Eradicating invasives on Round Island—A historical perspectives

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• Round Island was designated a Nature Reserve in 1957.
• Has an area of 215 ha and rises to a height of 280 m.
• Had introduced goats and rabbits until 1979 and 1986 respectively.
• Was always rodent free and free from major woody weeds.
• Supports the last remnants of a palm savannah once characteristic of the Northern Plain of Mauritius.
• Provides habitat for at least ten species of threatened native plants including six species endemic to Mauritius.
• Provides habitat for 3 geckos, 3 skinks and 2 primitive boa snakes (one has not been seen since 1975).
• Provides the only known breeding ground for the rare Round Island Petrel and for three other species of sea birds.

Round Island

Some unique plants

Dictyosperma album var. conjugatum (Palmiste de l'Ile Ronde)

Gagnebina pterocarpa

Fernelia buxifolia

Hyophorbe lagenicaulis

THE UNIQUE REPTILES

Day gecko

Telfair's skink

Keel-scaled boa

Nugit gecko

THE SEABIRD COLONIES

Paille en queue

Round Island Petrel

Paille en queue rouge
History of introduced mammals on Round Island:

- Rabbits and goats are the only introduced mammals recorded from Round Island.
- Lloyd (1846) found “swarms of rabbits” introduced before 1810 (Cheke, 1987).
- Goats appeared to have been introduced between 1846 and 1868. Pike (1876) recorded goats in December 1868.
- The effect of browsing by these mammals resulted in dramatic degradation of the vegetation cover.
- The palm savannah was seriously depleted and the hardwood forest lost altogether.
- The endemic land tortoise is likely to have disappeared in the presence of both goats and rabbits.

Johnston (1894) drew attention to the damage caused by goats and rabbits (Barkly, 1870) and recommended eradication of both animals, Vaughan and Wiehe (1937) and then Vinson (1950, 1964) drew attention to the Scientific and Conservation values of R.I. with Vinson advocating the eradication of goats and rabbits.
- A serious attempt to eradicate goats by shooting was made in 1976 (Bullock, 1977). 883 rabbits were shot and all but 2 goats were shot. The last goat was shot in 1979.
- The Jersey Wildlife Preservation Trust (JWPT) and International Council for Bird Preservation (ICBP) pledged assistance from the Government of Mauritius and in March 1984 signed an Accord to jointly implement a wildlife research and conservation programme in Mauritius.
- Highest priority was given to:
  - Removal of rabbits from R.I.
  - Conservation of critically endangered Echo Parakeet whose population was down to 8 individuals.

Bullock & North (Aug 1975) estimated rabbit population to be around 650-1500 (Cyclone Gervaise - Feb 1975 may have caused a lot of mortality).
- Only 10 goats were encountered during the 1975 expedition.
- In 1982, rabbit population was estimated at 2450-2900 (Bullock et al, 1982).

Rabbit eradication
- Rabbits were eradicated between 2nd July – 12th September 1986 using an anticoagulant bait developed by New Zealand Ministry of Agriculture and Fisheries (Williams et al, 1986) followed by shooting.

Killers from New Zealand
Departure of herbivores and Arrival of weeds

- *Desmanthus virgatus* (L) was first recorded in 1982.
- In 1984, only 1 patch was found.
- In 1986, all seen plants were pulled out and the areas marked for future weeding attempts (Strahm, 1986).
- In 1987 2 new weeds were recorded.
  - *Cenchrus echinatus* L.
  - *Desmodium incanum* DC.
- Aug 1989, 113 man hours of weeding was done to control *Desmanthus* and *Desmodium*. *Cenchrus* was too abundant for control.
- August 1993- Raleigh International (31 July- 13 Sept 93). *Desmanthus* - 375 m/h (3285 seedlings + 86 with pods) *Desmodium* - 98 m/h (too many to count).
- In 1994 another new weed - *Heteropogon contortus* was recorded.

What are currently being done to eradicate invasive alien species on Round Island?

- **Weed Management**
- **Quarantine**

Weed Management

- Monthly weed check
- Checking of frequently used area every 3 months
- Island wide check every year
- Weeding of planting sites
  - Manual weeding
  - Streaming using brush cutter

Weeds that are controlled on Round Island

- *Heteropogon contortus*
- *Chromolaena odorata*
- *Sporobolus indicum var capensis*
- *Mikania micrantha*

Tortoises translocation to Round Island
Quarantine

Visiting Round Island Document
- Double quarantine
- Exclude seeds, animals, eggs, rodents from reaching the island

Rat chew sticks
- *Rattus rattus*
- *Rattus norvegicus*

Translocation of plants for restoration - Bare rooting
- Seeds that are difficult to quarantine are grown in the ile aux Aigrettes nursery.

Native insects on Round Island

- Jewel Beetle (Buprestidae)
- Scorpion
- Stick Insect
- Endemic cockroach
- *Cratopus punctum*