

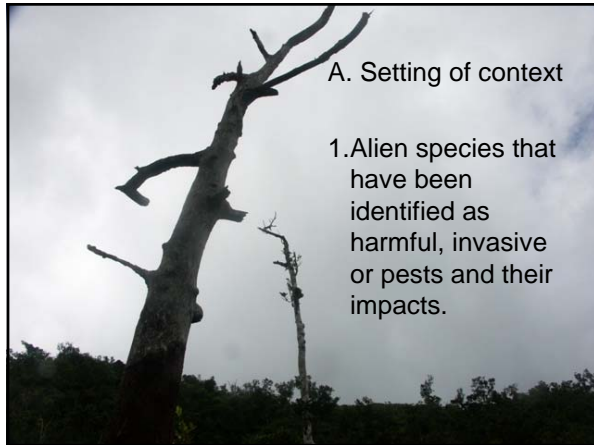
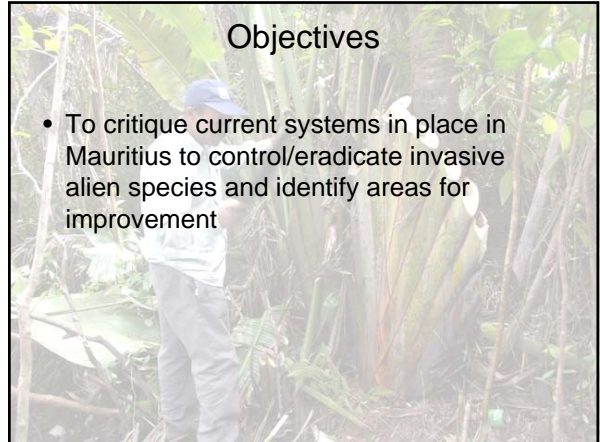
How well we are managing introduced species and minimizing the risk of future establishments?



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Objectives

- To critique current systems in place in Mauritius to control/eradicate invasive alien species and identify areas for improvement



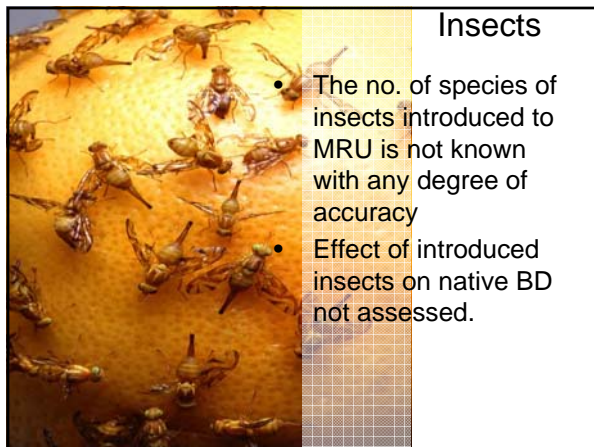
A. Setting of context

1. Alien species that have been identified as harmful, invasive or pests and their impacts.

1.1 Vertebrates

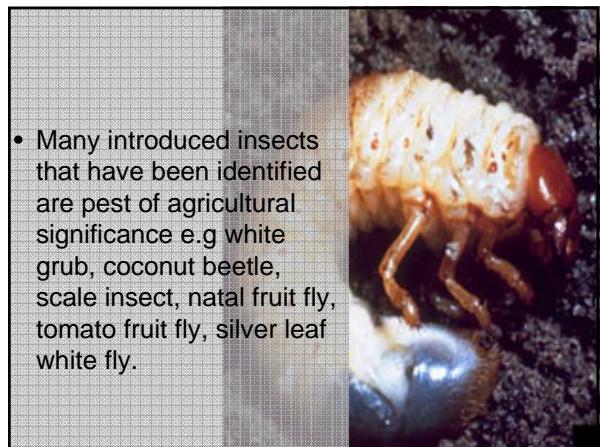
Estimated 40 species of introduced vertebrates naturalized in MRU and 17 in Rodrigues e.g rats, monkeys, hare, etc.

- Impacts:
- (1) consume native plant, eggs, reptiles
 - (2) competes with native sp.



Insects

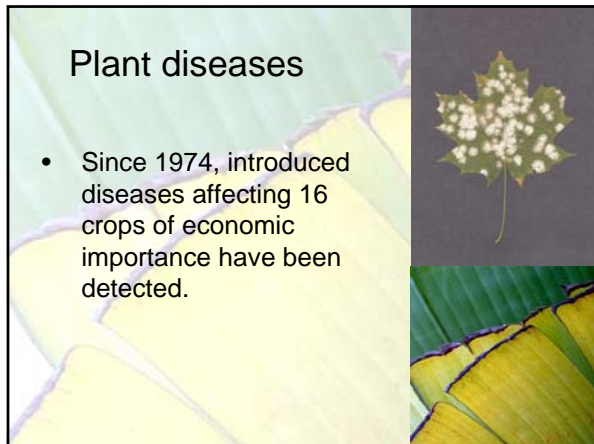
- The no. of species of insects introduced to MRU is not known with any degree of accuracy
- Effect of introduced insects on native BD not assessed.



- Many introduced insects that have been identified are pest of agricultural significance e.g white grub, coconut beetle, scale insect, natal fruit fly, tomato fruit fly, silver leaf white fly.

Plant diseases

- Since 1974, introduced diseases affecting 16 crops of economic importance have been detected.



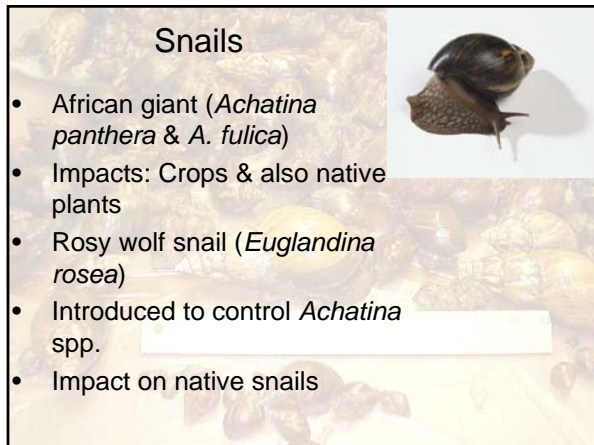
Animal & Human Diseases

e.g, swine fever, and chickungunya, malaria, PBF



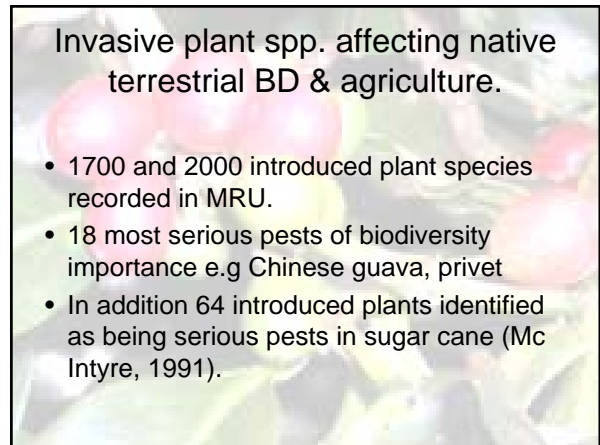
Snails

- African giant (*Achatina panthera* & *A. fulica*)
- Impacts: Crops & also native plants
- Rosy wolf snail (*Euglandina rosea*)
- Introduced to control *Achatina* spp.
- Impact on native snails



Invasive plant spp. affecting native terrestrial BD & agriculture.

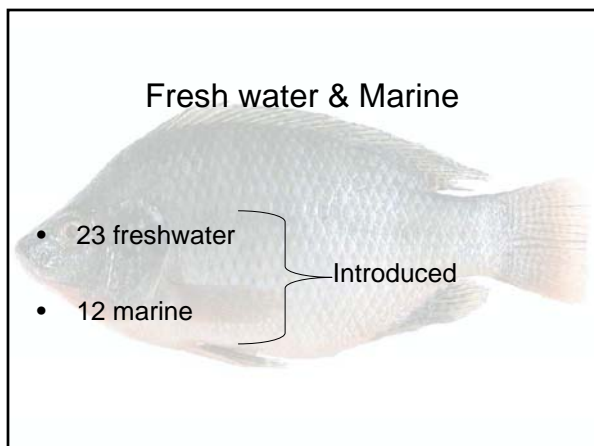
- 1700 and 2000 introduced plant species recorded in MRU.
- 18 most serious pests of biodiversity importance e.g Chinese guava, privet
- In addition 64 introduced plants identified as being serious pests in sugar cane (Mc Intyre, 1991).



Fresh water & Marine

- 23 freshwater
- 12 marine

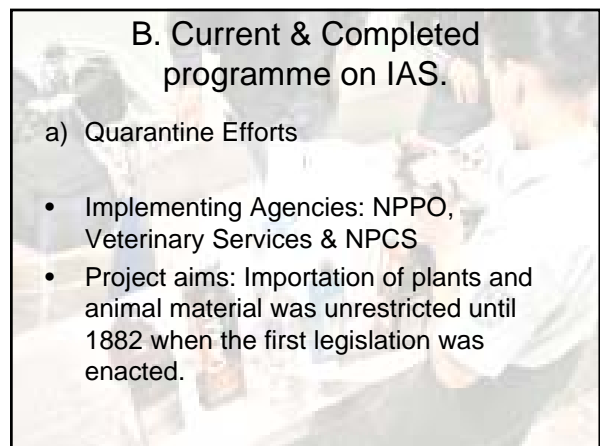
Introduced

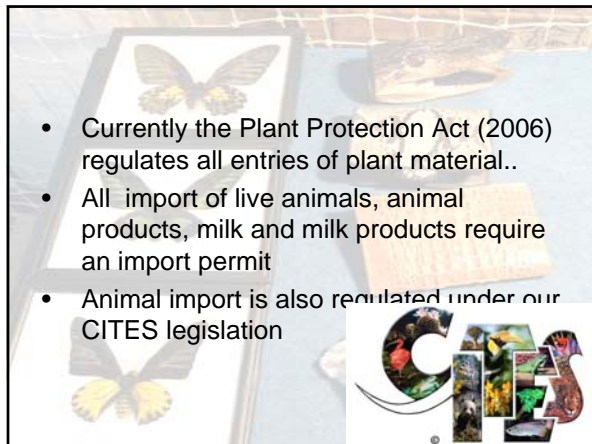


B. Current & Completed programme on IAS.

a) Quarantine Efforts

- Implementing Agencies: NPPO, Veterinary Services & NPCS
- Project aims: Importation of plants and animal material was unrestricted until 1882 when the first legislation was enacted.





- Currently the Plant Protection Act (2006) regulates all entries of plant material..
- All import of live animals, animal products, milk and milk products require an import permit
- Animal import is also regulated under our CITES legislation

Quarantine

- 24 hour basis quarantine service of two ports of entry (Plaisance Airport & Port Louis Harbour)
- Insecticidal spraying of aircraft cabin & luggage bet countries deemed to be high risk (include MRU & Rodrigues)

- Fumigation at export and import of consignments containing plant produce
- Adhoc measures include the use of foot dips for incoming passengers (e.g foot and mouth disease in U.K , 2001)
- Posters at airport detailing the importance of not bringing in food items, etc.

- “Declare it or dump it” bins at the airport for prohibited produce
- Incineration of aircraft refuse and material confiscated or surrendered
- Ship and aircraft inspection & inspection of consignment of all agricultural produce
- Operation of a containment facility for elite germplasm e.g for the cut flower industry.

Pest and Surveillance Unit

- Body set up to ensure that the following biosecurity measures are carried out
- Enforcement of quarantine regulations based on risk assessment.
- Reinforce surveillance throughout the country.
- Proposal of strategic measures for containment of alien invasive pests.

- Formulation of future management measures for the control and or/eradication of alien invasive pests.
- Mandatory requirement of Plant Importation Permit and Phytosanitary Certificate for importation of plant material.
- Protocol bet Reunion & Mauritius to prevent the entry of white grub in Mtius

- Publication of a “black list” or regulated list of species deemed to be a risk to MRU (listed as a schedule under the Plant Protection Act -2006).
- IPM Programme for agriculture (e.g melon fruit fly, diamond back moth in crucifers, leafminer, peach fruit fly (*Batrocera zonata*) in mangoes).
- Biological control (measures for some of the most serious agriculture pests) e.g spiraling white fly, coconut beetle, cypress aphid).
- Eradication of *Batrocera dorsalis* fruit fly in 1999.

C. Various biodiversity funded projects with an IAS component

- Restoration of highly degraded and threatened native forests of MRU (1996 – 1999)
- Development of total exclusion fence (2001 – 2003).
- Mauritius Biodiversity Restoration Project (1996 – 2001).
- Restoration of Round Island (2001 – 2004) ongoing.

- Islets Mammal Pest Eradication Project (1995 –1998)
- Development of a strategic plan and management plan for Islets around MRU and Rodrigues (2003 – on going).
Production of plans for the eradication and /or mgmt of problem invasive on islets and preparation of response plans to deal with introduction or reintroduction of pests, plants and animals

Creation of weeded and fenced CMA in BRGNP (1986 – on going)

- 11 such plots have been created
- Total = 60 ha.
- Project submitted to the Ministry to use VRS labour on contract and an estimated target of clearing 25 ha/ yr in BRGNP to link all CMAs.

Kestrel, Pink Pigeon, Echo-Parakeet, Passerines Recovery Programme.

- All those single species recovery programme involved the control of introduced mammals
- The control and eradication of the indian house crow (*Corvus splendens*). Population brought down from 7,500(2003) to 1,200-1,500(2007).



Institution involved with the management and control of IAS.

- NPPO (Quarantine service)
- Vet. Services
- NPCS
- Forestry Service
- Entomology Division
- Min. of Health

Legislation framework governing IAS

- Fisheries & Marine Resources Act (1998)
- The Environment Protection Act (2002)
- Wildlife & National Parks Act (1993)
- Forests & Reserves Act (1983)
- Plant Protection Act (2006)
- Animal Diseases Act (1925)

Setting of National Invasive Alien Species Committee (NIASC) in August 2003.

- In response to Article 8(h) of CBD which call parties to establish national bodies to coordinate IAS issues and to develop national strategies to respond to the actual and potential threat from IAS.
- Representatives from Agriculture, BD conservation, health, education and private sectors
- Under the aegis of NPCS

TOR

- Inform stakeholders, including the general public on IAS related matters
- Take stock of IAS identified in MRU and measures to control the same.
- Take stock of legislation to control entry of IAS
- Advise on gaps on IAS mgmt
- Suggest measures whereby the gaps may be addressed.

Achievement of NIASC

- Production & publication of two news paper articles relating to IAS
- Production of two posters on IAS – both being exhibited at the airport
- Production of a black list of invasive plants
- NIASC invited RRA to establish a sub committee to look into the mgmt & control of IAS

BLACK
LIST

Development of a NIASS

- Agriculture
 - Biodiversity (Marine & Terrestrial)
 - Health
 - Education & Awareness
- These four sub committee have submitted their inputs for incorporation in this strategy based on the GISP model.

- One international consultant and one national consultant recruited.
- First Draft produced
- Consultative National Workshop on 28 & 29 November 2007
- Final version strategy to be ready by 1st week of December 2007.

The need for strategy

- This strategy will provide a framework in which Mauritians can work together to minimize the negative impacts of IAS.
- A move from single species focus, adhoc actions and sectoral approach to IAS management norms which are outcome oriented, strategic and multi-sectoral.

Strategy

- Vision,
- Mission,
- Principles,
- Target audience,
- Scope

Approach:
Eleven Interlinked elements comprising of five Mgmt Elements & 6 cross cutting elements

- Prevention
- Early detection & rapid response
- Eradication
- Control & Management
- Restoration

Six crosscutting element

- Legal, policy & institutional framework
- Capacity building and Education
- Information management and research
- Public Awareness and Engagement
- International cooperation
- Provision of adequate resources

Improvements

- Questions & suggestions

