

## Environment

# Eradicating rats: possible for Seychelles?

“Rat eradication on islands possible if there is a strong commitment by government and funds available for the Projects”, said Dr James Russell from the Auckland University, currently on a working visit to Seychelles. He has also called on the country to look at new techniques being used in rat eradication, such as training of a rodent-dog to detect rats faster instead of relying on poison baits and traps



spite these challenges, rat eradication is possible on tropical islands. There are success stories like those of Ste Anne and North Island where shearwaters are returning to breed following rat eradication programmes. “It’s a good indicator of the ecosystem

recovery there following the rat control exercise on Ste Anne and rat eradication on North Island”, said Dr Russell who conducted visits on these two islands.

Dr Russell said the main methods being used for rat control and eradication in tropical is-

lands are poison bait and traps and for “effective results it is advisable they are used simultaneously”. However, he said for a long-term solution, eradication is recommended instead of control. “Eradication is more expensive but in the long run

Dr James Russell from University of Auckland, New Zealand presenting his paper at the Unisey Campus.

Dr James Russell has been studying invasive rodents and predators on islands for 10 years now and has published a number of papers on the issue. He is presently in Seychelles on a three-week visit, where on Wednesday afternoon

he presented a study entitled: “Island Conquerors: The population dynamics and management of invasive rats on islands”. His presentation, attended by those involved in conservation in Seychelles, took place at the Unisey Campus, Anse-Royale.

In his presentation, he outlined the challenges faced by tropical islands to eradicate rats. “Rats thrive well on islands because of the high temperatures and also high vegetation density like coconuts which provide an ideal habitat”, he said, adding that de-



Participants attending the presentation on “Island Conquerors The Population Dynamics and management of Invasive Rats on Islands”.

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you only have to do it once and you will never have rats on the island again”, he said. However, he added this should be followed by a strong bio-security exercise similar to the one in place on North Island where, “boats are checked, all equipment landing on the island are taken to a trailer for a first check and then

“because the islands are close by so these controls have to be done regularly and continuously”, added Dr Russell.

He also advised that the country should explore new techniques being used in rat eradication exercises such as the use of rodent-dogs, where dogs are trained to detect rats, which he

thrive better, but also for agriculture and the islands’ ecosystem as a whole.

Rat eradication projects are not new to Seychelles. In the mid 1990’s a local team led by a conservationist from New Zealand, Don Merton, carried out rat eradication programmes on four main islands; Fregate, Bird Island, Denis and Curieuse. Mr Merton was invited to Seychelles after successfully implementing a similar project in his country of origin, New Zealand, considered as the leading country in conservation especially in the eradication of invasive species.

In his 2000 report entitled “Alien mammal eradication and quarantine on inhabited islands in the Seychelles”, Don Merton explained that of the four islands targeted, Fregate and Bird were declared free of rats after the eradication programme, whilst Denis and Curieuse were later re-colonised. Since then a number of islands have carried out rat eradication projects to protect the islands’ habitats especially their bird population. These include North Island, Ste Anne, Anonyme, and Cosmoledo among others.

Dr James Russell will be in Seychelles for two more weeks and is expected to visit Praslin and its nearby islands as well as Desroches to see the conservation works being carried out there.

**Rat eradication on Denis Island**

In June 2000, an eradication of mice, rats and cats was initiated as a joint project between the Department of Environment and Denis Island Development (Pty) Ltd. By using a global positioning system (GPS), a helicopter dispersed poi-

sonous bait (PestOff 20R) over the entire island with a suspended bait bucket. This happened on two occasions nine days apart. Unfortunately rats were re-discovered on Denis Island in August 2001 and mice later that year. A subsequent ground-based eradication attempt, again with poisonous bait, was undertaken on Denis Island from June 2002 to January 2003 and proved successful for both rats and mice.

This achievement represented an enormous national conservation gain with Denis increasing the total mammalian predator-free land in the central Seychelles archipelago from 472ha to 615ha in 2002, Denis constituting 23.25% of that total. Today, following the subsequent successful rat eradications on North and Conception islands,

Denis still constitutes 16.32% of the rat free land in the central archipelago.

The mammalian eradications were followed by two phases of broad-leaved woodland rehabilitation as part of preparations for introduction of endemic bird species. The Seychelles fody (Toktok) and Seychelles warbler (Timerl-de-zil) were successfully introduced in 2004 and Seychelles magpie-robin (Pisantez) and Seychelles paradise flycatcher (Vev) in 2008. The rat-free status of the island is considered the primary factor behind the re-establishment of breeding populations of Wedge-tailed shearwater (Fouke-de-zil) and Lesser noddly (Kordonnyen) and the recurrence of ground nesting by White-tailed tropicbird (Payanke lake blan) populations.

The benefits of rat eradication are not limited however to purely conservation initiatives. Hotel resort operations, human health and farm productivity all highly benefit from the rodent free status of Denis Island. Rat population densities on richly vegetated tropical islands can become extraordinarily high. With removal of rats, the risk of leptospirosis (a disease carried and vectored to humans by rats), has been removed from the island. Likewise food, feed and water sources are no longer subject to rodent related losses and/or fouling. Rodents can cause extensive losses and reduction of production of fruit and vegetables on tropical islands; the island’s farm production has benefitted significantly post rat eradication.



Successful rat eradications have happened on North Island.

locked in a rat-proof container for 30minutes”, to ensure no rats return to the island.

For islands opting for rat control which is a cheaper solution, Dr Russell said, “they will have to commit a lot of energy as it is a long-term exercise”, as they have to ensure rats are not returning onto the islands either by planes, boats or swimming to the islands from a nearby place. He gave the example of Anonyme Island, where rats return every year or two after rat-control exercise,

said was very effective because the dogs focus on the specific target making it easier to locate and kill. This technique, he said, is being used on many islands and has proven to be effective.

He also commended Seychelles for its effort to eradicate rats on some islands saying the country “was only half-way there and would need a strong commitment from the government as well as funds for this ambitious project”, which is beneficial not only for the birds which will



Rat or pest?



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