Addressing Intentional Animal Imports in the Development of the Mauritius IAS Action Plan

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Scope of this Talk

The Republic of Mauritius: Islands of unique and disappearing Biodiversity

Intentionally Imported Animals and Biodiversity Loss in Mauritius

Animals Intentionally Imported into Mauritius Today

The National Invasive Species Strategy for the Republic of Mauritius

The National Invasive Species Action Plan for the Republic of Mauritius

Conclusion – The Implementation Challenge
The Location of the main islands in the Republic of Mauritius

A Unique Biodiversity

The level of endemism of selected elements of the Mauritian native biota (figures include taxa known or thought to be extinct)

<table>
<thead>
<tr>
<th></th>
<th>Flowering plants</th>
<th>Birds</th>
<th>Reptiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total native taxa</td>
<td>685</td>
<td>28</td>
<td>19</td>
</tr>
<tr>
<td>Strict endemics</td>
<td>311 (45%)</td>
<td>15 (54%)</td>
<td>17 (89%)</td>
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<tr>
<td>Mascarene endemics</td>
<td>459 (67%)</td>
<td>19 (68%)</td>
<td>17 (89%)</td>
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This Biodiversity is Highly Threatened

Levels of extinction and threat of native reptiles, birds and flowering plants in the island of Mauritius

<table>
<thead>
<tr>
<th>Category</th>
<th>Extinct</th>
<th>Extant</th>
<th>Threatened</th>
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<tbody>
<tr>
<td>Reptiles</td>
<td>5</td>
<td>15 (15)</td>
<td>13 (13)</td>
</tr>
<tr>
<td>Birds</td>
<td>17 (12)</td>
<td>12 (10)</td>
<td>11 (9)</td>
</tr>
<tr>
<td>Flowering plants</td>
<td>73 (48)</td>
<td>594 (400)</td>
<td>488 (363)</td>
</tr>
</tbody>
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Species Endemic to The Mascarene Archipelago

OVER 100 PLANT SPECIES IN DANGER OF EXTINCTION

Photos: J. Mauremoottoo, D. Hansen & C. Kaiser
Historically Mauritius has seen Dramatic Levels of Habitat Loss
The main threat to the remaining terrestrial biodiversity of Mauritius is Invasive Alien Species.
Intentionally Imported Animals and Biodiversity Loss in Mauritius

Nearly all introduced vertebrate species that have become invasive in Mauritius have been deliberate introductions.

Wild Pig

*Image: Pierre Cain*

Javan Deer

*Image: Pierre Cain*
Indian Mynah Bird

Red Whiskered Bulbul
Animals Intentionally Imported into Mauritius Today

• The rate of intentional importation of animals into Mauritius today appears to be increasing.
• There is a growing trend for the sale of exotic birds, reptiles and amphibians as pets in Mauritius.
• Individual air travelers smuggle in animals in their luggage.
• Aquaculture also represents a significant pathway for the importation of potentially invasive animal species into Mauritius.

Yellow Black Apple Mystery Snail

http://www.drhelm.com/aquarium/applesnail.jpg
Madagascan Day Gecko

Australian Red Claw Crayfish
Procedures for the Importation of live Animals into Mauritius

Under the Animal Diseases Act (1925) all importers of live animals must obtain a certificate signed by a veterinary surgeon indicating that the animal is disease-free. This reflects an emphasis on the imported species as potential disease vectors but not as potential invasive species.

The National Invasive Species Strategy for the Republic of Mauritius

Strategy finalised in January 2008. Motivated by a lack of consideration of potential invasiveness in imported species among other factors

The Strategy’s vision:  
A nation in which the negative impacts of IAS on the economy, environment and society are avoided, eliminated or minimised.

The NIASS provides a high level overview of the actions needed to achieve this vision. Recommended actions will be specified in a follow-up IAS Action Plan and that this Action Plan will be accompanied by SMART (Specific, Measurable, Attainable, Realistic and Time bound) indicators.
The National Invasive Species Action Plan for the Republic of Mauritius

• Currently being formulated
• Exact makeup to be agreed upon by a consultative process
• Structure will follow that agreed for the National Invasive Species Strategy
• Based upon 11 interlinked elements
• Five “Management Elements” - “on the ground actions” that directly address the Strategy’s vision.
• Six Cross-cutting Elements - enabling actions that must be undertaken if the management elements are to successfully address the Strategy’s vision.

IAS Action Plan “Management Elements”

1. Prevention
2. Early Detection and Rapid Response
3. Eradication
4. Control and Management
5. Restoration
IAS Action Plan “Cross-cutting Elements”

1. Legal, policy and Institutional Frameworks
2. Capacity Building and Education
3. Information Management and Research
4. Public Awareness and Engagement
5. International Cooperation
6. Provision of Adequate Resources

Prioritisation of Recommendations

1. Critical - actions that are essential for the successful implementation of the IAS Strategy and should be initiated within one year of the endorsement of the IAS Action Plan.
2. High Priority - actions that are essential for the successful implementation of the IAS Strategy and should be initiated as soon as possible but in many cases their implementation is contingent upon prior actions being undertaken. These prior actions are classified as critical.
3. Medium Priority - actions that are in some cases contingent upon the undertaking of high priority actions. In other cases, it is deemed that they would be of value but are not essential to the successful implementation of the IAS Action Plan.
Recommendations – Prevention

Critical
1. Analyse gaps, weaknesses and constraints in the current border control and quarantine system.
2. Develop plans for a future border control and quarantine system that build upon existing measures.
3. Produce a list of all alien species currently in the country and their status as captive species, pets, wild/feral, etc. The potential invasiveness of species that are present but not currently invasive in the Republic of Mauritius should be indicated.
4. Develop risk assessment procedures based on models pioneered elsewhere.
5. Undertake risk assessments on proposed introductions.
6. Classify the Republic of Mauritius into “ecosystem units” (based on islands/island groups, aquatic ecosystem units and protected ecosystems) and outline IAS prevention measures to be undertaken for these units.

Recommendations – High Priority
1. Implement plans for a future border control and quarantine system.
2. Develop a coordinated national risk analysis process including the establishment of an inter-agency risk analysis group.
3. Ensure that risk assessments are conducted for all proposed alien species introductions.
4. Develop capacity for risk assessment, border inspections and enforcement as part of a national IAS capacity building programme.
5. Access relevant information on IAS prevention from national and international sources and make this available as part of a national IAS online information system.
6. Develop and implement a public awareness campaign including the production of codes of conduct for specific groups e.g. the pet trade, the horticulture trade and the travelling public.
7. Cooperate internationally to prevent invasive alien species introductions at their source.
Recommendations – Medium Priority

1. Conduct and support research on prevention tools to improve decision-making.
2. Utilise Mauritian expertise in prevention tools in a regional capacity building programme.

Conclusion – The Implementation Challenge

• How can the proposed measures be adequately implemented if current less comprehensive measures are inadequately implemented?
• The current situation is a result of multiple interacting barriers
• Barriers include lack of awareness, insufficient capacity, unclear institutional responsibilities and inadequate resources.
• All of these enabling factors need to be addressed in the Mauritius IAS Action Plan in an effort to ensure that the prevailing ad hoc actions and sectoral approach to IAS management is replaced by a comprehensive and coordinated approach that enjoys widespread public support.
• A great deal has already been done in Mauritius. It is possible to pull the strands together.
THANKS TO
National Parks and Conservation Service
Mauritian Wildlife Foundation
National Plant Protection Organisation
Bioculture Ltd