number of breeding bins for crickets.

Table 8.: Cricket breeding activities at GDEWS for 2014.

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
No of bins	3	3	3	3	3	3	3	3	4	5	5	6

3.9 MICE REARING

Mice are bred and the old adult mice are used for feeding Kestrels and newly born mice (pinkies) are used as high protein feed for hand rearing of young chick birds.

Table 9.: Adult mice population in number of pairs/trios at GDEWS in 2014

Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Total	22	22	22	22	22	22	22	22	22	22	22	22

3.10 OTHER ACTIVITIES UNDERTAKEN AT GDEWS

1. Seabird salvaging:

Table 10: Tropic birds salvaged, reared at GDEWS and released on in the wild (IAA & Black River).

Date	Bird	Name	Found at	Weight (g) when brought to GDEWS	Ring ID (ringed at GDEWS)	Release location and date
1.6.14	Red tail T.B	-	Round Island	701		Dead
21.7.14	White tail T.B	-		308		IAA
21.10.14	White tail T.B	-	Souillac	295		dead
7.11.14	White tail T.B (fledgling)	-		260		dead

3.11 CROW CONTROL:



National Crow
Control Campaign
2014

3.11.1 Introduction

Crow, a nuisance bird has been controlled by NPCS since 2003 as an annual exercise. Mass poisoning with avicide DRC 1339 impregnated in lean meat cubes has given satisfactory results up to now, with level of success varying from 40% to 80% depending on the size of the crow population, weather conditions on the day of mass poisoning and duration of pre-baiting phase.

The 2014 annual campaign main objective was to reduce the crow population by at least 50%.

The campaign was effected as in the past with 6 distinct phases, viz: pre-campaign bird count, survey, pre-baiting, mass poisoning, post mass poisoning opportunistic killing and post-campaign bird count. The avicide DRC 1339 at 5gm per kg meat was used. The campaign started on the 3rd of March 2014 and ended on the 25th April 2014.

2. Pre-campaign bird count:

One bird count was made at the usual crow roosting site in Jardin de la Compagnie (JC), Port Louis, on the 4th of March 2014. An average number of 5700 **crows** were recorded during the counts (Table 11.).

Table 11.: Crow count at Jardin des companies on 26.9.12

SN	Vantage site	Number crows	Remarks
1	Medine Mews/state bank	2714	
2	Cerner HouseNorth/North Esat	478	
3	Medine Mews/Swan Bldg	2266	
4	Medine Mews/South East	250	
	Total	5708	

Therefore, it is estimated that the whole population of crows in Mauritius in March 2014 amounted to 5700 crows.

(1) Crow Survey

The crow survey started on 3rd of March 2014 and ended on 14th of March 2014 (2 weeks: 10 days) The survey indicated that there were crows in almost 50 different sites ²and the number of

crows seen ranged from 0 to almost 800 crows in the region of P Louis (e.g. ex Majestic cinema premises and in the Port Area, Quay D).

The survey showed that contrary to the last campaign in 2012, transit sites have now been formed again with big numbers at P Louis Majestic, Les Casernes, Quay D and Roches Bois Depotoir sites. This could be because the numbers have increased quite a lot since the last survey was carried out. There has been, since the last control campaign, two breeding seasons.

(2) Pre- Baiting of crows:

The pre-baiting started 18th March 2014 and ended on the morning of 29th March (2 weeks). Subsequent to the observation made during the survey, all the sites having crows were pre-baited and these sites harbored between. In addition, the requests received from public were also attended.

The major sites baited were as follows: Citadel, ex-Majestic cinema premises, Les Salines Garden, Quay D, SSRBG, Pt Aux Sables, Jumbo (Phoenix and Riche Terre), RTREBS, Baie du Tombeau, Poudre d'Or/Denim, Albion, Plaine Verte, Vallée Pitot, Vacoas, Les Casernes and La Ferme area.

On average the four crow teams baited 2500 to 3000 crows daily during the 2 weeks of the pre-baiting at the start of the pre-baiting, some 1000 crows were being baited and the figure increased to around 3000 just before mass poisoning. This shows the critical importance of a good pre-baiting exercise where the crows are encourage to aggregate at the different feeding sites.

(3) Mass poisoning:

The final mass poisoning started on the afternoon of the Saturday the 29th, and the whole day on Sunday the 30th and Monday the 31st March.

Table 12: Crows baited with DRC 1339 on 29th, 30th and 31st March 2014

Team/Region	Crows seen	Crows seen consuming bait	Remarks
North	1827	595	Disturbance at Quay D site resulted in low consumption of bait
West	1187	682	
Centre/south	660	632	
Port Louis regions	1579	1152	
TOTAL	5253	3061	

A minimum of 3061 crows were poisoned out of a total of 5253 crows that were seen during the poisoning exercise.

(4) Collection of dead crows:

After the first day of mass poisoning on the 30th March, a team was put in place just to collect the dead crows in the Jardin de la Compagnie. For this campaign, a large amount of crows were collected in the Garden and in the area around, mainly in the canal behind the Majestic, in the Garden of the Museum and in the compound of the Prime Minister's Office. Some 1576 dead crows were collected over the three days following the mass poisoning and the final number of dead crows collected amounted to 2057 dead animals. A good percentage of poison animals died out of the roosting sites and could not be collected.

(5) Count after the mass poisoning.

A count was carried out after the mass poisoning. A population of 2800 birds was estimated. The count for just after the mass poisoning was quite difficult as the population of crows was quite disturbed and their approach to the roosting site was quite quick and chaotic, nothing compared to the smooth and constant flow of birds that was seen at the first count. .

(6) Post mass poisoning opportunistic killing

One of the major innovations that we brought about to this campaign is the follow up of the mass poisoning with continued poisoning and killing of any crows that were found. The opportunistic killing continued until the 25th of April 2014. During this second part of the campaign, some 1127 crows were seen to take the bait

(7) Efficiency of poisoning campaign:

7.1 Efficiency based on dead crows collected

The amount of dead crows during the campaign was 2057. Based on this the efficiency of the campaign would be (2047/5700) 36.1%

7.2 Efficiency based on crows seen taking bait

During the 3 days of poisoning a total of **3016** crows were poisoned and presumed dead. Therefore, the gross efficiency of the campaign could be computed (3016/5700) as 52.9 %. The follow-up after the mass poisoning resulted in an addition (1127/5700) 19.7 %.

Thus based on number of birds recorded to have taken bait, the efficiency of the campaign was determined to be 72.7

7.3 Efficiency based on birds counted at different counts

The first count estimated the crows' population at 5700. After the mass poisoning, a population of 2800 birds was counted at the roosting site. The efficiency of the first part of the campaign was thus (5700-2800)/5700 which amounts to 50.9 %.

The final count of the campaign resulted in an estimated figure 1300 crows. Thus the efficiency of the campaign based on the counts would thus be (5700-1300)/5700 which is 77.1 %.

The efficiency of this year's campaign would amount to 77.1 % of birds killed based on the difference between the initial count of birds and the final estimate done. . The lower efficiency figure obtained by using dead crows collected is due to the fact that not all animals that are poison are collected. Some die in remote places, some are disposed of by people when they see the dead animals.

The lower efficiency figure when using crows seen taking the bait is explained by the fact that not all birds that take the bait can be counted as some will take bait only after officers have left. At other places, due to the large numbers of crows being baited, not all that are taking the bait can be counted.

(8) Conclusion and proposals

The campaign of 2014 had to control a much higher population of crows. Since we missed the control campaign of 2013, the population of crows reached 5700 birds.

Compared to the campaign in 2012, the campaign carried out in 2014 was even more successful. The number of crows (4400) and the percentage (77.1) crows destroyed have both increased.

We have now a population of around 1300 birds.

In order to keep this population under control, we are proposing that the following be carried out

- (1) A short and targeted campaign before the breeding season of 2014/2015 to kill a further 500 birds.
- (2) Following this short campaign to during the breeding season of 2014/2015 a bounty system where by the public will be encourage killing the crows nesting and bringing them to the NPCS against a bounty. This service proposes that a bounty of Rs 150 per bird be proposed. (This would be between November 2014 up to end March 2015). This we believe will further decrease the crow population and also disrupt their breeding
- (3) A bird count would then be carried out in April 2015 so estimate the crow population. We will also assess if the bounty system is effective and efficient.
A national crow control proposal was prepared in 2013 for implementation before the breeding season which start around September /October. As approval was obtained in October it was decided to defer the implementation the following year after the end of the breeding season. Most probably, depending on climatic situation the project will be implemented in late February 2014.

3.11 BATS:

Bat research by DR Goodman team and NPCS:

The study entitled “Research on the phylogeography of *Pteropus niger* and their potential role as disease reservoirs” was carried out by Dr Steve Goodman of Association of Vahatra (Madagascar) and CRVOI (La Reunion/France) in collaboration with NPCS in November 2012 and results of the study were expected by end of 2013.

Actualy results were obtained in mid 2014. The reports were entitled

- (i) Pathogen investigation of 2 mauritian bat species: *Pteropus niger* and *Mormopterus acetabulosus*”.

The report indicated that all bat tissues tested were negative for corona virus, lyssavirus and Nipah viruses. In contrast both species were positive for paramyxovirus. However, mormopterus was positive for leptospira. In conclusion, the study did not detect any viral species known to be pathogenic to human.

(ii) Population genetics of the Mauritian flying fox (*Pteropus niger*). The report showed that the different subpopulations of fruit bats have low genetic variation. There was also a negative correlation between genetic distance and geographic distance. Thus there is frequent gene flow across the different sub populations. The study concluded that our fruit bat exhibit relative low genetic variability due to a combination of historical population bottleneck and enhanced gene flow across a relatively small insular place. The article will be published in the Journal of Mammalogy and Dr R Sookhareea will be a co-author.

3.12 Monkeys:

In addition to the issue CITES permits for export of live monkeys and tissues, the fauna unit is also called upon to attend sites visits to the problem of stray monkeys.

3.13 Miscellaneous:

Fauna summary Report 2014:

3.13.1 Pink Pigeon Project

The overall Pink Pigeon population is a stable population revolving around 395 individuals with a total of a total of 64 missing birds, although a slight decrease was observed at the end of the reporting year.

A total of 6 birds were ringed, 2 at Plaine Lievre and Pigeon Wood and one at Lower Black River Gorges and Ile aux Aigrettes. A total of 5 birds were classified as studbook alteration as not seen for a year (Three at Pigeon Wood, 2 at Petrin).

At Pétrin, the two birds that were weak and therefore brought at the aviaries were taken again to Petrin. Another bird has been brought from Plaine Lievre too. After being kept in quarantine in the aviaries, they were successfully released on the 5-Dec-2014. They have been seen again at Petrin and their subpopulation of origin for all of them. The aim of 30 birds released at Petrin has been achieved this year.

A total of 22 nests were found this month and 10 nests were ongoing from the previous month. Four nests were successful with 2 fledglings recorded at Ile aux Aigrettes, 1 at Plaine

Lievre, 1 at Lower Black River Gorges. Two were abandoned, 13 failed at incubation stage and 2 at squab stage. Eleven other are on-going into January 2015.

A total of 42 birds were ringed. Five birds moved naturally from their subpopulations of origin to other sites (between Pigeon Wood, Combo and Petrin). Eleven birds were moved (translocation from Pigeon Wood, Plaine Lievre and Combo) and only 10 could be released at Petrin as one of them died. 62 birds were missing for more than a year, thus declared as dead. Seven birds were found dead.

196 nests have been found this year. The subpopulations where most of the nests were found were Combo (58), Ile aux Aigrettes (51) and Plaine Lievre (44). 74 failed at incubation stage, 17 at squab stage and 26 were successful with a total of 33 fledglings. Ile aux Aigrettes had the highest number of fledgling with 9 in total followed by Combo with 7 fledglings.

This year the work was highly limited by the amount of trained staff in the field. The example of Pigeon Wood for several weeks, work has to be done by the same staff working at Petrin limited the amount of work spent in the territory to find territories and nests. Thus the really low amount of nests found at Pigeon Wood for this year (9 in total).

3.13.2 Kestrel Project

The eastern population is stable and breeding results are similar from season to season. The western population continues its apparent slow decline. Consequently, the Kestrel is a decreasing population with an estimated number of 261 individuals. In the field, the work went well and nest boxes were successfully maintained or installed at the start of the season. In the east, bad weather made some sites hard to access and the outcomes of some breeding attempts were not conclusively determined. The monitoring in the west went as well as it could, considering the poor staffing issues experienced. Temperature loggers were used this season to compare PVC nest- boxes with the usual wooden ones and the results show significantly higher temperatures.

This season was for most of us our 3rd consecutive year and experience gained in the previous years and our knowledge of the field and the birds has improved. It was very gratifying, to have been able to more effectively trap adult birds for ringing. On the downside, we were again short on staff in the west as the Kestrel team was helping part time on the Echo Parakeet project. Two of the team members of Mauritius Wildlife Foundation left the project, Laurent in January and Stephan at the end of the season.

3.13.3 Echo Parakeet Project

The echo parakeet population has been observed to be increasing with a population of 550 to 600 individuals being sighted during the reporting year. All nest boxes and known breeding cavities were monitored for breeding this year. Of these 160 sites, 28 were natural tree cavities, 15 were wooden nest boxes, and 117 were PVC nest boxes. 83% of all breeding sites

were artificial nest boxes. The 2013/14 season was the most successful on record for this species. At least 102 females bred, with a minimum of **164** new fledglings entering the population. An increase in monitored breeding pairs is partly attributable to a strategy of creating a large number of new nest sites using PVC nest boxes. Of 17 entirely new potential nest sites created between the previous season and this one, four were used by previously unmanaged pairs, with some of the remaining sites visited and prospected by Echo Parakeets. In addition to this, two new breeding cavities were discovered during the season, and two PVC Kestrel boxes were occupied by Echo Parakeets and fledged young. These new sites have contributed to a broadening of the geographical extent of Echo Parakeet breeding. The level of success in breeding overall: 69% (n=102) of all monitored breeding females fledged at least one chick and 74% (n=221) of all chicks that hatched survived to fledge.

3.13.4 Fody Project

The 2013-2014 is the eleventh year that the Mauritian Wildlife Foundation has been working towards the protection of the Mauritius Fody, this season has continued to focus on the intensive monitoring programme on Ile aux Aigrettes. The fody population has been increasing with 200 individuals recorded on Ile Aux Aigrette and 300 to 400 individuals inhabiting the mainland.

The breeding season extended for seven months with the first nest found in July 2013, after three months of no breeding activity, the final nest of the season fledged on the 14th April 2013. In total 132 nests were monitored, clutches of eggs were laid in 73 of these, 41% (30) of those nests reached the chick stage and 87%(26) of those nests with chicks fledged. Overall nesting success(number of nests that fledge) was 20.5% of all nests found. Altogether 10 nests fledged 26 young and a further 17 fledglings were caught and ringed in the aviaries, bringing the total to 43 juveniles recruited into the population this season.

As of the end of the season, March 2013, there were 75 breeding pairs on Ile aux Aigrettes. Nests were found for 52 pairs. The overall population is slightly lower than at the end of last season at 178 individuals, however the breeding population is 86 individuals compared to 119 at the end of the 2012-2013 season.

Disease was not a major problem within the population this season, 6 birds was found dead and 49 were removed from the population and assumed dead after being missing for more than one year.

Methods to measure the consumption of supplemental food of the Mauritius Fodies on Ile aux Aigrettes have been continued. The data collected shows that peaks in consumption this season seem related to the number of fledglings. A new supplemental feeding regime was started to reduce the spread of diseases and aggression between birds at the aviaries. Instead of being fed twice a day, the fodies are fed twice a week. With this new method, the fodies do not come all at the same time (when the food is brought in). This new method seems to be working as fewer birds are coming to the aviaries at the same time and the number of exotic birds which goes to the main aviary has been reduced.

3.13.5 Olive White-eye Project

The aim of the Olive White-eye Team this season was to intensively monitor the Combo and Ile Aux Aigrettes (IAA) populations while checking the efficiency of the nest management methods used so far on the project. This will broaden our knowledge of the species and follow the growth of the re-introduced Ile aux Aigrettes population. As such, the Olive White Eye population is observed to be fluctuating with 39 individuals recorded on Ile Aux Aigrette and 300 to 350 individuals as the mainland population.

In Combo, staff began field work in September 2013 and five nests were found that same month showing that Olive White-eyes (Olive White-eye) were already breeding. A total of 23 territories were searched and monitored intensively. An extra two birds were ringed and 19 territories now have at least one identifiable bird. Five territories from the previous season were not used, no birds were heard or seen in them, whilst two territories where birds bred previously were visited by single birds only.

39 nests were found in Combo, and 4 fledglings were seen without the nest having being found. 30% of the 39 nests found were abandoned before eggs were laid, 52% failed during incubation, 10% failed during brooding and only 2.5% fledged young. The nest predation management experiment was continued to show the merit of using poison or traps to control rats at each nest found at incubation stage against doing no control of rats (the control). Preliminary results seem to indicate that trapping is the most efficient technique.

108 feeding observations were made on 8 different species of plants, most of which were introduced. 90% of the feeding observations were of nectar, 7% of invertebrates, and 3% of fruits.

On Ile Aux Aigrettes, supplemental feeding was continued. The new feeding station design has been trialled for two whole seasons (2012-2013 and 2013-2014) and no further death of birds occurred. The supplemental feeding routine has also been altered to better suit the bird's needs as well as improve the management-efficiency. The birds are only fed once a day and sugary water has been trialled as a replacement for artificial nectar. 16 new birds survived to the end of the season and 3 new pairs were formed. Feeding observations were recorded, 71% of nectar, 3% on invertebrates and 26% on fruits. Invertebrate sampling and the assessment of supplemental food consumption was continued every month.

Breeding on Ile aux Aigrettes started in late September 2013 then stopped in March 2014. In total, 44 nests were found on Ile aux Aigrettes this season, 14% (6 nests) were abandoned, 39% (17 nests) failed during incubation, 14% (6 nests) during brood and 32% (14 nests) fledged young. Minimal management of nests this season resulted in more fledglings than in other seasons.

3.13.6 Passerine survey

The 2013-2014 passerine survey resulted in final data on territory sizes, and detectability for all the endemic focal passerine species in Mauritius. From this data, we were able to obtain population estimates for the focal species.

The flycatcher and the Mauritius Bulbul were found to be more widespread than the other species with a population of around 800 individuals. The other species were found to be more in cluster population in specific type of vegetation. The majority of the birds we have observed were in private lands. Large area of forest been cleared in Plaine Sophie near the Mare Aux Vacoas reservoir. Flycatchers were found on the edge of that part of the forest.

All population size of the focal species has increase except for the Cuckoo-shrike which has decreased to less than 300 individuals.

3.13.7 Tortoise Project

Since December 2010 to December 2014, the Mauritian Wildlife Foundation (MWF) in collaboration with the National Parks and Conservation Services (NPCS) has translocated a total of 351 juvenile Aldabra tortoises, *Aldabrachelys gigantea* and 16 Radiated tortoises, *Astrochelys radiata* to Round Island which now supports a population of 367 free-roaming tortoises, including 16 radiated tortoises from Madagascar. From the observations and results

obtained since 2010, the tortoises are doing well on Round Island. Of the 367 tortoises translocated, only 1 tortoise death has been recorded so far. The others are seen on a regular basis. They are growing healthily and dispersing away from the release site. ‘Pyramiding’ which is a form of metabolic bone disease, characterized by a build up or stacking of keratin in the scutes has also been observed in some tortoises, indicating that there is sufficient food for them on the island. But their diet might be unbalanced. Tortoises are helping in the dispersal and germination of *Latania loddigesii*, *Pandanus vandermeeschii* and *Cassine Orientalis* as well as creating grazing lawns in the planting areas near the release site. Regeneration of native hardwood plants such as *Psiadia arguta*, *Dodonea Viscosa* and *Gagnebina Pterocarpa* have been observed in highly grazed areas. They feed selectively on the exotic plants and can find temporary sources of water on the island.

Present release numbers from the project are deemed to be much lower than the density to cause adverse impact on the vegetation. More tortoises are required to be released over the next years and the possibility of augmentation in future remains open. In this regard we are hoping to release over 50 Aldabra tortoises annually and expecting the Radiated tortoises to breed in the coming year on the island. The monitoring of tortoise morphometrics, dispersal, movement and effect on the vegetation and invertebrates should be continued to increase our knowledge of the behaviour and ecology of both species.

3.14 Achievements

So far, the captive breeding centre has allowed the breeding, rearing and release of around:

- 400 Mauritius Kestrels,
- 672 Pink Pigeons at various stations in the Black River Gorges (Brise Fer, Combo, Bel Ombre, Lower Black River Gorges) and Ile aux Aigrettes,
- 150 Echo Parakeets,
- 88 Mauritius Fodies (*Foudia rubra*) on Ile aux Aigrettes,
- 57 Mauritius Fodies transferred to Round Island from/through GDEWS
- 36 Olive white-eyes (*Zosterops chloronothos*) – one of the smallest birds being hand reared in the world – onto Ile aux Aigrettes.

These actions have greatly contributed to the most often quoted downlisting of birds in the world, that is, from Critically Endangered to Endangered / Vulnerable (Mauritius Kestrels, Pink Pigeons, Echo Parakeet and Mauritius Fodies).

The centre has also been involved in breeding for conservation based scientific research and maintaining a safety net of Rodrigues Fruit Bats *Pteropus rodricensis*. We are currently managing a small population of Rodrigues Fruit Bats. GDEWS also houses a small colony of rescued Mauritius Fruit Bats *Pteropus niger*.

Chapter 4

FLORA UNIT

4.0 Introduction

The flora of Mauritius has a high level of diversity and endemism due to the island's location, age, isolation and varied topography. Mauritius has been identified as a Centre of Plant Diversity by IUCN and the Mascarenes (Mauritius, Réunion Island and Rodrigues) have been included in the Madagascar and Indian Ocean islands biodiversity hotspot.

The **status of the flora** is as follows:

- The extent of reasonable quality native forest (i.e. that with more than 50% native plant canopy cover) is currently estimated at around 2,600 ha.
- 15 vegetation types (based on vegetation structure and physiognomy) have been classified, ranging from marsh communities to scrub associations to forest communities
- 691 species of indigenous flowering plant have been recorded in Mauritius, of which 273 are endemic, and 150 endemic to the Mascarenes Archipelago
- 89 % of the Mauritius endemic flora is considered threatened (Mauritius has one of the most threatened island floras in the world). 61 of the country's indigenous species are already classified as extinct. 141 of the flowering Mascarene endemic plant species are classified as Critically Endangered (89 taxa are represented by 10 or fewer known individuals in the wild and 5 taxa are represented by only a single known individual), 55 species are Endangered and 98 are classified as Vulnerable
- There are about 200 species, subspecies and varieties of pteridophytes, of which 13 species are endemic, and 40 are extinct
- There are 207 taxa lower plants consisting of 89 genera of mosses and 59 genera of hepatics.

The **status of the protected areas** is as follows:

- 10 legally proclaimed protected areas on the mainland - two National Parks, seven **Nature Reserves** and one bird sanctuary- covering a total area of 7,292 ha. National Parks and Conservation Service is the main government institution dealing with the conservation of native terrestrial biodiversity.
- 8 Islets National Park, 7 Nature Reserves and one *Ancient Monument* - covering a total area of 735 ha. The Ile aux Aigrettes Nature Reserve is leased for conservation management purposes to the Mauritian Wildlife Foundation (MWF), of the active NGOs. Two islets (Flat and Gabriel islands) are lease for tourism activities to a state and private companies respectively.

4.1 Ecosystems restoration and *in-situ* conservation

During the year under review, 123.88 ha of native forests have been restored. (See table 13)

Table 13: Area cleared in 2014

Type of Protected Area	Locality	Area Cleared in 2014 (ha)
Black River Gorges National Park	Brise Fer	12.13
Black River Gorges National Park	Fixson	13.45
Black River Gorges National Park	L'Exemple	1.52
Black River Gorges National Park	Lower Gorges	8.86
Bras D'Eau National Park	Mare Sarcelle	33.36
Black River Gorges National Park	Petrin-Macchabe	2.04
Black River Gorges National Park	Combo	6.34
Black River Gorges National Park	Plaine Champagne	1.24
Nature Reserve	Cabinet	4.31
Forest State Land	Mon Vert	13.72

Forest State Land	Anse Jonchee	11.96
Islet Nature Reserve	Ilot Gabriel	0.65
Nature Reserve	Gouly Pere	4.21
Nature Reserve	Les Mares	1.22
Nature Reserve	Bois Sec	0.84
Protected Area Managed by the Vallee d'Osterlog Endemic Garden Foundation	Vallee D'Osterlog	8.03
	Total (Ha)	123.88

These plots are in the Black River Gorges National Park (BRGNP), Bras D'Eau National Parks, Nature Reserves and State forest lands. Some of these areas are either fenced or only weeded (e.g., Bel Ombre plot, Morne Seche). There are also restored and managed plots within Nature Reserves (c. 20.0 ha. in six Nature Reserves). Restored and managed plots can also be found outside Nature Reserves and within native forest (30 ha Mont Vert, 1 ha outside Perrier nature reserve and 22 ha at Anse Jonchee). Managed areas on private land: the Mondrain mentioned above, as well, weeded plots in Chamarel and in the Bambous Mountain Range (Vallée de l'Est and Ferney) are being managed by Bioculture Mauritius Ltd, and the Vallee de Ferney Trust respectively. Presently, there are now about 338 ha of native forest that has been restored into what is known as Conservation Management Areas (CMA).

Research has shown that recovery from weeding has an immediate positive effect on the plants and the effect is amplified over time (Baider&Florens 2006; Florens 2008). However, restoration according to previous methodology used by Government agencies was costly (~ US\$ 10,000 per ha) for initial weeding. Considering inherent problems with contractors coupled with the high cost involved, NPCS has adopted a new strategy to reduce the cost of initial weeding. In this context the NPCS has recruited labourers (from local communities) on contract to work directly under our supervision thus ensuring the total control on the weeding operation and meeting this organization's strategy to reduce cost. With this strategy, the cost

for weeding one hectare of native forest has been reduced considerably to about US\$ 3,000 which is equivalent to Rs 90,000.

4.2 CMA Maintenance Weeding

All CMA's and newly weeded areas have been maintained by the contract labourers working on PAN project. About 37 ha have thus been successfully weeded of invasive alien species. Maintenance of CMA was carried out mainly during rainy days when initial weeding using herbicide is not recommended.

4.3 *Ex-situ* conservation of native plants of Mauritius

The Native Plant Propagation Centre (NPPC) is the main *ex situ* facility for NPCS for the conservation of the native flora of Mauritius. It has been set up in 1996 at Robinson Road, Curepipe to provide necessary facilities for the propagation of threatened native plant species, ferns, and orchids together with a collection of native plants in an Arboretum. It comprises of such amenities like:-

- 1 (one) greenhouse
- 1 (one) shade house
- 1 (one) fern and orchid collection
- 1 (one) seed bank Lab
- 1 (one) fern lab
- (two) pump house
- 1 (one) Arboretum of about 5.5 hectare

4.3.1 Propagation of native plants

Some 34,810 native plants of about 79 species were propagated despite defective mist system. Some of the most endangered species which were successfully propagated (see Table 14).

Table 14.: Species successfully propagated and their population in the wild.

Species	Approximate number in the wild
<i>Pandanus spatulatus</i>	<5
<i>Badula ovatifolia</i>	<5
<i>Syzygium guehoii</i>	<5
<i>Ficus laterifolia</i>	<10
<i>Dombeya sevathianii</i>	<10
<i>Badula reticulate</i>	<10
<i>Tambourissa pedicillare</i>	<25
<i>Polycias neraudiana</i>	<25
<i>Secamone dilapidans</i>	<25
<i>Eugenia alletti</i>	<50
<i>Cylindrocline commersonni</i>	<50
<i>Olax psitaccorum</i>	<100
<i>Nesocodon mauritianus</i>	< 100
<i>Embelia micrantha</i>	<100
<i>Diopyros neraudi</i>	<100
<i>Diospyros nodosa</i>	>100
<i>Tambourissa ficus</i>	>100
<i>Ocotea mazcarena</i>	<100
<i>Tetraxis salicifolia,</i>	<100

4.3.2 Fern and Orchid Collection

The project was initiated through the Darwin Initiative Project in 1997. Up to now, a total of 50 species of pteridophytes and 44 orchid species exist in the collection. New collections of ferns in 2014 are the following:

- *Doryopteris pilosa*
- *Heterogonium siberianum*
- *Cyathea borbonica var latifolia*
- *Cyathea borbonica var sevathiana*
- *Anthropteris orientalis*

New collection of native orchids is:

- *Polystachia cultriformis*
- *Arnottia mauritiana*
- *Taenophyllum coxii*
- *Bulbophyllum longoflorum*
- *Ocleade monophyllum*
- *Goodyera noda*
- *Oenellia Aphrodite*
- *Angraecum rutenbergianum*
- *Liparis distychia*

Fifteen fern species were successfully propagated through spores and bulbils including:

- *Pellea dura*
- *Pellea boivinii*
- *Doryopteris pilosa*
- *Ctenopteris parvila*

4.3.3 Arboretum

An area of 5.5 ha has been earmarked for the development of the extension of the arboretum for the collection of most of the native flowering plant species of Mauritius. The Arboretum is an important tool for conservation education and awareness. It also serves as a field gene bank covering an area of about 3.0 hectare. This site harbours some 597 rare native plants of

160 species. This area is provided with a well laid brick footpath and a kiosk to provide a peaceful environment for any visitors enjoying the beauty of some of the rarest native flora.

A medicinal corner of about 0.2 ha has also been devoted some of the native flowering plants having medicinal properties. About 38 native plant species believed to have medicinal properties thrive in the medicinal corner.

4.4 Darwin Initiative funded Seed Bank Project

The storage of material in the form of seeds is one of the most widespread and valuable *ex situ* approaches to conservation. Seed banking exploits the natural dormancy mechanism of seeds. Seed banking has considerable advantages over other methods of *ex situ* conservation such as ease of storage, economy of space, relatively low labour demands and consequently, the capacity to maintain large samples at an economically viable cost.

The seed bank was established in July 2006 at Robinson Road, Curepipe, as part of collaboration between Millennium Seed Bank RBG Kew, National Parks and Conservation Service and the Mauritius Herbarium. Collections and running of the Seed Bank facility started in March 2007. Since the establishment of the seed bank centre, 286 species have been successfully banked up to now. In 2014, no species has been collected as the building housing the seed bank was defective and we were advised to evacuate the building as it is a potential hazard. The seed bank facilities have been transferred into the quarantine unit of the NPPC. Measures must be taken to pull down the building and to reconstruct a new one.

4.5 Plant Sale, Donations and Reintroductions

In 2014, the following activities were carried out with native plants:

1. 136 plants were sold to the public.
2. 2,889 plants were donated to educational institutions and NGO's for establishing endemic gardens.
3. About 17,873 plants have been used in service and planted in different stations detailed as per table 17.

Table 15.: List of Plants that that been reintroduced in different stations by NPCS

Area of Reintroduction	Number
Reintroduced at Petrin	11778
Reintroduction to Bel Ombre	756
Reintroduced at Bras D'Eau National Park	3025
Reintroduction at Lower Gorges	99
Reintroduced at Vallee D'Osterlog	2110
Planted in arboretum at NPCC	55
Reintroduced at Grand Bassin	35
Sent to Rodrigues	15

4.6 Constraint

- Labour force: Presently we have in post only 12 labourers who support all work in the NPCS. An additional 15 labourers will be needed to achieve all the objectives stated in our programme.

4.7 Infrastructural Facilities:

The Greenhouse, Shade House and Fernery are fully equipped with an automatic mist unit controlled by 4 (four) pumps. A mist bench with heating elements is also in place in the Mist Chamber of the Greenhouse, essential for the propagation of cuttings and for seed germination due to unfavorable climate and high humidity prevailing at Curepipe. However, the mist unit of the Greenhouse is still out of order. The mist unit of the shade house and fernery were also defective, however there is an urgent need for a complete servicing of the mist unit as this has not been done since its operation in 1997.

The breakdown of the mist unit was a serious drawback for the propagation of native plants. Action has also been initiated for its repairs. Due to problem of availability of spare parts in the local market, the exercise is still being delayed.

4.8 New development in ex situ facilities at Bras D'Eau National Park

A modern shadehouse with a capacity to store 50,000 seedlings has been constructed at Bras D'Eau to cater for the increase in demand of native plants for reintroduction in the wild and other environmental projects. A similar project will be implemented at Rivulet Terre Rouge Estuary Bird Sanctuary in 2015.

4.9 PAN Project

This project which is partly funded by UNDP/GEF to the tune of US\$ 4 million is being undertaken by the NPCS in collaboration with the Project Management Unit recruited by UNDP. The objectives of this project are:

1. to increase the area of protected lands by 80%
2. to restore more than 400 ha of native forests among others.
3. The participation of private stakeholders will be ensured so as to be able to carry out restoration activities in the private forest.

The contract of 15 trained labourers has been renewed for IAS removal in 2014 (previously working for the Fixson CMA and Wiolab projects. They are based at Fixson and L'Exemple and Lower Gorges to carry out removal of invasives and restoration of native forests. NPCS has also renewed the contract of the 28 labourers for a further 6 months to speed up this activity at Combo, Bras D'Eau and Petrin in November 2014.

Approval was obtained for NPCS to allow contract labourers to carry out additional weeding work against payment of an allowance. Furthermore, authority to pay overtime to workers and staff of NPCS and Forestry Service to carry these duties outside normal hours and during weekends was also agreed. This has contributed to a very satisfactory output and has enabled NPCS to go beyond the target set in the PBB indicator.

As a result, in 2014 more than 124 ha of native forests have been restored bringing to 338 ha of Conservation Management Areas in Mauritius. This is a considerable increase of about 60% since last year. The evolution of restored native forest in Mauritius since 1993 is given in Figure 1.

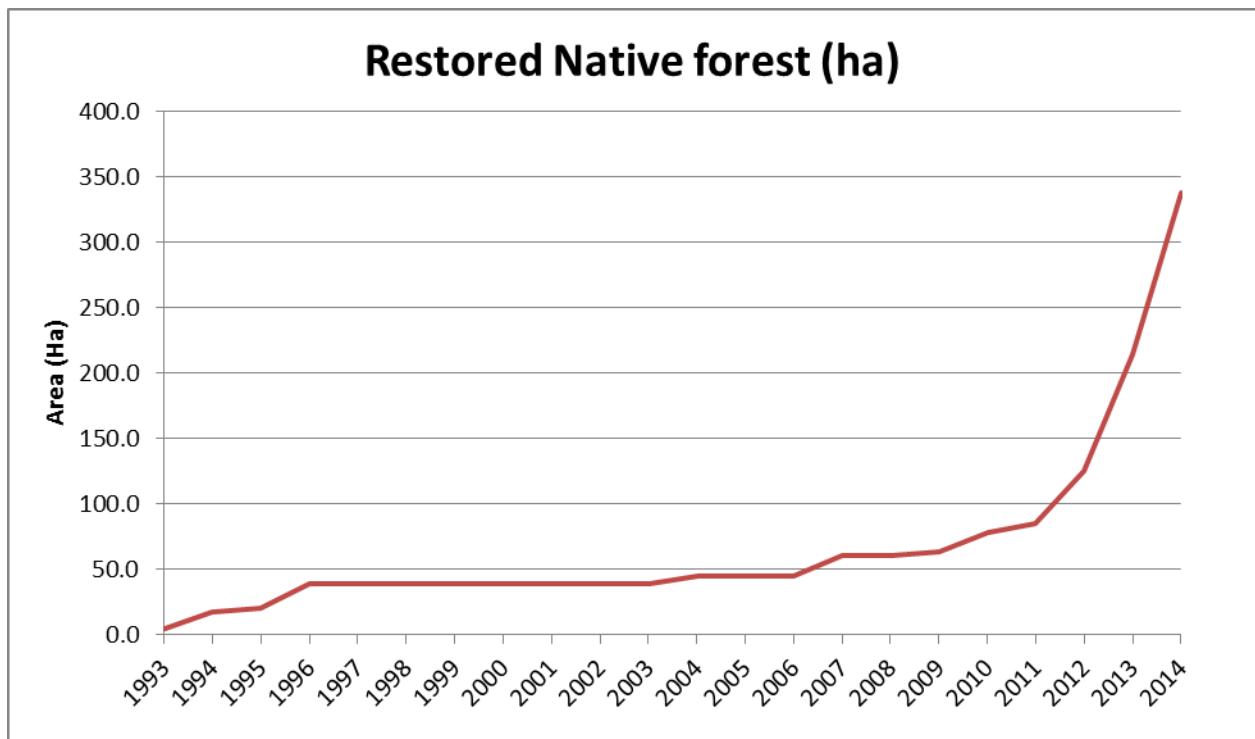


Figure 7.: Restored native forest

Furthermore in 2014, work has started at Plaine Champagne, Les Mares Nature Reserve, Bois Sec Nature Reserve and Vallee D'Osterlog.

The IAS removal and ecosystem restoration MOU has been signed with 7 private forest owners and the weeding will start in 2015 as soon as the first payment is effected by the Ministry. This project will involve weeding and restoration of 35 ha of private native forest all over Mauritius.

Surveying works will have to be carried out by Forest Surveyors to prepare accurate land survey plans for all restored native forests.

4.10 Progress achieved in 2014

PAN 2014

PAN Project has gained additional momentum in 2014 compare the previous years since Inception in 2011. The overall expenditure for 2014 is of USD 933,898.50 which is more than double to the expenditure of 2013, USD 427,686.32. This shows that the project has been quite dynamic and the major achievements are as follows:

1. 7 Memoranda of Understanding have been signed between the Ministry of Agro-Industry and Food Security and private forest owners. They are Baie du Cap Estate Co Ltd, Compagnie Sucrière de Bel Ombre, Ebony Forest Ltd, Mare Anguilles

Farms Ltd, Ramphul Ltd, Société St Denis Ltée and Vallée de Ferney Conservation Trust. This represents a major milestone in the progress of the project.

2. A Total of approximate of 124 hectares of native forests have been cleared compare to 88 hectares for 2013. In addition, 37.62 hectares of cleared forests have been maintained and a total of 19461 native specimens have been planted.
3. A Communication and Marketing strategy has been produced In April 2014 and then implemented in May 2014. Several media vehicles have been used such as billboards, radio, video clips and facebook page. The campaign is still on-going and will end in May/June 2015 with the events phase.
4. The team of International and local Consultants, EcoAfrica, together with a new chief technical advisor (CTA) got on board in 2014. Under EcoAfrica agenda, there have been several consultation exercises and workshops. The CTA often acted as a facilitator in the different exercises.
5. Two technical working groups have been set up, the legal and institutional working group and Tourism working group. The latter met twice since its creation while there has been 3 working sessions with regards to the former work group.
6. EcoAfrica submitted an Inception report for their activities in August 2014. This was then followed by the Bras d'Eau Management Plan which is now ready to go for public consultation.
7. Financial scorecards and METT scores have been reviewed by the CTA as a requirement of the MTR. Yet, the CTA is to propose a modified version that suits the context of SIDS.
8. Training need analysis have been done and the CTA will produce a training programme once he is done with the Training Need Analysis of NPCS senior staff.
9. The National Steering Committee met twice for the first time since the start of the project.
10. There has been frequent meeting of the Executive Committee which revealed to be very useful in solving issues and to find solutions.

4.11 Collaboration with other organisations

- I. HSBC has successfully secured funding through its CSR in view of IAS removal and ecosystem restoration on the Petrin-Macchabee trail. A memorandum of understanding has been signed by the Ministry and HSBC for a collaborative partnership for the ecosystem restoration by removal of Invasive Alien Species and provision of interpretation boards, information kiosk and litter bin in a specific area in the Black River Gorges National Park. Work is still ongoing and will continue in 2015.
- II. Scomat Ltee, a subsidiary group of IBL has fully funded the restoration of another 2.7 ha at Petrin. They will fund the maintenance weeding of the area in January 2015 as it was the case in 2013.

- III. The Lions Club of Quatre Bornes has secured funding from sponsors through the CSR to restore 1.66 ha of native forest at Plaine Champagne and at the end of this year, about 1.2 ha has already been restored and restoration is still ongoing.
- IV. Repatriation of about 30 critically endangered endemic species of plants has been initiated with the Conservatoire Botanique National de Brest by the NPCS. *Cylindrocline lorencei* which has been extinct in the wild in Mauritius together with *Cylindrocline commersonii*, *Hibiscus fragilis*, *Dombeya mauritiana* seedlings have been repatriated to Mauritius from Brest. These plants are being nursed and hardened in our greenhouse at Robinson Rd and some of them have been eventually reintroduced in the national parks and nature reserves. Ten seedlings of *C. lorencei* has been reintroduced in the Plaine Champagne restored are in December 2014. The MOU between the Conservatoire Botanique National de Brest and the NPCS has now expired and will need to be renewed. NPCS will receive another consignment of endemic plants from Brest in May-June 2015.

4.12 Achievement in 2014

- A complete inventory of flora species present in Mt Cocotte CMA (0.44 ha) has been completed. This was carried out with the collaboration of a BSc student from the University of Mauritius,
- 50 % inventory of plant species has been carried out in house in Macchabee CMA (0.44 ha).
- Survey of Grand Bassin Peak was carried out by our service after clearing effected there. Micromanagement of the site was carried out by our service and 5 plants of *Eleoocarpus bojeri* were seen to coppice and 35 native species were reintroduced in the area.
- Sighting of *Olax psittacorum*, a critically endangered species in the newly restored area at Petrin.
- Sighting of *Badula platiphylla* at Petrin
- Sighting of a new population of *Claoxylon linostachys* var *pedicillare* and *Polycias neraudiana* at Gouly Pere.
- Sighting of a population of *Acanthophoenix rubra* at Mare Longue.
- Sighting of new populations of *Carissa spinarum* at Brise Fer and St Francois
- Sighting of a population of *Secamone dilapidans* at Perrier.

- Sighting of a new population of *Aloe purperea* at Plaine Lievre.
- Sighting of *Tambourissa pedicellata* at Mare Longue
- Sighting of *Eugenia alletiana* in Brise Fer old plot.
- Sighting of *Chinionthus broomeana* var *broomeana* near Belloguet CMA, Bel Ombre and at Combo..
- Sighting of *Chassalia capitata* in Macchabbee CMA and another one outside the CMA..
- New sighting of *Syzygium populifolium*, *Ixora vaughanii* in Macchabbee CMA.
- Sighting of *Melicope chapellieri* var *chapellieri* at Plaine Champagne.
- Sighting of *Pisonia lanceolata* at Vallee D'Osterlog.

Chapter 5

Islet Management Unit

5.0 Introduction

Mauritius has off its coast 49 islets varying in formation from coralline structures to basaltic rock. Some are close to the mainland while others are far out in the deep sea. Many of these islets are biologically very important and have great conservation potential due to their unique native flora, fauna and by providing refuge to endangered species of animals and plants. Some are being exploited for tourism purposes and leisure. But they are all very sensitive sites.

Several conservation projects are being implemented on the different islets surrounding Mauritius by NPCS. These encompass projects such as the restoration of the habitat, species management, monitoring/assessment of biodiversity. Moreover public awareness and sensitisation are cross cutting activities which are part of all islet management projects. One of the main achievements for 2014 was the introduction of 10 boas from Round Island to Gunners Quoin to enhance growth of existing population.

The Section is headed by a Scientific Officer Mr. Nundlaul and assisted by Technical Officer Mr. Ramen and officers from the Park Ranger cadre.

5.1 Management and conservation projects on islets

5.1.1 Round Island

An intensive plant restoration programme on Round Island is being carried out by MWF in collaboration with NPCS since 2001 following the erection of a field station.

In 2014 around 1500 native plants have been planted in the restoration areas.

Meteorological equipment on Round Island

With the assistance of the Meteo Services, Meteorological equipment have been installed on Round Island to allow for better weather data to be collected.

Round Island fauna management

5.1.2 Tortoise translocation and soil erosion

Two Expeditions were carried out Round Island by NPCS to assess impact of tortoise translocation on Round Island. Moreover the second expedition equipment for measuring soil erosion was installed on two sites to gauge soil erosion level. The University of South Africa has funded the purchase of this equipment.

5.1.3 Seabird research and survey on Round Island

In November 2014, NPCS staff carried out a site visit with Dr R.Thomas and Prof. Nicoll of Cardiff University of Cardiff to carry out research work on the island's seabird population namely the petrels and red tailed tropic birds... Geolocators were placed on the petrels to study their foraging habits. Moreover morphometrics data was also taken from the petrels and red tailed tropic birds.

5.1.4 Seabird translocation

Seabirds from Serpent Island and Round Island have been translocated to Ile aux Aigrettes as part of the Seabird translocation project which aims to recolonise the islets with seabirds for ecosystem restoration.

5.1.5 Reptile monitoring on Round Island

Monitoring is important as it will provide comparison between translocated and donor population on feeding habits and reasons for fluctuation in invertebrate and resident reptile population on other islands.

Monitoring along the 104 transects on Round Island was effected in April 2012. Moreover the team was also accompanied by DR Sam Bremner- Harrison to profile the behavior of 150 skinks across the island. This is important to know the impact of boa on skinks on Gunners Quoin as well as the behavioural traits of skinks.

5.2 Reptile Conservation project on SOUTH EAST ISLETS

5.2.1 Translocated reptiles on Ilot Fouquets from Ilot Vacoas and survey on Ile de la Passe

In March 2014 the monitoring of Bojers' skink on Ilot Fouquets was carried out after the breakout of fire in 2011. NPCS in collaboration with the MWF undertook survey of the reptile on the islet as well assess number of visitors on islet.

Moreover a survey of reptiles was carried out on Ile de la Passe in 2014 to monitor the Bojers skink on the islet.

5.2.2 Reptile monitoring on Ilot Marianne

Several monitoring trips have been effected to monitor the lesser night geckos on Ilot Marianne after their translocation. Several observations of geckos were done during these trips including two new juvenile geckos found. Each expedition Technical Officers and park ranger cadre staff participated.

5.2.3 Ile aux Aigrettes

5.2.3.1 Telfairs' skink on Ile aux Aigrettes

Headstarting juvenile skinks have started on Ile aux aigrettes so as they can reach adulthood. They are placed in an enclosure and then fed till adulthood. A hatchery and nursery were also built for incubation of eggs as well as the head starting of juveniles. A total of 100 Telfair's have been translocated from Round Island and Gunners Quoin to Ile aux Aigrettes.



Figure 8. Ile aux Aigrettes

5.2.3.2 Gunthers' gecko on Ile aux Aigrettes

In March 2010 50 Gunthers' geckos were translocated to Ile aux Aigrettes from Round Island. The translocated population is growing and the first generation of geckos that hatched in the 2010/11 breeding season are breeding breed in the 2013/14 season.

5.3 Cleaning and maintenance on South East islets

In 2014 Vassant Enterprise Ltd. has again obtained a two year contract to carry out the cleaning of the islets in the Mahebourg Bay namely Ile aux Fouquets, Ilot Vacoas and Ile aux Mariannes. It has been shown that most of the litter is taken from Ilot Fouquets with an average of 4 plastic bags every fortnight with a maximum of 10 plastic bags of litter during the end of year. The cleaning is carried out every fortnight. In each expedition one NPCS staff is delegated to supervise and monitor the cleaning. For 2014 24 trips for cleaning have been effected.

5.4 Reptile Conservation on Gunners Quoin

5.4.1.2 Telfairs' skink on Gunners Quoin

To restock the translocated population with additional individuals to increase genetic variability 100 Telfair's skinks were translocated to Gunners Quoin along with the translocation with boas.

A trip was carried out for monitoring the Telfairs skink population on Gunners Quoin in November 2014. The Telfair's skink is now considered to be at optimal productivity and could experience density

dependent effects. This is why it was decided that boas are ready to be introduced on the islet. Skinks are estimated to be more than 2500 on Gunners Quoin.

5.4.1.3 Boa Translocation to Gunners Quoin

In October 2012 one of the major achievements was the translocation of 60 boas from Round Island to Gunners Quoin.

Moreover in August 2014 a further 10 boas were translocated from Round Island to Gunners Quoin to enhance the growth of the population.



Figure 9. Gunners Quoin



Figure 10. Restoration on Gunner's Quoin

5.4.1.4 Orange tailed skinks

Orange Tailed skinks have been found for the first time on Gabriel Island during reptile monitoring effected since its translocation from Flat Island in 2010.

5.4.1.5 Site visit by MID

On October 2014 a site visit was carried out by officers of MID on Gunners Quoin to look into the conservation projects to be implemented on Gunners Quoin and which will be funded by MID.

5.4.1.6 Flat and Gabriel Island

Gabriel Island

Weeding of invasives has been effected on Gunners Quoin on a large scale removing the Flacourtie and Lantana respectively in May 2014 with help of contract workers under the PAN.

10% survivorship was observed for saplings transplanted in the Gabriel Island in 2013.

5.5 Other islets

Fire and other hazards on islets

Fire and other hazards on Ile D'Ambre

Fire broke out on Ile D'Ambre National Park in October 2014. Site visits have been effected to assess damage and proposed remedial measures. Replanting programme is proposed on both islets for the year 2015 which will be effected in collaboration with Forestry Service.

5.6 Achievements 2014

- The plant restoration programme has been implemented on islets which include the introduction of 2500 plants on Round Island, Gabriel Island, Gunner's Quoin and Ile D'Ambre. Furthermore, removal of invasive plants on Gabriel Island and Ile D'Ambre over an area of 1 ha has been completed.

- Following the successful introduction of Round Island boas on Gunner's Quoin, a further 10 boas were captured and reintroduced to Gunner's Quoin to enhance the population growth.
- The provision of regular (fortnightly) cleaning services on these islets in the Mahebourg Bay.
- The conservation management of all endemic reptiles on offshore islets as part of the Saving Endangered Reptile Project.
- Collaboration with University of Reading in the research study on Round Island Petrel has been enhanced.
- Seabird translocation of Round Island tropical bird sooty terns from Serpent Island to Ile aux Aigrettes has been completed.
- Preliminary design of a field station on Gunner's Quoin has been completed.

CHAPTER 6

WETLANDS

6.0 Introduction

The Convention on Wetlands also known as the Ramsar Convention defines wetlands as “*Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*”.

Mauritius became a party to the Ramsar Convention in the year 2001 and the National Parks and Conservation Service (NPCS) designated as the National Focal Point is mandated to ensure the conservation and wise use of wetlands resources in Mauritius.

As to date, three Ramsar Sites of International Importance have been proclaimed in Mauritius. The Rivulet Terre Rouge Estuary Bird Sanctuary (RTREBS) is the very first Ramsar Site of International Importance designated in Mauritius on the 30th of September 2001. Blue Bay Marine Park and Pointe D’Esny wetlands have been nominated as the second and third Ramsar Sites of International Importance

6.1 Rivulet Terre Rouge Estuary Bird Sanctuary

RTREBS is characterised as a natural coastal estuarine wetland and the most important sanctuary for hundreds of migratory birds which visit Mauritius during summer (October – March). RTREBS plays important ecological, socioeconomic and hydrological functions against flood control, sediment trapping and shoreline stabilization.

6.2 RTREBS as a potential ecotourism site

RTREBS is also identified as a potential ecotourism site for educational, recreational and scientific activities. The site offers a Visitors Centre Facility for display of posters on migratory birds and other relevant information boards on wetland conservation and wise use for sensitisation and public education. A bird hide was also constructed to facilitate bird watching through telescope at close proximity. An endemic garden with foot trails and the

tortoise pen for display of the giant Aldabra Tortoise is a major recreational site for visitors most particularly school children.

A Do's and don't signboard has also been placed at the Ramsar Site sensitizing visitors for wise use of the site.

A total of around **3408** people visited the Ramsar Site during year 2014. Visitors were sensitized through display of posters on migratory birds, guided tours, talks and projection of documentary films on the importance of conservation and wise use of wetlands in Mauritius.

Table 16. Number of Visitors at RTREBS during year 2014

Month	Students	Tourists	Local Resident	Total
January	9	21	153	183
February	124	11	141	276
March	44	25	48	117
April	0	23	20	43
May	712	45	383	1140
June	327	15	90	432
July	0	19	51	70
August	0	15	59	74
September	85	26	21	132
October	159	55	87	301
November	133	48	26	207
December	216	55	162	433
TOTAL	1809	358	1241	3408

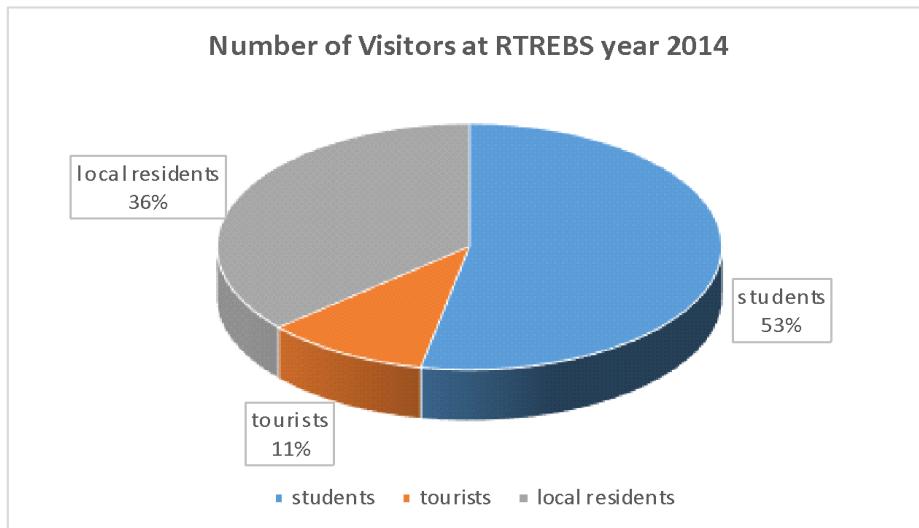


Figure 11. Percentage number of visitors at RTREBS Year 2014

Student community is the major group of visitors targetted for sensitisation campaigns since they represent the future guardian of our wetland natural resources in Mauritius.

6.3 Monitoring of Migratory Birds at RTREBS

Bird migration forms an integral part of the life cycle of migratory birds which travels thousands or even ten thousands of kilometers every year from their native breeding site to non-breeding areas. RTREBS with its large mudflat serves as an important feeding and resting ground for migratory birds visiting Mauritius during their annual migration cycles.

Methodology Used

Various waterbird populations require different monitoring schemes. As per African-Eurasian Migratory Waterbirds (AEWA) norms, point counts methods is used to record for the presence of birds at resting stage at + or- 2 hrs at low tides. Sighting and Identification of migratory birds is carried out using telescope/binoculars. Other relevant parameters such as weather conditions, disturbances etc are recorded as well. Table 17 below provides an estimate of the number of migratory birds that visited Mauritius during the year 2014.

Table 17. Bird Count at RTREBS for Year 2014

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Whimbrel	27	26	16	288	168	240	193	260	242	381	323	304
Common Tern	17	17	11	11	0	0	0	0	0	275	926	1028
Rudy Turnstone	22	22	14	126	105	115	111	117	94	210	196	156
Common Sandpiper	22	20	15	132	47	167	136	723	478	762	929	988
Sand Plover	26	24	14	149	29	54	41	50	51	186	189	115
Crab Plover	1	1	1	0	0	0	0	0	0	0	0	24
Grey Plover	15	15	8	161	17	59	35	54	38	173	173	143
Common Ring Plover	0	0	0	0	0	0	0	0	0	0	0	0
Common Greenshank	0	0	0	0	0	0	0	0	0	0	0	17
Striated Heron (Gasse)	11	10	7	0	209	135	65	44	40	57	52	36
Bartailed Godwit	0	0	0	0	0	0	0	0	0	0	0	0
Sanderling	0	0	0	154	0	0	0	0	0	0	0	0
Terek Sandpiper	0	0	0	0	0	0	0	0	0	0	0	29
TOTAL	141	135	86	1021	575	770	581	1248	943	2044	2788	2840

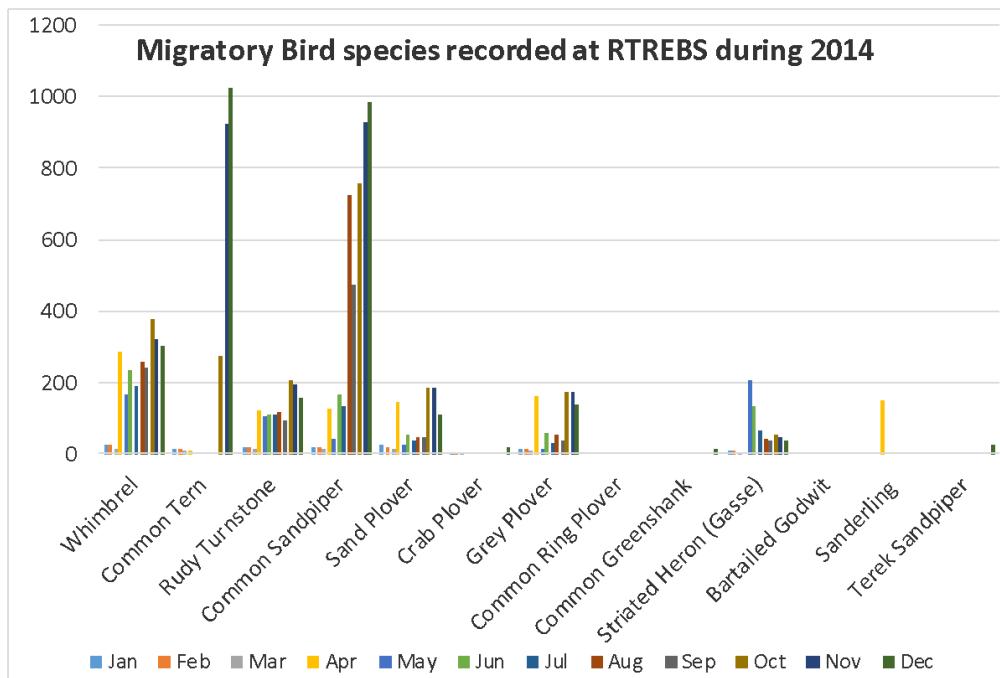
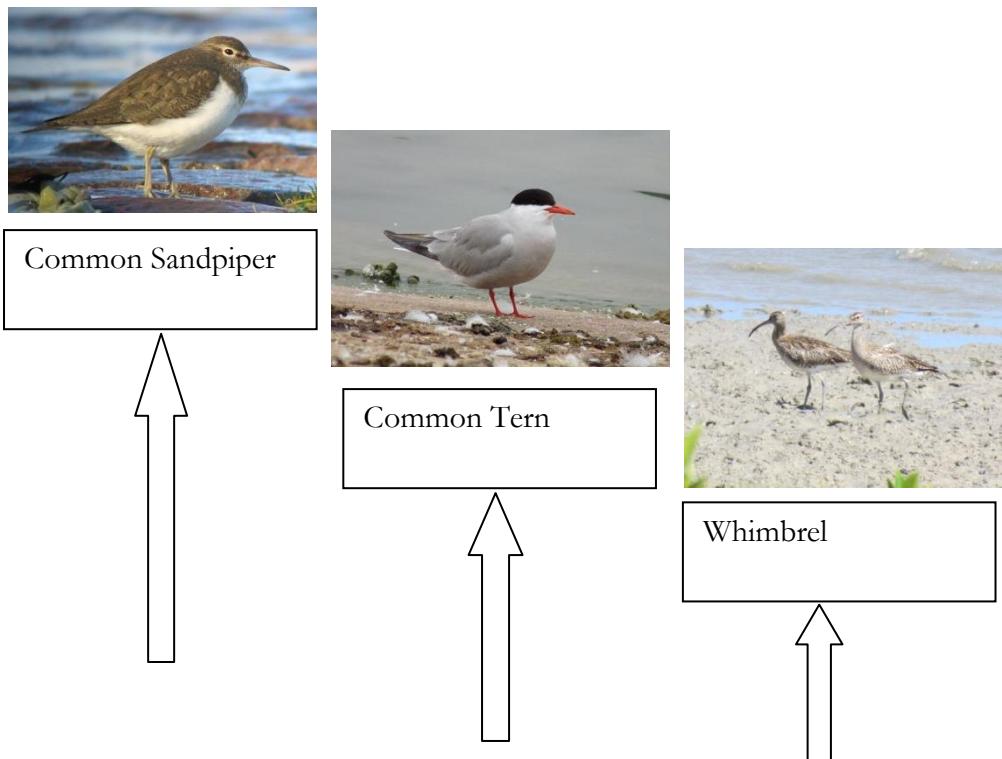


Figure 12. Migratory Bird species recorded at RTREBS



Common sandpiper followed by tern and whimbrel were the most common migratory birds observed at RTREBS.

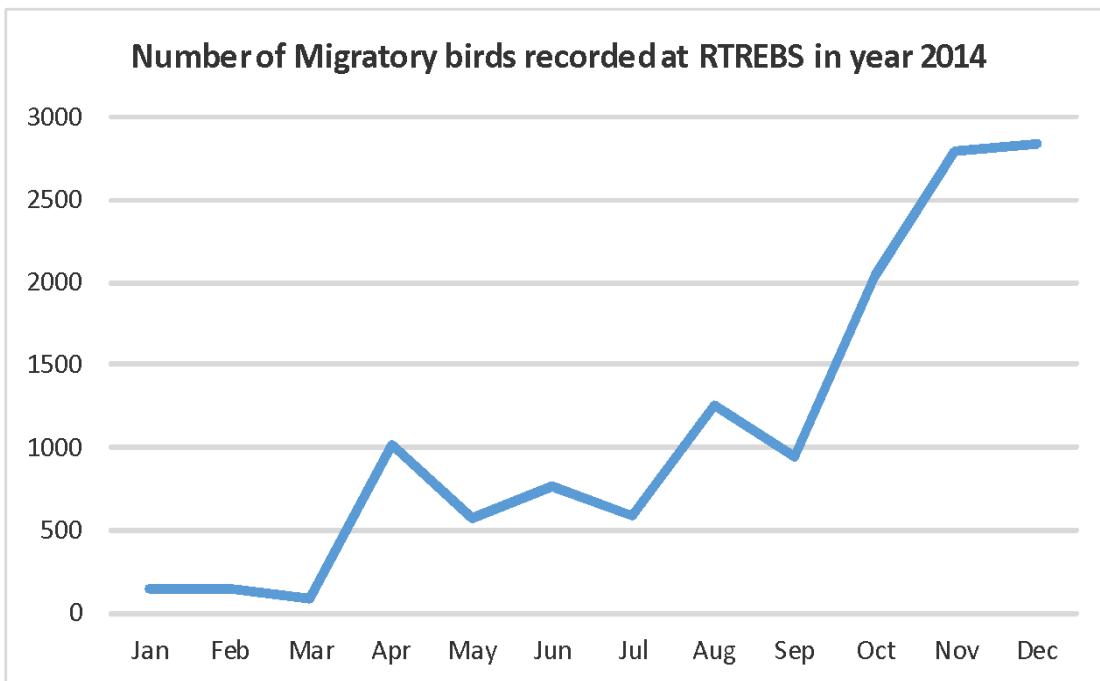


Figure 13. Number of Migratory Birds recorded during year 2014.

As expected a higher number of migratory birds was recorded in December.

In addition to the International Water bird Census that occurs around the middle weekend in January in Europe, Africa and West/Central Asia, the different species and number of migratory birds that visits RTREBS were recorded daily.

6.3.1 World Wetlands Day 2014 Celebration in Mauritius

The World Wetlands Day 2014 was celebrated with great enthusiasm and dedication on 3rd February 2014 in partnership with the farmer's community at Clemencia Village. The ceremony was dedicated to the theme of "***Wetlands and Agriculture***" under the slogan "***Partners for Growth***" to sensitize the farming community on the importance of wetlands as a crucial habitat to support agricultural crops and the imminent need to protect them for secured livelihood.

The National Parks and Conservation Service in collaboration with the Ministry of Fisheries and Agricultural Research and Extension Unit organized a series of events to celebrate World Wetlands Day 2014 theme at Clemencia village.

Events organised to mark the WWD 2014 Celebration

The WWD 2014 Celebration was graced by the Honourable Minister of the Ministry of AgroIndustry and FS; Mr Satya Veyas Faugoo in company of the Farmers Community of Clemencia Village; students from secondary schools and University of Mauritius and members of the National Ramsar Committee. During his speech, the honourable Minister stressed on the need to protect our wetland resources and urge farmers for sustainable use of watercress and other agricultural crops wetland farms for a secured livelihood of those wetland dependent traditional crops.

An exhibition corner displaying traditional wetland crops and their value added processed food products such as Taro chips was set up to create awareness on their nutritive value and economic importance of those agricultural crops that grow in wetlands.

Distribution of agricultural tools to farmers as a symbolic gift

An agricultural tool kit and suckers/plantlets of wetlands crops were distributed to farmers as a symbolic gift to promote the sustainable use of wetlands for agricultural vegetable crops.

Visit to Bassin Castel for Release of small fishes (Berri Rouge) to promote inland aquaculture

Juvenile fishes were released by the Fisheries Division in watercress cultivation ponds to support the growth of inland aquaculture in Mauritius.

Open Week at RTREBS to commemorate WWD2014 Celebration

An Open Week was organised at RTREBS to create awareness on “***Wetlands and Agriculture; Partners for Growth***” WWD 2014 Theme. The Ministry of Fisheries and the Agricultural Research and Extension unit participated in the Open Week at RTREBS. Posters on cultivation of wetland crops and aquaculture together with live specimen display of wetland crops and Berri Rouge fish aquaculture was displayed in the Visitors Centre during the open week at RTREBS.

MBC/Radio Talk

A talk on World Wetlands Day 2014 Celebration in Mauritius was also broadcasted live on Radio on 1ST February 2014 to discuss the theme “***Wetlands and Agriculture***” as “***Partners for Growth***”. The public was invited to take part in the live discussion and also to support the cause for protecting our wetlands for better food security of particularly rare traditional

wetland crops. A live programme on wetlands and agriculture was also telecasted on the national television to create awareness among the local people.

Inauguration of pamphlet on “*Wetlands and Agriculture; Partners for Growth*”

A pamphlet featuring the basic key information on wetlands and agriculture was launched on this special occasion for distribution to farmers with the relevant contact details of concerned Ministries/authorities for any advice or further information.

6.3.2 World Migratory Bird Day 2014 Celebration

World Migratory Bird Day was celebrated on **10-11 May 2014** under the theme “***Destination Flyways: Migratory Birds and Tourism***” to highlight the links between migratory bird conservation, local community development and wildlife watching tourism around the world. Every year more than one billion tourists cross international borders. Tourism developed around migratory birds contributes significantly to both environmental and socio-economic sustainability thus benefitting wildlife, local communities and tourism industry.

In this context, NPCS proposed to open the Rivulet Terre Rouge Estuary Bird Sanctuary (RTREBS); our very first Ramsar Site and most important habitat for migratory birds to the public on 10 and 11th of May 2014. A total of 400 people including 40 tourists visited the sanctuary during these two open days. The visitors enjoyed the guided tours and talks on migratory birds and their destination flyways.

6.3.3 World Migratory Bird Day 2014 Celebration at RTREBS



Plate 1: Bird Watching through Telescopes



Plate 2: Guided tours in Visitors Information Centre



Plate 3: Guided tours to bird hide



Plate 4: Distribution of Fact sheets on migratory birds

6.4 National Ramsar Committee

As a prerequisite to Ramsar Convention, a National Ramsar Committee (Since 2004) has been set to provide recommendations on proposed developments in Environmentally Sensitive Areas (WETLANDS) and to advise the parent Ministry on wetland related issues. The committee comprising members from all relevant stakeholders is given as per list below:

The NRC consists of representatives from the appropriate Ministries/Department responsible for:

- i. Agro-Industry and Food Security as Chairperson
- ii. National Parks and Conservation Service
- iii. Environment and Sustainable Development;

- iv. Fisheries;
- v. Forestry Service;
- vi. Housing and Lands;
- vii. Local Government and Outer Islands;
- viii. Public Utilities; Water Resources Unit (Inland water resources management)
- ix. Wastewater Management Authority
- x. Tourism and Leisure
- xi. Education and Human Resources

(a) One representative from the University of Mauritius

(b) Two members from two different non-governmental organizations (NGOs) involved in wetland activities who are appointed by the Minister;

6.4.1 Proposed developments on and or near wetlands

During the year 2014, the National Ramsar Committee examined twenty two applications for Ramsar Clearance and provided its recommendations for proposed developments occurring in or near Environmentally Sensitive Areas (near wetlands).

6.4.2 Designating Midlands Dam as a Ramsar Site of International Importance

NPCS has initiated the process of nominating Midlands Dam; a man-made wetland as the fourth Ramsar Site of International Importance.

Midland Dam Reservoir is classified as an artificial wetland with important ecosystem services: acts as a natural water infrastructure for rainwater harvesting and water storage for domestic water supply (both potable; irrigation and industrial purpose); plays a major role in flood control and climate regulation; suitable habitat for aquatic and/or semi aquatic plants and a potential ecotourism site for recreation and ecotourism activities.

The nomination dossier for Midlands Dam is under process for onwards submission to the Ramsar Secretariat once duly completed.

6.5 Wetland Bill

The First Draft Wetland Bill has prepared by NPCS after several consultative meetings with members of the National Ramsar Committee and duly submitted to the State Law Office for endorsement.

The Wetland Bill makes provision for an overall legal framework to ensure the protection and wise use of wetlands resources in Mauritius by regulating permitted and non permitted activities within wetlands and their buffer zones.

6.6 Monitoring of Avian Influenza (A.I) in Migratory Birds

Avian influenza (A.I) commonly known as **Bird flu** refers to "influenza caused by viruses **HPAI A (H5N1)** adapted to birds".

A National Avian Influenza Committee is chaired by the Veterinary Division of Ministry of Agro Industry and Food Security. Monthly meetings are held to address Avian Flu issues and update Contingency Plan to cater for any outbreak of A.I in Mauritius.

RTREBS is constantly monitored for any prevalence of A.I disease manifested in migratory birds through regular analysis of stool collection at veterinary laboratory. So far all tests conducted for Avian Flu disease have proved to be negative implying that migratory birds visiting Mauritius has probably not being a potential carrier of A.I virus. Nevertheless, disinfectant foot dip solution is used at RTREBS as a preventive measure.

Chapter 7

PUBLIC AWARENESS AND EDUCATION (PAE)

7.0 Introduction

Public awareness and education on the conservation of our native biodiversity together with promotion of ecotourism form an integral part of the Mission Statement of National Parks and Conservation Service. The section objective has been aligned to also meet the First Aichi Biodiversity Targets of the Convention of Biological Diversity which states that by 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use sustainably.

In 2014, many important activities were carried out for sensitization of the public on the conservation of our terrestrial native biodiversity. During the year, the two main visitors' centres in the Black River Gorges National Park at Petrin and Bras d'Eau National Park respectively were fully operational. In addition, a new information centre was also opened at BRGNP in replacement of the visitors' centre which was closed to the public for safety reason. Besides, several activities were carried out by NPCS to sensitize school community and public at large on the importance of native terrestrial biodiversity, ecosystems resources and their conservation.

The Public Awareness Section is based at the Head Office, NPCS, Reduit. Mr V. S. Gopal is the Scientific Officer (Conservation) responsible for the overall management of the section and is assisted by a TO/STO(C). However, Since 2013, Mr. M. Chooneea - Technical Officer/Senior Technical Officer (Conservation) who was attached in that section proceeded on leave without pay since January 2013 to take job at the University of Mauritius. In his absence, Mr F. Jeetun, Assistant Park Ranger was requested to assist Mr V. Gopal.

The main objectives of the section are to:

- **Communicate** the scientific and technical work of NPCS and associated organizations in a language that is accessible to many different groups which include educational institutions, media, decision and policy makers and public in general.
- Raise **Public Awareness** of the importance of biodiversity to our lives, as well as its intrinsic value through talks, guided tours, exhibitions and routine information delivery in out stations
- Develop **education** and **awareness** materials
- Promote awareness on the various conventions by mainly organizing World Day events
- Enhance public safety and national parks protection through increased public awareness. Make information on conservation more readily available by constantly improving and updating our Visitors' and Information Centres
- Bring native biodiversity more in hand to general public by creating endemic gardens in educational institutions, selling of some of native plants to public.
- Promote research by working in close collaboration with Universities both local and international.

7.1 Activities at the Black River Gorges National Park (BRGNP)

The BRGNP possess most of the native flora and fauna species of Mauritius. It is also blessed with some of the most breathtaking natural sceneries of Mauritius. Many sites are popular amongst visitors both local and tourists. The BRGNP has various facilities for public awareness and recreation. Two visitors' centres are operational at Petrin and Lower Gorges. Alexandra Falls and Gorges View Point are also well visited sites and which hold several facilities for visitors such as parking area, toilet, picnic area and sales point for handicrafts and foodstuffs. In 2014, there are several activities carried out to raise awareness on biodiversity and promote enjoyment for visitors.

7.1.1 Visitors information Centres and facilities

Petrin Visitor's Centre

Petrin is one of the most popular sites in the Black River Gorges National Park. For years, an information Centre located along the Plaine Champagne road served as interpretation centre for visitors. Presently a new modern facility has been constructed .The centre could provide only the basic needs and was devoid of awareness facilities to especially cater for groups most particularly students. The new facility possesses a 3D model of the Black River Gorges National Park, together with a large exhibition hall, audio visual display and a fully functional conference room. This centre can now accommodate some 50 visitors at a time for talks, film sessions on biodiversity in the audio visual and projection room. The centre also contains a display room, office and a field station. The Public Awareness Section prepared and displayed all the sensitization materials in the visitors centre and CMA

Opening hours: 09.00 to 17.00

Black River Information Centre

The centre is located in the Lower Gorges of the BRGNP. Previously the visitors centre was closed to the public for safety reason. However, to answer to the growing demand from visitors for information, a new information centre was constructed financed from the government budget. The centre was operational from 2013 and has the basic facilities to be able to provide relevant information on the Park.

Opening hours: 09.00 to 17.00

Alexandra Falls

Alexandra Falls has one of the most breathtaking waterfalls of the BRGNP. This attracts thousands of visitors. Several amenities exist at the site such as a well dedicated parking area, toilet facilities, well maintained foot path and a viewing tower to appreciate the waterfall. Traders of foodstuffs and craft products are also sold at the location.

Gorges Viewpoint

One of the most visited area of the NP. One can view the outstanding view of most of the relief of the Gorges coupled with several waterfalls. Due to the amount of visitors that regularly stopover the site, the current facilities is at some period of time completely saturated. However, in 2014, NPCS under the Capital Budget started works for the extension of parking facilities and a toilet block. The new facilities are expected to be operational as from beginning of 2015. Several hawkers operate at the site in cubicles dedicated for their purpose.

7.1.2 Visits, talks and guided tours

In 2014, NPCS received some 70 requests for talks and guided tours from the public and private institutions representing some 5500 visitors. However, it has to be noted that there were many groups and institutions which directly embark the visitors centre without providing a written requests. Those visits were not recorded in the centres and could result in more visits than that mentioned. Furthermore, in certain viewpoints where there are no permanent presence at the sites like Alexandra Falls and Gorges Viewpoint, many institutions and visitors attended to these sites. No records were available. As a whole the number of visitors far exceeds the number cited.

7.1.2.1 Awareness and Education programme on site

In 2014, several requests were received to carry a comprehensive half a day programme on native biodiversity conservation, its threats and challenges. Five such requests were received and were carried out at the Petrin Visitors Centre facility. The program for most of the visits was as follows:-

1. Introductory note on programme
2. Presentation of current status of biodiversity (powerpoint and information display boards)
3. Guided tour in Petrin Conservation Area
4. Guided tour in Petrin Pigeon release site
5. Question and answers

Table 18. Attendance on biodiversity awareness programme

Date	College	No. of students
03 Nov 14	Lycée Labourdonnais	48
06 Nov 14	Lycée Labourdonnais	48
10 Nov 14	Lycée Labourdonnais	48
14 Nov 14	Lycée Labourdonnais	24
26 Nov 14	Forena	30
	Total	198

7.1.3 Upgrading of signage in BRGNP

The signage at the BRGNP has long been outdated. There was an urgent need to upgrade all the signage in the Park and also to address the issue of increasing cases of loss of visitors in the NP. Although the NP has a general feel of safe for visitors, there have still been some adventurous visitors who would dare to venture outside dedicated tracks and trails despite constant advice given at the centres not to do so. In 2014, the NPCS through a Conservation Fund supported project started to embark in a complete reviewing of the signage in the NP. The process was headed by the Public Awareness Section and assisted by the Park

Management Section. The total Funds made available was to the tune of Rs 500000 for the setting of the whole signage system in the NP. Initially it was thought to contract out some of the work but after deliberations, all the works were carried out in house. This considerably saved the cost by more than 50% of the initially proposed scope of work.

The Signage was prepared as per recommendations of the USFS Action Plan on sustainable ecotourism and following some guidelines available on the web. Furthermore, the exposure of Mr V. Gopal from visits to the US Parks provided further input to the development of the signage.

The work has been completed to 60% and it is expected to be concluded in 2015. Since some fund has been saved, signage at the BDNP has also been initiated.

Table 19. Progress in the elaboration of signage

Tasks	Location	Status	Remarks
Inventory of current signage	BRGNP	90 % completed. Bel Ombre Section not yet finalised	Work carried out by the Park Ranger under guidance of PA Section.
Assessment of problems and requirements	BRGNP	90% completed. Bel Ombre Section not yet finalised	
Draft Proposal on types and model of signage	BRGNP	completed	
Drawing of draft 3D plan	BRGNP	90% completed Bel Ombre Section not completed	
Design of display milestones	BRGNP	completed	
Production of milestones	BRGNP	Design completed	Need to be finalized by Rangers
Draft design of display board	BRGNP	85% completed Bel Ombre needs to be finalised	
Submission of signboards to stores	BRGNP	Petrin Section - completed Lower Gorges Section – completed Bel Ombre Section – not yet submitted	SSO proposed to review the Bel Ombre for possible opening to visitors
Receipt of signboards	BRGNP	Petrin Section – Les Mares, BRiver Viewpoint, Alexandra Falls Viewpoint not yet received	Problems with allocation of boards to three different suppliers

		Black River Section – All boards not yet received	Problems with supplier on quality of materials.
		Bel Ombre Section – not yet submitted	
Placement of boards	BRGNP	25 % only Petrin Section started with the placement of the boards	

Important Facts

- Some 250 boards have been design and produced in 2014 by the Public Awareness Section. The design has been done in house by the Public Awareness Section and the placements of the boards have also been done in house by the Petrin Section. This has considerably reduced the total cost for the project. It is planned to further upgrade the signage in the BRGNP. Furthermore, a comprehensive project for BDNP is also in the pipeline and funds could be used from the remaining budget.
- A colour code system has been introduced in the new signage in order to provide an easier reading of these signs.
- An innovative system of displaying these signs have been put in place and no loss, vandalism and tampering on the signs have been reported.
- It is expected to complete the signage system in the NP by 2015.

7.2 Activities at the Bras d'Eau National Park (BDNP)

Bras d'Eau National Park has been proclaimed as our second mainland National Park in December 2011. It encompasses state Land Bras d'Eau, part of Pas Geometriques Bras d'Eau including Mare Sarcelle and part of reserves of Poste Lafayette Pas Geometriques. The National Park is well known site for the last remnants of coastal dwarf forests. It is also the home of the unique coq de bois and many other species of plants and animals.

Since proclaimed as a National Park, it is becoming more and more popular amongst visitors who enjoy the peaceful and appeasing nature of the unique ecosystem while appreciating the beauty of our native plants and birds.

7.2.1 Visitor Centre and facilities

Previously there was no visitors centre at Bras d'Eau and due to the growing needs from visitors, a new visitor's centre was constructed. It was inaugurated on Tuesday 1st October 2013. The Visitors Centre is equipped with an exhibition hall, conference room, a tv compartment, an office and a field research station.

Various facilities such as picnic areas and trails are accessible to make the visitors feel comfortable whilst appreciating nature. .

The Public Awareness Section carried out the complete upgrading of the awareness information displayed in the centre. The signage at Bras d'Eau was also improved.

The visitors centre is open during weekdays, weekends and public holidays and is being operated by staff of NPCS.

Opening hours: 09.00 to 16.00;

7.2.2 Visits, talks and guided tours

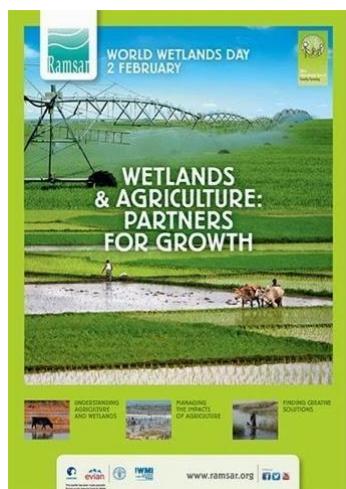
In 2014, NPCS received some 31 requests for talks and guided tours from the public and private institutions representing some 38,000 visitors. However, it has to be noted that there were many groups and institutions which directly embark the visitors centre without providing a written requests. Those visits were not recorded in the centres and could result in more visits than that mentioned. There was also one visit on Ile d'Ambre with some 70 participants.

7.3 RTREBS Visitors Centre

RTREBS has become a popular and known site for migratory bird watching amongst both locals and tourists. In 2014, all the facilities were operational and this helped for bird watchers to enjoy their site. Visitors were provided necessary guide by officers of NPCS as well as telescope for better appreciation of this unique Ramsar site of International Importance. Some 26 requests were received with some 2447 visitors recorded.

7.4 Events and International Day celebration

7.4.1 World Wetlands Day 2014



World Wetlands Day is an annual event which is celebrated worldwide by all parties to the Ramsar Convention. Mauritius being a party to the Ramsar Convention since 2001 seizes this opportunity to commemorate the event so as to sensitise the public on the importance wetlands in our daily life. In 2014, the WWD was celebrated in the village of Clementia

located in the eastern part of the country near Flacq. Most of the activities in the village are dedicated to agriculture and several small wetlands exist on which the farmer depends primarily. The village was selected as it concurred with the theme chosen by the Ramsar Convention ‘Wetlands and Agriculture: Partners for growth’. This activity helped to sensitise local farmers on the role of wetlands play in agriculture. The activities were organised by the Ministry of AgroIndustry and FS, NPCS and AREU being amongst the main institutions involved.

Various personalities attended to the meeting namely the Hon. Minister of AI&FS, Minister of Coop., Minister of Commerce, Minister of Tertiary Education. Fingerlings of ‘berri rouge’ were introduced in one of the major wetlands. Tools, equipments and planting materials were distributed to the farmers. The following awareness materials were produced and distributed: Pamphlet on importance of wetlands in agriculture, posters, stickers, leaflets as well as caps was distributed during the celebration.

Open day at RTREBS

As per usual practice, RTREBS, our first Ramsar site was opened to the public. On that occasion, officers of NPCS were the main resource persons to provide information and guide visitors on the importance of RTREBS and its biodiversity.

7.4.2 Celebration of World Biodiversity Day

The theme **Island Biodiversity** was chosen to coincide with the designation by the United Nations General Assembly of 2014 as the [International Year of Small Island Developing States.](#)



National Parks and Conservation Service (NPCS) organised a national essay competition titled

‘The protection of our biodiversity resources is one of the answers to mitigate climate change effects and to support sustainable development. Discuss’ in the context of World Biodiversity Day 2012 celebrated on 22nd May of each year. The competition was restricted to lower VI students of secondary schools in Mauritius.

Prizes were as follows:

1st Prize: Rs. 10 000 + shield

2nd Prize: Rs. 5 000

3rd Prize: Rs. 3 000

4th Prize: Rs 2 000

5th Prize: Rs 1 000

An award ceremony was organised at the Rivulet Terre Rouge Estuary Bird Sanctuary during the World Biodiversity Day 2014 on the 22nd May 2014 as requested by the Parent Ministry. Below is the list of winners:-

1st Prize	Michael Koon Sun Wong	Royal College of Port Louis
2nd Prize	Yashvir Alam	Imperial College
3rd Prize	Bhomesh Sharma Jatooa	Sir Abdool Razack Mohamed SSS
4th Prize	Dylan Batoosam	Ramsoondar Prayag SSS
5th Prize	Deepika Devi Autar	Mohun Parsad Sharma Jugdambi SSS

Sale of native plants

In order to encourage Mauritian to plant native plants at home, NPCS put into sales of these plants at a discounted rate at the Bras d'Eau VC, Petrin VC as well as NPPC.

7.5 National Science Week

The National Science week was organized by the Rajiv Gandhi Science Centre and NPCS participated in three of the events carried out in different locations viz at

- Vacoas in the Municipal complex of the Town Council of Vacoas and Phoenix from the 11 – 13 June 2014
- Lallmatie at the M. Doctor SSS from the 23rd – 25th July 2014
- Camp de Masque, Medine in the Noor E Madina Hall from the 24th – 25th September 2014

The Section carried out various sensitization activities such as display of boards and roller banners on NPCS activities, slide shows, and free distributions of Park fliers of BDNP and BRGNP posters as well as pamphlets on the World Wetlands Day 2014.

7.6 Earth Day 2014

The Earth Day was celebrated by the US Embassy for Mauritius at the Black River Gorges National Park. The Ambassador HE S. Vilarosa was present to commemorate the event. A weeding exercise was organized by the section at Plaine Raoul, Petrin followed by the planting of more than 700 native plants. Some 25 participants were present for the event.

A symbolic planting ceremony was also carried out at the Petrin VC whereby a native plant was put into earth by the Ambassador.

7.7 Setting up of Endemic Garden

The Endemic Gardens play important role in education and as a Centre of training in areas such as horticulture, gardening, landscaping, ex-situ conservation and environmental awareness.

NPCS encourages various educational institutions to set up an endemic garden in the school yard. Various support are provided to those institutions namely: Provision of native plant species free of charge, technical advice of the landscaping and planting of such species, awareness raising amongst both teachers and students, support in identification of existing species and labelling, provision of a signage to each school.

In 2014, six schools were provided with such kind support:

1. Adventist College
2. BPS College
3. St Jacques RCA, Chamarel
4. Q. Bornes SSS
5. Gandhian Basic School
6. Ebene SSS

7.7.1 Hong Kong and Shanghai Bank (HSBC)

The Public Awareness section was also involved with the CSR Project of HSBC with Forena and Mission Verte on a conservation project at Macchabee. The Section was involved in the drafting of signboards as well as setting up of a waste sorting system in the National Park.

7.8 Support to Media and participation in programmes

In 2013, NPCS has increased the use of both written and spoken media to disseminate information on conservation of native biodiversity. NPCS provided necessary information and support through active participation of its staff in various articles, programmes and documentaries both national and international. NPCS received numerous requests both for commercial and non-commercial purposes. In the case of non-commercial media programmes, Rs.10, 000 is charged and deposited in the National Park Conservation Fund.

Table 20.: List of shootings carried out in the different Parks

Sn	TITLE	TYPE OF PROGRAMME	ORGANISATION	Location
1	Shooting	Documentary	La Sentinelle	RTREBS
2	Shooting	Documentary	Min. of Envt. & SD	NPPC & Le Petrin
3	Photo Shooting	Photo Session	Identical pictures	BRGNP
4	Shooting	Reportage	MBC	Bras d'Eau National Park
5	Shooting	Feature film	BOI	Ile aux Phares
6	Shooting	Feature film	MFDC	Ile aux Phares
7	Shooting	Documentary	MBC	Bras d'Eau
8	Shooting	Documentary	MBC	Ile d'Ambre
9	Shooting	Documentary	MBC	Bras d'EAu
10	Shooting	Film	MFDC/ Pictures	Identical Ile aux Gabriel
11	Shooting	Documentary	MFDC	Ile aux Flamants
12	Shooting	Film	BOI	Flat Island

7.9 Ecotourism Activities in National Park

7.9.1 Trail, Raid and Trekking events

The demand for the competition for trekking, raid and trailing has significantly increased for the past few years. This activity has become very much popular amongst foreign and some local participants. In 2014, thirteen (13) events were carried out in National Park compared to five (5) such activities which were carried out in 2012 and 8 in 2013. Major parts of the itinerary fall within the park. The most popular tracks were: *Mare Aux Joncs Trail, Grand Bassin Trail, Macchabée Trail, Macchabée Loop Forest Trail, Mare Longue Loop, Pétrin Trail, Colophane Trail, Parakeet Trail, Bel Ombre Trail*.

Table 21. List of events carried out in the different parks

Sn	Events	Day	Date	Organisation
1	Dodo Trail	Saturday	13.07.2014	Dodo Trail
2	Rando Trail	Saturday	25.01.2014	Rando Trail & Nature
3	Rando Trail	Saturday	22.02.2014	Rando Trail & Nature
4	Rando Trail	Saturday	22.03.2014	Rando Trail & Nature
5	Rando Trail	Saturday	12.04.2014	Rando Trail & Nature
6	Rando Trail	Saturday	14.06.2014	Rando Trail & Nature
7	Rando Trail	Saturday	06.12.2014	Rando Trail & Nature
8	Rando Trail	Sunday	23.03.2014	Rando Trail & Nature
9	Royal Raid	Saturday	10.05.2014	Royal Raid
10	UTRB	Saturday	26.07.2014	UTRB
11	UTRB	Sunday	27.07.2014	UTRB
12	Synergy Sport & Wellness Institute	Saturday	29.11.2014	VTT competition
13	Synergy Sport & Wellness Institute	Thursday	27.11.2014	VTT competition

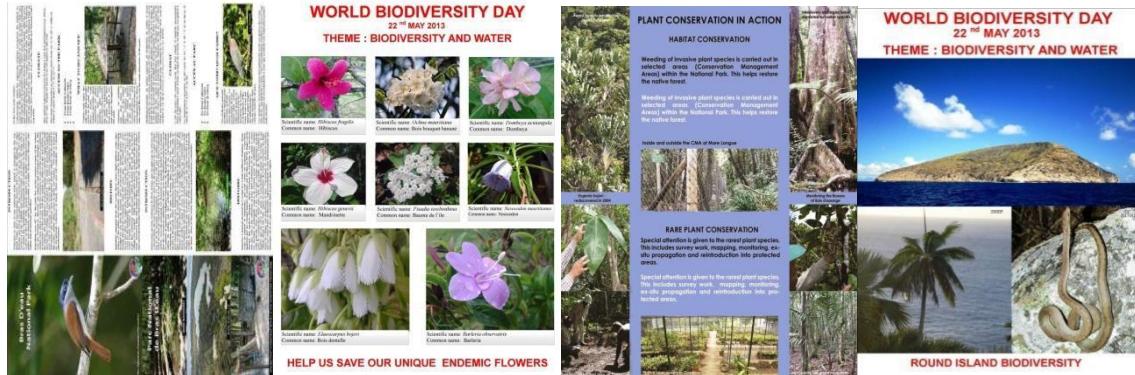
As most of the events were of commercial nature, the organisers were requested to contribute to the National Parks Conservation Fund as per amount specified by the Parent Ministry. Approval for these activities was sought from the Ministry subject to conditions.

The event was a success and it helps many foreigners to better know the different tracks, trails and spectacular views of our National Park.

7.10 Production of Public Awareness Materials

The following materials were produced in 2014

1. Poster World Biodiversity Day



2. Pamphlet Bras d'Eau National park

3. Leaflet RTREBS

4. Draft poster on birds

5. Draftb pamphlet migratory birds

6. Display board road show

7. Display board PVC

8. Display Board BDVC

9. Signboard for RTREBS

10. Display board for lower gorges

11. Signage to increase safety for visitors

12. Stickers for NPPC

13. Caps and polo shirts for officers in awareness duties

14. Slide show Bras d'Eau

15. Slide show Petrin

16. Draft poster on Endemic birds of Mauritius produced and circulated among senior officers and management for further comments

7.11 Visits, Talks and guided tours

This routine activity continued as previously carried out. Regular talks were delivered in schools, Visitors Centre, Information Centres, at the Native Plant Propagation Centre and in some cases in the fields.

Talks were given to primary schools, Secondary schools and other organizations.

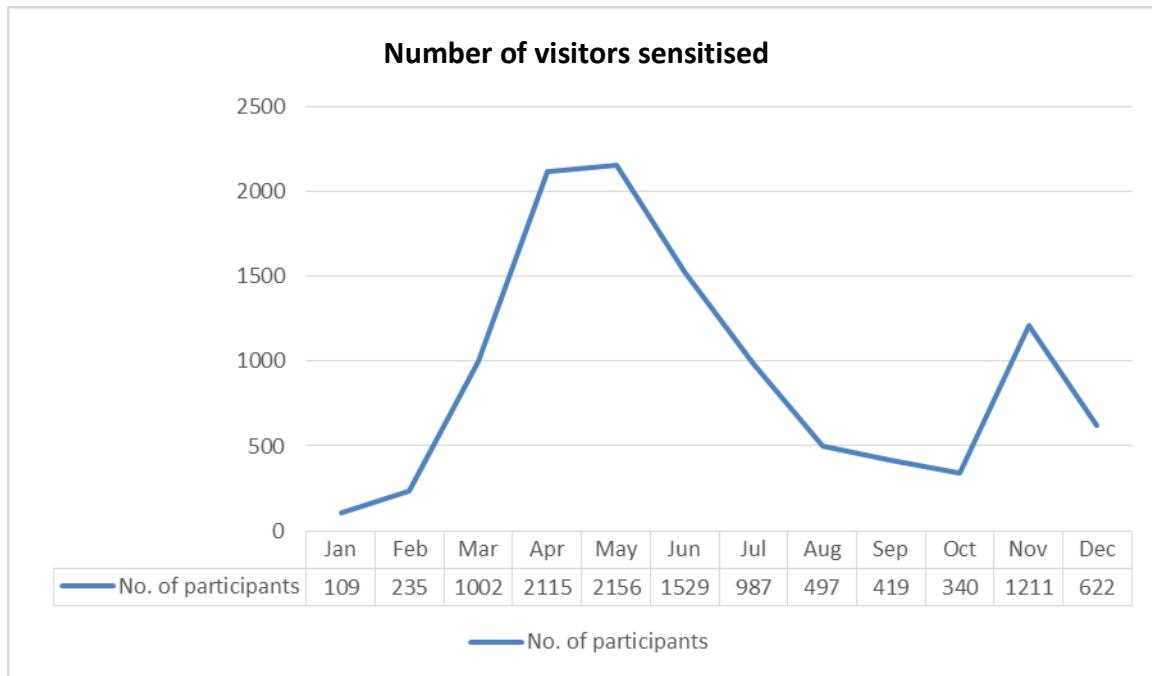


Figure 14. Number of visitors sensitised

Most activities were carried out as per request and it has been observed that the number of requests received is increasing significantly year by year. This was may be mainly due to the introduction of Activity period in school curriculum.

In 2014, some 139 talks, guided tours were carried out as per requests received and targeting some representing some 90 institutions and targeting 11222 participants compared to 11310 for 2013. However, it has to be noted that there are many groups and institutions which directly embark the visitors centre without providing a written requests.

7.12 Camping

In 2014, it has observed that many visitors to the National Parks are willing to camp and experience new sensation. The requests for these activities have shoot up considerably. However, our current facilities need to be upgraded and addressed to the growing demand for camping.

A total of 550 campers were recorded for the period 2014 in Black River Gorge National Park (BRGNP) and Bras D' Eau National Park (BDNP).

Table 22: List of campers recorded for year 2014

Date	Individuals and Organisations	National Parks
18.04.2014 - 19.04.2014 (Overnight)	Mr. Rakesh Gopee	Alexandra Falls
07.04.2014 - 08.04.2014 (Overnight)	Ministry of Youth and Sports	BDNP
26.05.2014 - 27.05.2014 (Overnight)	Mauritius College Boys	BDNP
11.06.2014 - 12.06.2014 (Overnight)	Ministry of Youth and Sports	BDVC
24.06.2014 - 25.06.2014 (Overnight)	Ministry of Youth and Sports	Alexandra Falls
16.07.2014 – 20.07.2014	Ministry of Youth and Sports	BDVC
05.08.2014 – 06.08.2014 (Overnight)	Scout St Malo	Alexandra Falls
29.08.2014 – 30.08.2014 (Overnight)	Eglise Anglicane Paroisse de St Paul	Petrin
06.09.2014 - 07.09.2014 (Overnight)	Ministry of Youth and Sports	Petrin

06.12.2014 – 09.12.2014	Ministry of Youth and Sports	BDVC
19.11.2014 - 23.11.2014	Ministry of Youth and Sports	BDVC
19.11.2014 - 20.11.2014 (Overnight)	Ministry of Youth and Sports	Alexandra Falls

7.13 ID card

To increase monitoring and control to access in the National Park, the Public Awareness Section prepared ID card for Staff of NPCS, MWF, Hawkers, students and visitors. The ID card was issued and distributed to some proponents in 2014.

CHAPTER 8

CITES and OTHER PERMITS SECTION

8.0 Introduction

The *Convention on International Trade of Endangered Species of Wild Fauna and Flora* (CITES) is an international agreement between governments. CITES is an international convention that combines wildlife and trade themes with a legally binding instrument for achieving conservation and sustainable use objectives. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. This treaty has been agreed to by 180 member states. It was negotiated and signed in 1973 and went into force in 1975. CITES unit in Mauritius is headed by Mr. K. Ruhomaun (SSO (Conservation)) until a Scientific officer is recruited and comprised of Miss. A. Goury (TO/STO (Conservation)), and Mr. D. Leonce (APR). This unit is responsible to deliver import, export and re-export permits for international trade in CITES listed species and importation of live animals other than livestock or fish.

8.1 Issue of permits in Mauritius

In 2014, a total of nine hundred and fifty two (952) CITES permits / certificates have been issued. The permits have six digit numbers with MU in front. MU stands for Mauritius while 14 represents the year 2014 and the four digits that follow represent the permit number. The following permits are issued by the unit:-

Import permits are required as per section 8 under the Wildlife Regulations 1998. These were issued namely for birds, fishes and in one case for Madagascan big-headed turtle.

Export permits are required as per section 7 under the Wildlife Regulations 1998. The island deals mainly with export of monkey, parts and derivatives of animals.

Re-export certificate is usually issued for items which are imported for Mauritius, processed and re-exported to other countries. The main items are leather (skins, watchstraps).

Through this convention, Mauritius has been able to carry out international trade of endangered species of fauna and flora as per the provisions of the Convention. This is

important to control trade internationally and to prevent animals or plant species from reaching the brink of extinction.

8.1.1 Permit to introduce live animals (ILA)

These ILA permits are permits issued to import live animals other than livestock or fish in accordance with section 23 of the wildlife and National Park Act. All wildlife who are not listed in CITES appendix I requires ILA permits. Once the new Bill is enacted by the National Assembly, then all wildlife which are listed in CITES appendix II will no longer require ILA permits. In 2014, 59 permits to introduce live animals were issued.

8.1.2 Management Authority

NPCS has been designated as the management authority for the implementation of CITES in Mauritius. A unit has been established in the NPCS to deal with all aspects of importation and exportation of endangered species (including their products) and importation of live animals other than livestock.

The management authority comprises of the Senior staff namely the Director, Deputy Director and Senior Scientific Officer. Authorised scientist also includes Dr. R. Sookhareea.

8.2 Scientific Advisory Committee.

The objective of this committee which was set up in 1992 is to advise the Ministry on requests received from Scientists and International Organization for the importation and exportation of flora and fauna. Three Scientific Advisory Committees were held in 2014. On 30th July 2014, importation of rhinoceros (*Ceratotherium simum*) was on the agenda. On 27th November and 8th December, meetings were held to look at the importation of *Astrochelys yniphora* (ploughshare tortoise) to Mauritius.

8.3 Monitoring of bird.

Around 150 site visits were effected last year. The site visit is performed to verify that the birds are maintained in good condition. Presently we have eight registered breeders which are:

1. Platinum Exotics Birds Limited
2. Just Birds Co Limited

3. Domaine du Corps de Garde
4. Casela Nature and Leisure Park
5. Goodlands Spare Parts Limited
6. AF Exotic Birds Limited
7. Leena Seeloll
8. La Vanille Crocodile Park Limited

At least twice a month, a site visit is effected at their place. Furthermore, for any request for importation of more than one bird or wildlife, a site visit is effected to ensure that all conditions are met.

8.4 Check at airports

Each time a bird consignment arrives in Mauritius, NPCS CITES officers are at the port of entry to verify the latter. At the port of entry, the following is verified:

- name of consignee,
- wildlife imported is the species mentioned in ILA or CITES permits
- quantity of species imported tally with quantity mentioned in permits.
- CITES permits accompanying the wildlife
- Sex of birds for individuals and petshop importing birds via laparoscopy reports of birds.

For 2014, 10 airport checks were effected by authorized officers of National Parks and Conservation Service. All the checks met our requirements.

8.5 Training to Mauritius Revenue Authority Officers

A Training session was organized on “Introduction to CITES” in August for Mauritius Revenue Authority Officers in relation to their training on enforcement issues, at the Custom House Mer Rouge. The main objective of the training was to apprise the officers on the CITES process and on the enforcement issues. Mr. K. Ruhomaun made a presentation on the subject matter.

8.6 Database.

The computer holding the CITES database had crashed in 2014. Action is being initiated for a new database to be created.

8.7 Application to register with CITES Secretariat for the breeding of Appendix I species.

Application for Breeding of Radiata tortoise

Mr. Gilbert Forget, a breeder, applied for registration as a breeder of radiata tortoise (*Atroschelys radiata*). The application after having been recommended by the management authority of Mauritius has been sent to the CITES secretariat for further consideration and approval.

Chapter 9

HUMAN RESOURCE DEVELOPMENT and ATTENDANCE TO INTERNATIONAL MEETINGS AND CONVENTIONS

9.0 HUMAN RESOURCE DEVELOPMENT and ATTENDANCE TO INTERNATIONAL MEETINGS AND CONVENTIONS

Human resource development is an ongoing process and is crucial in the field of biodiversity conservation and management. NPCS provides all facilities to its staff whenever opportunity arises. For the current year there was focus on capacity building for both the scientific and the field staff both at local and international level. The following training programmes, workshops and international convention meetings were held during year 2014.

9.1 Overseas missions/ training courses attended by officers During Year 2014

For 2014, **fifteen** overseas missions were attended by the NPCS together with **eighteen** local training programmes.

JANUARY

Title of training/workshop: Consultative workshop for the Amendment of the National Heritage Fund Act

Date: 22nd

Name of Officer: Mr. M. Puttoo

Main objectives of training/workshop:

- To ensure that all stakeholders' inputs form part of this upgraded Act. The contribution of National Parks and Conservation Service to the Act was considered.

FEBRUARY

1. **Title of training/workshop:** Training Programme on Ergonomics and safe use of computers

Date: 7th

Venue: Ministry of Civil Service and Administrative Reforms

Name of Officer: Mrs. L. Hari Ram

Main objectives of training/workshop:

- To describe the concept and purpose of ergonomics
- To recognise the benefits of ergonomics
- To understand the impacts of ignoring ergonomics practices
- To identify ergonomics risk factors
- To understand the different types of musculoskeletal disorders
- To identify problems associated with the use of computers
- To identify preventive strategies
- To know the safe use of computers

2. **Title of mission:** Regional workshop on Resource Mobilization for Africa

Date: 11th - 13th

Country: Entebbe, UGANDA

Name of Officer: Mr. P. Ragen

Main objectives of mission:

- Enhanced capacity of participants to apply pertinent methodologies, frameworks and tools for identifying, assessing, and reporting existing biodiversity finance, in order to develop robust financial baselines and for developing national finance plans, including financial targets, for effective implementation of revised National Biodiversity Strategies and Action Plans (NBSAPs).
- Enhanced understanding of participants of the importance, for effective mobilization of financial resources, of identifying relevant biodiversity values and incorporating these values in policy planning, including in revised National Biodiversity Strategy and Action Plans; and of existing case studies and good practices on pertinent approaches and measures for such identification and incorporation.

MARCH

1. **Title of training/workshop:** Workshop for networking on Islands and Invasive species

Date: 24th, 25th, 26th

Name of Officer: Mr. V. Bachraz

Main objectives of training/workshop:

- Define a network at the regional level that will protect and restore the biodiversity of the Western Indian Ocean island states
- Identifies priority activities through a roadmap and develop a communication strategy to meet the selection criteria of the primary target, key messages and communication plan.

2. Title of training/workshop: Induction course for Office Care Attendant

Date: 27th – 28th

Venue: Fook House, Ministry of Civil Service and Administrative Reforms, Port-Louis

Name of Officer: Mr. A. Bocus

Main objectives of training/workshop:

- To sensitise the newly recruited OCAs on their roles, functions and responsibilities
- To equip them with effective communication skills and team building techniques
- To help them develop the right mindset and ethical behavior in order to perform their job with a customer and performance oriented approach

3. Title of training/workshop: Improvement of Service Delivery

Date: 17th – 20th and 24th – 27th

Venue: Mauritius Standard Bureau

Name of Officer: Mr. P. Moolee, Mrs. S. Sauba, Mr. R. Jumoorty

Main objectives of training/workshop:

- To empower officers to devise, implement and maintain the MS ISO 9001:2008 standard at their respective organization
- To enable trainees to draft/ update the ‘Quality Manual’ for their organization and carry out internal audits, which are pre-requisites for ISO certification

APRIL

1. Title of mission: CMS Notification 2014/004: Call for nomination for the CMS Workshop on Climate Change

Date: 9th - 11th

Country: Limon, COSTA RICA

Name of Officer: Ms. H.B. Naujeer

Main objectives of mission:

- To prepare a CMS Programme of work on climate change and migratory species pursuant to Resolution 10.19 of the CMS Convention proposed for adoption by parties at the 11th meeting of the COP (COP 11).
- To discuss views and share experiences and best practices with regards to the impact of climate change on migratory species.

2. Title of mission: Invitation to SADC TFCA BEST Practice Guideline Launch Workshop

Date: 24th - 25th

Country: Luanda, ANGOLA

Name of Officer: Mr. D. Ramjeeawon

Main objectives of mission:

- Develop regional guidelines for the Establishment and Development of TFCA's responding to the Ministers of Environment Decision number 2.6.6 of October 2013 that urged Member States to continue implementing Protocols on Forestry, Fisheries and Wildlife in order to ensure sustainable management of the region's natural resources and the work plan of the TFCA Network of SADC.

3. Title of training/workshop: Presentation by Dr. Greenwood from International Zoo Veterinary Group

Date: 28th

Venue: Mauritian Wildlife Foundation

Name of Officer: Mr. K. Ruhomaun, Dr. R. Sookhareea

Main objectives of training/workshop:

Speech by

- Mr. Dan-Lay and Dr. Andrew Greenwood to progress on veterinary issues arising in Mauritius

4. Title of training/workshop: Earth Day 2014: Training of Trainers Programme

Date: 29th

Venue: Ilot Community Centre

Name of Officer: Mr. Ramjeeawon

Main objectives of training/workshop:

- To aspire awareness of and appreciation of the Earth's natural environment

MAY

1. Title of training/workshop: Workshop on VRP

Date: 14th

Venue: Clos St-Louis, Domaine Les Pailles

Name of Officer: Mr. V. Bachraz

Main objectives of training/workshop:

- To identify 3 major issues for each Mauritius Strategy for Implementation (MSI) priority area and the economic, social and environmental dimensions for each issue.
- To help Small Island Developing States (SIDS) monitor and evaluate their progress towards building resilience in the context of the Barbados Programme of Action (BPOA) and its implementation through the Mauritius Strategy for Implementation (MSI).

2. Title of mission: Capacity-building workshop for Southern and Eastern Africa on Ecosystem Conservation and Restoration to support achievement of Aichi Biodiversity Targets

Date: 12th - 16th

Country: Livingstone, ZAMBIA

Name of Officer: Mr. V. Nundlau and Mr. N. Jurawon

Main objectives of mission:

Support Parties in:

- The development of national target and plans for ecosystem conservation and restoration within the framework of Aichi Biodiversity Targets 5, 11 and 15.

- The integration of these targets and plans into updated National Biodiversity Strategies and Action Plans (NBSAPs) and mainstreaming into broader national policies, plans and programmes
- The use of appropriate assessment, policy and planning tools to promote ecosystem conservation and restoration at appropriate levels.

3. Title of mission: “Managers Workshop” in the preparation of the Management Manual for Biosphere reserves in Africa

Date: 12th - 17th

Country: Accra, GHANA

Name of Officer: Ms. A. Goury

Main objectives of mission:

- To elaborate on a management manual for UNESCO biosphere reserve in Africa
- Discussion of management strategies of biosphere reserve

4. Title of training/workshop: Implementation of National Spatial Data Infrastructure (NSDI) in Mauritius

Date: 27th – 30th

Venue: Gold Crest Hotel, Quatre-Bornes

Name of Officer: Ms. H. B. Naujeer

Main objectives of training/workshop:

- To facilitate access to information free of charge and the decision-making process.
- To initiate the implementation of NSDI and build technical capacity required to establish NSDI in Mauritius.

JUNE

1. Title of mission: Regional capacity-building workshop on the Nagoya Protocol on Access and Benefit Sharing for Sub-Saharan Africa

Date: 9th - 13th

Country: Kampala, UGANDA

Name of Officer: Mr. K. Ruhomaun

Main objectives of mission:

- To look at the implementation of Access and Benefit Sharing protocol in Africa

2. Title of mission: Ecole Thématique Invasion Biologique

Date: 10th – 13th

Country: St-Denis, REUNION

Name of Officer: Mr. P. Ragen

Main objectives of mission:

- To be aware about issues dealing with the biological control of invasive alien species in their natural environment, the agricultural environment and management practices.

3. Title of training/workshop: Presentation workshop on the Inventory of the Blue Bay Marine Park

Date: 17th

Venue: Fisheries Distribution Centre

Name of Officer: Mr. M. Puttoo, Ms. H. B. Naujeer

Main objectives of training/workshop:

- To know more about the updated inventory of Mauritius and Rodrigues in line with the RAMSAR site

4. Title of training/workshop: Workshop on HIV & AIDS / for public officers

Date: 19th

Venue: Gold Crest Hotel, Quatre-Bornes

Name of Officer: Mrs. D. Ramjanally, Mrs. A. Abdoolah, Mrs. Y. Gunesh, Mrs. S. Ramdoyal,

Mrs. N. Bhujoo

Main objectives of training/workshop:

- To build capacity of Public Officers on HIV & AIDS and related issues

5. Title of mission: 5th Meeting of the Adhoc – Open ended working group on Review of Implementation of the Convention (WGR 15) 16 – 20 June 2014 and SBSTTA 18, 23 – 28 June 2014

Date: 16th to 20th, 23rd to 28th

Country: Montréal, CANADA

Name of Officer: Mr. M. Puttoo

Remarks: Did not attend. Approval not obtained

AUGUST

1. Title of mission: Workshop on Financing for Biodiversity

Date: 18th - 19th

Country: Kartause ittingen, SWITZERLAND

Name of Officer: Mr. M. Puttoo

Main objectives of mission:

- To provide technical follow up to the elements on the recommendation on resource mobilization to be adopted by the fifth meeting of the Ad Hoc Open-ended Working Group on Review of Implementation (WGRI 5) for consideration by the twelfth meeting of the Conference of Parties to the Convention (COP 12).

2. Title of training/workshop: Rajiv Gandhi Memorial Lecture: “A World of Science Centres”

Date: 21st

Venue: Rajiv Gandhi Science Centre

Name of Officer: Ms. A. Goury, Mrs. S. Sauba

Main objectives of training/workshop:

- To bridge the gap between eminent scientists and the public and education community by providing a platform for interaction between these communities.

3. Title of training/workshop: Opening Ceremony of the National Directors' Regional Conference

Date: 27th

Venue: Ministry of Youth and Sports

Name of Officer: Mr. M. Puttoo

Main objectives of training/workshop:

- To know more about the role of Director of different Gold Award activities

SEPTEMBER

1. **Title of mission:** Training course on Sino-Africa CITES (Implementation and Wildlife Conservation)

Date: 22nd September – 12th October

Country: Zhejiang, CHINA

Name of Officer: Mr. K. Ruhomaun, Ms. Goury

Main objectives of mission:

- To train officer in CITES operations
- To demonstrate the way CITES projects are performed in China

2. **Title of mission:** Joint NAM S & T Centre ZMS fellowship in Tropical Coastal Marine Ecology and biogeochemistry call for 2014

Date: 24th September - 22nd December

Country: Bremen, GERMANY

Name of Officer: Ms. H. B. Naujeer

Main objectives of mission:

- To provide opportunities to the scientists and researchers from the developing countries to work with senior researchers and faculty members in ZMT Bremen for upgrading their research skills in the fields related to Ecology and Biogeochemistry of Tropical Coastal Marine Systems.
- To facilitate the scientists and researchers from the developing countries to undertake short-term joint research projects at ZMT Bremen.
- To provide a mechanism to the scientists and researchers from the developing countries to use the equipment and facility of ZMT Bremen for their own research activities on mutually agreed terms and conditions.

- To facilitate exchange of information and contacts and create a network between the scientists and researchers from Germany and other developing countries.
- Depending on the topic of their research, the Fellows can also benefit from the ZMT's association with the MARIUM Research Centre in Bremen, which brings together the other Marine Science Institutions in the University of Bremen and the Max Plank Institute for Marine Microbiology.

OCTOBER

1. Title of mission: 12th Meeting Conference of Parties to the Convention Of Biological Diversity

Date: 06th - 17th

Country: Pyeongchang, Republic of Korea

Name of Officer: Mr. M. Puttoo

Main objectives of mission:

- To review the status of the Convention of Biological Diversity and its sustainable use globally
- To review the various reports and action plan (Executive Secretary, Credentials Budget, 4 global biodiversity outlook and Aichi targets and strategic plan for biodiversity)
- Participation to the High Level Segment meeting
- To review the 35 decisions adopted at the Conference of Parties meeting

2. Title of training/workshop: IUCN Red List Assessment Workshop

Date: 16th, 17th, 20th-22nd & 24th

Venue: Mauritian Wildlife Foundation

Name of Officer: Mr. M. Allet, Mr. D. Ramjeeawon

Main objectives of training/workshop:

- The red-list assessment of Mauritian plants has been recognized as a priority
- Plant red-listing allows assessments of rarity and threats to species, and thus, the urgency and scope of conservation interventions.

3. Title of training/workshop: Indian Ocean Commission – Global, Marine and Islands specific biodiversity management in East African and Indian Ocean State

Date: 29th - 30th

Venue: Indian Ocean Commission, 4th Floor, Meeting Room

Name of Officer: Mr. M. Puttoo

Main objectives of training/workshop:

- To support financially and technically initiatives and projects designed and implemented by non State Action that promote sustainable management of biodiversity.
- To strengthen the capacity of Non-State Action including local communities in designing, implementing and managing projects co-funded by external donor.

NOVEMBER

1. Title of training/workshop: 11th Conference of Parties (COP 11) to the Convention on the Conservation of Migratory Species of Wild Animals (CMS)

Date: 4th - 9th

Country: Quito, ECUADOR

Name of Officer: Mr. P. Ragen

Main objectives of training/workshop:

- To adopt decisions , give updates of CMS in different countries and list new species in appendixes

2. Title of mission: IUCN 6th World Park Congress

Date: 12th - 19th

Country: Sydney, AUSTRALIA

Name of Officer: Mr. M. Puttoo and Mrs. C. Jhowry

Main objectives of mission:

- To review the actions achieved in protected areas globally
- Sharing of expertise and information with the various experts
- To present progress achieved by Mauritius in the field of protected area and biodiversity
- To strengthen regional and international collaboration in the area of biodiversity

3. Title of mission: African Preparatory meeting for the 12th Conference of Parties to the Convention on Wetlands

Date: 17th – 21st

Country: Hammamet, TUNISIA

Name of Officer: Mrs. S. Sauba

Main objectives of mission:

- To finalise draft of documents for African for the the 12th Conference of Parties to the Convention on Wetlands

4. Title of training/workshop: Inception workshop on Third National Communication

Date: 19th

Venue: Intercontinental Resort, Balaclava

Name of Officer: Dr. R. Sookhareea

Main objectives of training/workshop:

To agree on:

- Institutional Arrangements
- the composition of the six Technical Working Groups (TWGs);
- a set of activities in the immediate and short terms and a work plan for the implementation of the TNC.

5. Title of mission: Regional preparatory and negotiation workshop for Africa

Date: 20th - 25th

Country: Harare, ZIMBABWE

Name of Officer: Mr. S. Pandoo

Main objectives of mission:

- To gather and prepare data for the next Conference of Parties
- To prepare strategic management plan for the upcoming years

6. Title of training/workshop: Conducting the visitor/ tourist profiling in BRGNP Questionnaire

Date: 26th

Venue: Le Pétrin Office

Name of Officer: Senior Park Ranger, Park Rangers and Assistant Park Ranger

Main objectives of training/workshop:

- To know the number of visitors and from where they come from
- To know the expectations of visitors in the park

DECEMBER

Title of training/workshop: Training programme on the use of GPS

Date: 19th

Venue: Training at Pétrin Visitors Centre

Name of Officer: Ms. A. Goury, Mr. D. Léonce, Mr. A. Toocaram

Main objectives of training/workshop:

- To know the methods of how to use GPS

9.2 Student placement

9.2.1 Work Based Learning Programme

Six students from the University of Mauritius joined NPCS for their placement under WBL.

Three students were under WBL level One and the other two were WBL level three.

It is worth noting that the WBL is a work based programme run by the UoM under the guidance of the University of Bradford, UK. Mr V. Gopal was selected as mentor by the NPCS and UoM as Mentor. He was also trained as mentor from the Bradford University and UOM. Each student should be assessed very meticulously on his performance by the mentor and marks are allocated which are accounted to their CPA. All marks are given as a module and credit awarded.

1. Noor Oommer Niressah Alibokus	BSC (Hons) Computer Application - posted at Public Awareness Section
2. Deersyne Mootaloo	BSc (Hons) Management Public Awareness Section
3. Niscitah Luttoo	BSc (Hons) Biology - posted at Bras D'Eau NP
4. Hema Devi Saleegram	BSc (Hons) Management - posted at NPPC
5. Tooshila Devi Babooram	BSc Biology - posted at NPPC
6. Parmeswaree Raudhay	BSc Biology – posted at NPPC

9.2.2 Staff transfer

In order to allow staff to gain knowledge and expertise in all activities carried out by our Service a rotation of officers is usually carried out at the beginning of the year.

The following new postings were carried out with effect as from 10 January 2014

- Mr I. Tiouny was posted at Bras D'eau section
- Mr J. Ramen(TO/STO) to Islets section (Reduit)
- Mr D. Ramjeewon(TO/STO) to NPPC
- Mrs S. Sauba(TO/STO) to Bras D'eau section
- Mr P. Roopa(APR) to Petrin section
- Mr A. Toocaram (APR) to Lower gorges , Black River
- Mr N. Hemrage(APR) to Bel ombre section
- Mr D. Budree(APR) to RTREBS
- Mr R. Beetun (APR) to Bel Ombre section
- Mr S. Matadeen (APR) to Petrin
- Mr M. Gobin(PR) to Lower Gorges
- Mr R. Jumoorty (PR) to Petrin section
- Mr D. Leonce(APR) to CITES Unit, Reduit

9.2.3 Other staff matters

- Mrs S. Ramdoyal(agricultural clerk) assume duty at NPCS on 9 January 2014
- Three operative warehouse employees were posted at RTREBS
- Mr A. M Auhamad (Office care attendant) has transferred to the Finance division of our Ministry as from 5 february 2014
- Mrs N. Bhujoo(WPO) was posted at NPCS as from 28 april 2004
- Mrs S. Sauba(TO/STO0 was posted at wetlands section(reduit) as from 14 May 2014
- Mr J. Ramen (TO/STO) was posted to Bras D'eau as from 14 May 2014
- 6 General workers assumed duty on a contract basis on 1 July 2014
- Mr N. Panchoo (insecticide sprayer operator) assume duty as driver on 1 August 2014
- Mr P.Rgen(SO) was seconded for duty at Vallee d'Osterlog Endemic Garden foundation for a period of six months with effect as from 18 August 2014
- Four casual General workers assumed duty on 10 October 2014 and were posted in four substations under our Service.

APPENDIX I

List of all stakeholders who participated in the updating process of the Fifth National Report:

#	Name of Stakeholder
1.	Commission on Maurice Ile Durable
2.	Ministry of Environment, Sustainable Development, Disaster and Beach Management
3.	Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Island
4.	Ministry of Agro-Industry and Food Security
5.	Ministry of Gender Equality, Child Development and Family Welfare
6.	Ministry of Housing and Lands
7.	Ministry of Tourism and External Communications
8.	Rodrigues Regional Assembly
9.	Rodrigues Commission for Environment
10.	Prime Minister's Office
11.	Mauritius Oceanography Institution
12.	Mauritius Meteorological Services
13.	Central Water Authority
14.	Food and Agricultural Research and Extension Institute
15.	Mauritius Cane Industry Authority
16.	Mauritius Sugarcane Industry Research Institute
17.	University of Mauritius
18.	Outer Islands Development Corporation
19.	Vallée de Ferney
20.	Vallée d'Osterlog
21.	Mauritian Wildlife Foundation
22.	Mauritius Marine Conservation Society
23.	Shoals Rodrigues
24.	Reef Conservation Mauritius
25.	Le Vélo Vert
26.	Eco-Sud
27.	Association des Pecheurs de L'Ile Rodrigues
28.	United Nation Development Programme
29.	Protected Areas Network project UNDP/GEF
30.	Mainstreaming biodiversity into the management of the coastal zone in the Republic of Mauritius UNDP/GEF
31.	Delegation of the European Union to the Republic of Mauritius
32.	Indian Ocean Commission

APPENDIX II

LIST OF STAFF AT NATIONAL PARKS AND CONSERVATION SERVICE

FOR YEAR 2014

HEAD OFFICE

Sno.	Name	Status	QUALIFICATIONS
1	PUTTOO Manikchand	Director	<ul style="list-style-type: none"> • MSc (Hons) Public Sector Management (University of Technology-Mauritius) • MSc (Hons) Applied Research (University of Queensland – Australia) • BSc (Hons) Agriculture (University of Mauritius) • Diploma in Agriculture and Sugar Technology (University of Mauritius)
2	BACHRAZ Vishnuduth	Deputy Director	<ul style="list-style-type: none"> • MSc (Hons) Project Management (University of Mauritius) • BSc (Hons) Agriculture (University of Mauritius)
3	RUHOMAUN Kevin	Senior Scientific Officer (Conservation)	<ul style="list-style-type: none"> • BSc (Hons) Agriculture (University of Mauritius)
4	GOPAL Vinehswar Sharma	Scientific Officer (Conservation)	<ul style="list-style-type: none"> • MSc (Hons) Molecular and Cellular Biology (University of Mauritius) • BSc (Hons) Agriculture (University of Mauritius) • Diploma in Agricultural Science and Technology (University of Mauritius)
5	NUNDLAUL Vimul	Scientific Officer (Conservation)	<ul style="list-style-type: none"> • Msc (Hons) Sustainable Environment Management (University of Mauritius)

			<ul style="list-style-type: none"> • BSc (Hons) Agriculture (University of Mauritius) • Diploma in Agricultural Services and Technology (University of Mauritius)
6	SOOKHAREEA Rajendraprasad (Dr.)	Scientific Officer (Conservation)	<ul style="list-style-type: none"> • Phd Animal Studies (Meat quality and deer nutrition) University of Queensland - Australia • MSc (Hons) in Animal Husbandry – (United States of America) • BSc (Hons) Agriculture (University of Mauritius)
7	RAGEN Parmananda	Scientific Officer (Conservation) (Secondment at Vallée D'Osterlog for a period of 6 months as from 18 August 2014)	<ul style="list-style-type: none"> • Master (Hons) Management and Biological Diversity (Uppsala / Swedish University of Agricultural Sciences – Sweden) • BSc (Hons) Agriculture with Food Security (University of Mauritius) • Diploma in Agriculture and Sugar Technology (University of Mauritius)
8	NAUJEER Houshna Banu (Miss)	Scientific Officer (Conservation)	<ul style="list-style-type: none"> • MSc (Hons) Management of Biological Diversity (Uppsala / Swedish University of Agricultural Sciences – Sweden) • BSc (Hons) Horticulture (University of Mauritius)

9	CHOONEEA Mahindra	Technical Officer/Senior Technical Officer (Conservation) (On leave without pay for a period of 1 year as from 14 January 2014)	
10	RAMEN Jagadisen	Technical Officer/Senior Technical Officer (Conservation) (Posted to Bras D'Eau Section as from 14.05.14 vice Mrs. S. Sauba)	<ul style="list-style-type: none"> • BSc (Hons) Horticulture (University of Mauritius)
11	GOURY Aradhna (Miss)	Technical Officer/Senior Technical Officer (Conservation) (Posted to NPCS as from 10.06.14 vice Mr Ramjeeawon who was on injury leave)	<ul style="list-style-type: none"> • MSc (Hons) Information Systems (University of Technology Mauritius) • BSc (Hons) Agriculture with specialization in Agricultural Extension (University of Mauritius)
12	DENIS Leonce	Assistant Park Ranger	
13	JEETUN Feroze	Assistant Park Ranger	<ul style="list-style-type: none"> • Diploma in Technical Engineering (Lycée polytechnique) • Certificates in forestry (University of Mauritius)
14	SHEIK ABDOULLA Aneza (Mrs)	Agricultural Confidential Secretary	
15	RAMJANALLY Dilchad	Office Management Assistant	
16	GUNNESH Yoshnadevi (Mrs)	Management Support Officer	
17	HARI RAM Lalita (Mrs)	Management Support Officer	
18	BEELATOOR Nilabai (Mrs)	Agricultural Clerk	
19	RAMDOYAL Shanti	Agricultural Clerk (Assumed duty at NPCS on 09.01.14)	
20	BHUJOO Neela	Word Processing Operator (Assumed duty at NPCS on 28.04.14)	

21	LALA Dhananjay	Sales Officer (Acting Clerical Officer/Higher Clerical Officer	
22	GOKOOLOOPADHYA Rajendranath	Agricultural Development Assistant	
23	AUHAMMAD A. Moostapha	Office Care Attendant (Transferred to Finance Section as from 05.02.14)	
24	BOCUS Avitish	Office Care Attendant (Assumed duty at NPCS as from 05.02.14 vice Mr M. Auhammad)	
25	KUREEMUN Diana (Mrs)	Office Care Attendant	
26	CHUTTOO Gaitree (Mrs)	General Worker	
27	DOORGA Vidya (Mrs)	General Worker	
28	COOMHAR Sawan Kumar	Driver	
29	PANCHOO Neerunjun	Driver (Assumed duty at NPCS on 01.08.14)	
30	GUNGARAM Salini (Miss)	Intern under STM Programme (Transferred to Ministry of Agro Industry and Food Security (Administration Division) as from 25.7.14)	
31	SAEED Sohail	Intern under STM Programme (Transferred to AMB as from 25.7.14)	
32	TOTA RAM Manousha	Intern under Service to Mauritius Programme	<ul style="list-style-type: none"> • BA (Hons) English (University of Pune – India)
33	RAMEN Weena	Intern under Service to Mauritius Programme (Assumed duty at NPCS on 25.07.14)	<ul style="list-style-type: none"> • BSc (Hons) Agriculture with specialization in Agricultural Extension (University of Mauritius)
34	BEEHARRY PANRAY Daksh	Project Manager, UNDP	

GERALD DURRELL ENDEMIC WILDLIFE BIRD SANCTUARY,

AVIARY, BLACK RIVER

Sno.	Name	Status	QUALIFICATIONS
1	PANDOO Seewajee	Technical Officer/Senior Technical Officer (Conservation)	<ul style="list-style-type: none"> • MSc (Hons) molecular and cellular biology (University of Mauritius)
2	BEEGUN Ajay	General Worker	
3	SURROOP Parmeswhar	General Worker	

BLACK RIVER GORGES VISITORS CENTRE, BLACK RIVER

Sno.	Name	Status	QUALIFICATIONS
1	GOBIN Mahendra	Park Ranger	<ul style="list-style-type: none"> • Certificate in Forestry (University of Mauritius) • Telecommunication Tech T1 & T2
2	TOOCARAM Atmeh	Assistant Park Ranger	
3	BOHEERA Rajcoomar	Assistant Park Ranger	
4	BOUDOU Deoduth	General Worker	
5	DHACOJEE Dyanan	General Worker	
6	GOBINSING Premnath	General Worker	

NATIVE PLANT PROPAGATION CENTRE - ROBINSON

Sno.	Name	Status	QUALIFICATIONS
1	RAMJEEAWON Deepak	Technical Officer/Senior Technical Officer (Conservation)	<ul style="list-style-type: none"> • MSc (Hons) Food Biotechnology (University of Mauritius) • BSc (Hons) in Agriculture (University of Mauritius)

2	GUNGADURDOSS Arvind	Assistant Park Ranger	
3	ISLAM Nazir	Senior Gardener/Nurseryman	
4	RAMASAWMY Pillay	Gardener/Nurseryman	
5	RUCHPAUL Mohunparsad	Gardener/Nurseryman	
6	BHIM Anil Kumar	Tradesman/Mason	
7	PARMAISSUR Ghianduth	Tradesman Assistant (Carpenter)	
8	PITAMBER Dinesh	Sprayerman	
9	AUDHIN Deepak	General Worker	
10	CADERSA Javed Ally	General Worker	
11	CHINAPEN Sandeeven	General Worker	
12	CONHYE Mahen	General Worker	
13	COOPEN Ravisen	General Worker	
14	FOWDAR Ashvin	General Worker	
15	GHOOJOOA Prakash	General Worker	
16	GHURBHURRUN Bhoomeshwar	General Worker	
17	MOOSAFEER Ahamad Noorani	General Worker	
18	UNNOOP Pradeep	General Worker	
19	JANKI Daneshwar	General Worker	
20	BHUNOOA Pravesh	Casual General Worker (Assumed duty at NPCS on 10.10.14)	
21	SURDHOO Danwantee Devi (Mrs)	Sanitary Attendant	

PETRIN INFORMATION CENTRE

Sno.	Name	Status	QUALIFICATIONS
1	MOOLEE Paul	Senior Park Ranger	<ul style="list-style-type: none"> • Certificate in Forestry (University of Mauritius)

			<ul style="list-style-type: none"> • Certificate in wildlife management - India
2	JUMOORTY Rafick	Park Ranger	<ul style="list-style-type: none"> • Certificate in Forestry (University of Mauritius)
3	ROOPA Premanand	Assistant Park Ranger	
4	MATADEEN Sunilduth	Assistant Park Ranger	
5	CHEDUMBRUM Madhyven	Temp Gardener/Nurseryman	
6	GHURBURRUN Dutt	General Worker	
7	HUSNOO Abdool Swaley	Gardener/Nurseryman	
8	LUCHMUN Sailesh	General Worker	
9	PANDAMIKUM Moorghen	General Worker	
10	PARMESSUR Deoduth	General Worker	
11	SEEWOOGOLAM Dharmeshsing	General Worker	
12	SOOKLALL Vivekanand	Casual General Worker (Assumed duty at NPCS on 10.10.14)	

RIVULET TERRE ROUGE ESTUARY BIRD SANCTUARY, MER ROUGE

Sno.	Name	Status	QUALIFICATIONS
1	BUDREE Deepak	Assistant Park Ranger	
2	CHUMMUN Omduth	Watchman (Retired as from 04.05.14)	
3	RAMDHARY Chandradeo	Lorry Loader	
4	DOOKARUN Satiaduth	General Worker	
5	NURKHOO Krishunsingh	General Worker	
6	JAHUL Avinash	Casual General Worker (Assumed duty at NPCS on 10.10.14)	

7	JEENAH Mahendra	Warehouse Operative (Assumed duty at RTREBS on 27.01.14)	
8	BAJOONAUTH Prem	Warehouse Operative (Assumed duty at RTREBS on 27.01.14)	
9	BONAVALEE Sanjay	Warehouse Operative (Assumed duty at RTREBS on 27.01.14)	

BRAS D'EAU NATIONAL PARK

Sno.	Name	Status	QUALIFICATIONS
1	SAUBA Shoma (Mrs)	Technical Officer/Senior Technical Officer (Conservation) (Posted to Wetland Section as from 14.05.14 vice Mr. J. Ramen)	<ul style="list-style-type: none"> • BSc (Hons) Biology (Ecology and Marine Biology) - University of Mauritius
2	RAGOUBEER Vikash	Park Ranger	<ul style="list-style-type: none"> • Certificate in forestry – University of Mauritius
3	TIOUNY Iswarduth	Assistant Park Ranger	<ul style="list-style-type: none"> • Certificate in forestry – University of Mauritius
4	ALLYBUCUS Rushid	Gardener/Nurseryman	
5	BEEHARRY Motilall	General Worker	
6	SAULICK Balram	General Worker	
7	FERRY Jean Bernard	Casual General Worker (Assumed duty at NPCS as from 10.10.14)	
8	BONAVALEE Sanjay	Warehouse Operative	
9	SOOKUN Sanjay	Warehouse Operative	
10	CHUTTOO Lalitsing	Warehouse Operative	

BEL OMBRE SECTION

no.	Name	Status	QUALIFICATIONS
1	ALLET Mario	Park Ranger	<ul style="list-style-type: none">• Certificate in forestry – University of Mauritius
2	HEMRAGE Navin	Assistant Park Ranger	
3	BEETUN Ravindra	Assistant Park Ranger	