

## **Addressing intentional animal imports in the development of the Mauritius IAS Action Plan**

Workshop session: "Countries and tools" approaches to Pre-Import Screening for Animal Species

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### **Introduction**

The Republic of Mauritius is situated in the South West Indian Ocean 855 km east of Madagascar. It comprises of the main islands of Mauritius (1865 km<sup>2</sup>) and Rodrigues (109 km<sup>2</sup>) and their associated islets and several outlying islands (the 'Outer Islands'). The flora and fauna of Mauritius exhibit high levels of endemism and extreme vulnerability to invasive alien species (IAS). Originally uninhabited, the islands that now make up the Republic of Mauritius had been impacted by IAS even before the first documented arrival of people and the associated physical destruction of habitats that began in the late 16<sup>th</sup> Century. Black rats (*Rattus rattus*) which could colonise from ship wrecks or from passing ships were probably already present in Mauritius when the Dutch took possession of the island in 1598. Colonisation heralded an increased establishment of IAS in Mauritius and large scale habitat loss. IAS establishment continues apparently unabated while the rate of habitat loss has slowed considerably. There is a broad consensus that IAS are now the greatest single cause of biodiversity loss in Mauritius.

### **Intentionally imported animals and biodiversity loss in Mauritius**

Intentional animal imports have been a significant cause of biodiversity loss in Mauritius. They have negatively impacted on native biodiversity through processes such as predation and herbivory, competition, alien seed dispersal and as disease vectors. Historic examples include wild pigs (*Sus scrofa*), introduced to Mauritius before 1648 in order to provide food for passing sailors, Javan deer (*Cervus timorensis*) also introduced as a food source before 1648, the lesser Indian mongoose (*Herpestes javanicus*) introduced in 1900 as a control agent for rats and the red-whiskered bulbul introduced in or before 1892 as a cage bird.

### **Animals intentionally imported into Mauritius today**

The rate of intentional importation of animals into Mauritius today appears to be increasing. For example there has been a growing trend for the sale of exotic birds, reptiles and amphibians as pets in Mauritius. Such animals can be bought from a number of outlets including markets, garden centres, aquariums and supermarkets. Commonly sold species include the red-eared slider (*Trachemys scripta elegans*), the apple mystery snail (*Pomacea bridgesi*), various frog species, a suite of *Phelsuma* geckos from Madagascar, iguanas, chameleons, a variety of birds such as parakeets, lovebirds, grey parrots, amazons and lorikeets. Individual air travellers bring in animals in their luggage in spite of regulations prohibiting this practice. Aquaculture also represents a significant pathway for the importation of potentially invasive animal species into Mauritius. There is also known to be illegal imports of live animals. Large numbers of tortoises for example have been smuggled in to Mauritius for private collections.

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Intentionally imported animals that have recently become established in Mauritius include the Madagascar day gecko (*Phelsuma madagascariensis grandis*), the golden apple mystery snail and the Australian red claw crayfish (*Cherax quadricarinatus*).

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**

A lack of consideration of the invasive potential of imported species in national processes has been among the motivating factors behind the production of the National Invasive Species Strategy for the Republic of Mauritius (NIASS) which was finalised in January 2008.

The Strategy's vision is of 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. To ensure that the NIASS gives clear strategic direction it is essential that recommended actions are specified in a follow-up IAS Action Plan and that this Action Plan is accompanied by SMART (Specific, Measurable, Attainable, Realistic and Time bound) indicators.

### **The National Invasive Species Action Plan for the Republic of Mauritius**

The IAS Action Plan is currently being formulated. The exact makeup of the Action Plan will be agreed upon by a participatory process but its format will follow that outlined during the formulation of the NIASS.

The Action Plan will comprise of eleven interlinked elements: five hierarchical "Management Elements" (Prevention, Early Detection and Rapid Response, Eradication, Control and Management and Restoration) and six "Cross-Cutting Elements" (Legal, policy and Institutional Frameworks, Capacity Building and Education, Information Management and Research, Public Awareness and Engagement, International Cooperation and Provision of Adequate Resources). The Management Elements are those "on the ground actions" that directly address the Strategy's vision. The Cross-cutting Elements are enabling actions that must be undertaken if the management elements are to successfully address the Strategy's vision.

Recommended actions have been grouped into three priority levels:

1. Critical - actions that are essential to 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 to 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.

Although actions relating to intentional animal imports will be addressed in all parts of the Action Plan particular emphasis will be found in the section on prevention. The following recommended measures are of particular relevance to the intentional importation of animals into the Republic of Mauritius:

#### 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 generic 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.

#### 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.

#### 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**

Current measures that relate to the intentional animal imports into Mauritius are not only insufficient but they are often inadequately implemented as exemplified by the recent outbreak of African swine fever, probably from infected pigs imported from Madagascar. However, it does not necessarily follow that the more stringent efforts outlined in the Mauritius IAS Strategy and Action Plan will therefore be impossible to implement. Barriers to implementation include a lack of awareness, insufficient capacity, unclear institutional responsibilities and inadequate resources. All of these enabling factors will 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 are replaced by comprehensive and coordinated approaches that enjoy widespread public support.