



# DyCIT: The Dynamic and Conservation of the Island of Tromelin

**Targeted territory:** Scattered Islands (TAAF), Tromelin

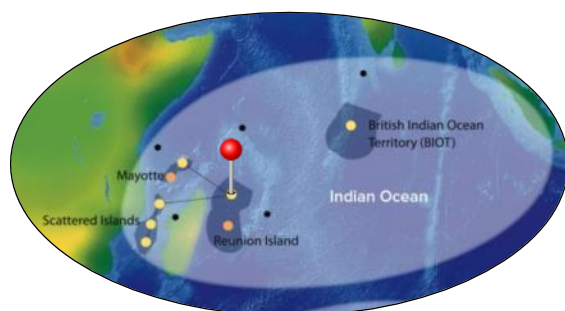
**Total project budget:** 173,940 Euros

**BEST 2.0 grant awarded:** 96,000 Euros

**Duration:** July 2016 – June 2018 (24 months)

**Lead organisation:** Université de La Réunion

**Partner organisation:** Conservatoire Botanique National de Mascarin (CBNM)



## Background:

Biological invasions are the leading cause of biodiversity loss from island ecosystems; an important management objective is the eradication of introduced invasive species in the hope of a gradual restoration of previously impacted populations and ecosystems. This post-eradication phase of restoration is complex.

Tromelin island suffered a significant loss of biodiversity from the mid-18<sup>th</sup> century and early 21<sup>st</sup> century with the introduction of the Brown rat (*Rattus norvegicus*) with eight seabird species disappearing during this period.

In December 2005 Terres Australes et Antarctiques Françaises (TAAF) completed a rat eradication exercise. The ecosystem response in the 10 years that followed was spectacular with a tripling of the populations of two species of seabirds, the installation of two new nesting species and an increase in herbaceous vegetation cover. This dynamic is not complete because seabirds now have an impact on the vegetation through soil enrichment from their droppings. In addition mice (*Mus musculus*), another introduced species for at least a century to Tromelin, have not been eradicated along with Norway rats. It is therefore necessary to refine the biodemographic and ecological study of species interactions to guide appropriate future operations of ecological restoration.



### Description of the project:

DyCIT will assess the dynamics of the small tropical island of Tromelin following the eradication of rats. This is an essential aspect of the conservation of biodiversity and ecosystem services as the effects of an action must be assessed and quantified, including its temporal dimension, to inform effective management, reorient current actions and improve monitoring protocols. The learning from the project will be relevant for other similar island ecosystems, especially in the tropics.



The project will focus on the island's seabirds and vegetation to assess how they have evolved since the rat eradication, and on the introduced mouse population to understand its impact on the island's biodiversity and assess possibilities for eradication. The monitoring of these biological indicators will inform future management actions for the island.

### Intended results:

- Increased knowledge of the vegetation and marine bird community of the island and their evolution over time.
- Increased knowledge of the mouse population of the island, its impact and the possibility of eradication.
- Increased understanding of the interactions, both positive and negative, between the island's marine birds, vegetation and mouse population to inform the management of the island and be applied to other similar islands.

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