Written evidence submitted by Chagos Conservation Trust

How well is the UK and its overseas territories managing the impact of invasive species and controlling the risks of further invasion?

The Chagos Conservation Trust

1. The Chagos Conservation Trust (CCT) is a UK registered charity, established in 1992 to promote the protection and conservation of the natural environment of the Chagos Archipelago of the British Indian Ocean Territory (BIOT) and to raise awareness of environmental issues affecting the territory.

2. The CCT has a long-standing goal of eliminating invasive rats from the Chagos Archipelago, to ensure it is a functioning tropical ecosystem with healthy biodiversity and biomass\(^1\) levels, to boost resilient to climate change.

The British Indian Ocean Territory

3. The British Indian Ocean Territory (BIOT) is a British overseas territory and home to an astonishing diversity of life, and acts as a refuge for many threatened species.

4. The territory is one of 14 British Overseas territories and administered from London by the British Indian Ocean Territory Administration. Access is restricted and a permit is required in advance of travel from the Administration.

5. The BIOT Commissioner declared a 640,000 km\(^2\) ‘no-take’ marine protected area (MPA) on 1 April 2010. This means all commercial fishing and extractive activities are prohibited, which is the maximum level of protection. The declaration doubled the previous global no-take area, as well as provided protection to approximately 1.5% of the total global area of near-surface coral reefs. Today it remains one of the largest marine protected areas in the world.

Invasive species and the British Indian Ocean Territory

6. Invasive non-native black rats (Rattus rattus) have been present since they were accidentally introduced in the late 1700s when the archipelago was settled by the French and then the British.\(^2\) They have had a severe impact on seabirds, turtles and land crabs since arriving by eating eggs, hatchlings and the vegetation.\(^3\)

7. The first comprehensive survey for invasive rats in the Chagos Archipelago occurred in 1996 and reported the presence of rats on 36 islands surveyed. Presently the Chagos Archipelago has 58 named and two unnamed land masses.\(^4\)

8. Extensive surveys for invasive mammalian predators post 1996 have revealed that rats are actually present on 26 islands, absent from at least 20 and their status uncertain on the remaining. Six islands reported as rat-infested in 1996 have subsequently been proven to be rat-free and a further three islands have had rat

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1 Biomass = the total quantity or weight of organisms in a given area or volume
4 The Distribution of Ship Rat Rattus rattus in the Chagos Archipelago. Peter Carr and Grant A. Harper. 2016
eradication projects’ undertaken on them,\textsuperscript{5} see paragraph 18,19. Less than 5% of the entire land is regarded as rat free.

9. Diego Garcia is in the southern BIOT, and is the largest (~2,900 ha) and only inhabited island, with a transient population associated with a military base. It has rats and cats present.\textsuperscript{6}

10. The latest information shows that in 58 islands of the northern part of BIOT (2,100ha total combined area), 28 of the islands are known or suspected to have black rats present.\textsuperscript{7}

Fig 1: Distribution of invasive rat across the Chagos Archipelago

11. Over the decade since the MPA was designated, the archipelago has seen significant episodes of coral bleaching due to extreme sea temperatures, resulting in high levels of coral mortality\textsuperscript{8} and a reduction in the functionality\textsuperscript{9} of the reefs.

12. The Chagos’ reefs are not unique in being damaged by warming sea temperatures, coral bleaching caused by global warming, is damaging reefs world-wide. In the past the Chagos’ reefs have been able to recover because of their protected status and

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\textsuperscript{8} Seen down to 13 metres

\textsuperscript{9} Recruitment is down, calcification rates down, structural complexity down, coral cover down – now averages just 10% across all reefs in BIOT.
unpolluted waters, but in recent years, as bleaching events have become more frequent, we need to do everything we can to help them recover.

13. At a time when coral reefs need to build resilience to help them recover from these bleaching events, scientists have discovered there is a direct link between healthy seabird populations on islands and key reef health metrics such as herbivorous fish populations. Where rats are present this natural link between islands and reefs is broken, causing degradation to coral reefs.

14. Rat infested islands have significantly fewer seabirds, particularly ground nesting species, thus reducing the volume of bird droppings, which are a natural fertiliser for corals and an important contributor to reef health and recovery.10

15. In addition, rats are significant predators of turtle eggs and hatchlings and their removal would allow the natural plants and animals of Chagos to recover and once again flourish.

16. For these reasons, eradicating rats from the Chagos Islands is one of the principal management measures needed to restore island biodiversity and bolster the coral reefs in the archipelago. It has now become a priority for management of the territory and is identified as a high priority activity in the draft BIOT Conservation Management Plan.

Previous invasive species management in the British Indian Ocean Territory

17. From available records to date the British government has invested £91,686 across two projects into management or removal of invasive and detrimental species through the FCO/DFID Overseas Territories Environment Programme and Darwin Plus initiative.

18. Project 1 - The eradication of introduced black rats (Rattus rattus) from Eagle Island, BIOT, 2006: The project aimed to eradicate rats from Eagle Island and provide an improved nesting area for turtles and seabirds. The eradication would have been the first step to restoring the ecosystem of Eagle Island which has been much altered by human activity in the past. The removal of rats from Eagle Island would have approximately doubled the area of rat-free habitat in the BIOT, but was unfortunately unsuccessful. Two plausible explanations are: (a) some rats survived the eradication effort and/or (b) rats were re-introduced to Eagle Island by people. The FCO/DFID Overseas Territories Environment Programme invested - £59,43011 (total project costs: £93,830).

19. Project 2 - Ile Vache Marine restoration project, 2014: The aim of the project was to restore the ecosystems of Ile Vache Marine by eradicating invasive rats. This was to be achieved through a four phase operation involving vegetation management, operations set up, eradication and post-eradication monitoring. In 2017 the eradication was confirmed as successful and a revisit to Iles Sel and Jacobin showed that both islands also remained rat-free. The Department for Environment, Food & Rural Affairs and Foreign & Commonwealth Office invested £32,256 through the Darwin Plus initiative (total project costs: £237,821).


11 Figure from FCO/DFID Overseas Territories Environment Programme, 2005 Project No. BIO 202 “The eradication of introduced black rats (Rattus rattus) from Eagle Island, BIOT (OTEPE OTEP BIO202)” application.
Future invasive species management in the British Indian Ocean Territory

20. In 2018 the BIOT Administration convened a workshop to initiate the development of a comprehensive BIOT Conservation Management Plan. The draft plan identifies rat eradication as a priority action to increase biodiversity in BIOT.

21. As a result of this, CCT has a goal, in partnership with the BIOT Administration, of eliminating invasive rats from the BIOT, to ensure it is a functioning tropical ecosystem with healthy biodiversity and biomass\textsuperscript{12} levels, to boost resilient to climate change.

22. This will be achieved through a multi-island rat eradication programme, following best practice, to create the world’s first invasive rat-free archipelago, resulting in 95% more habitat available for seabirds, allowing them to repopulate islands, which will increase nutrient flow to reefs by 250 times.\textsuperscript{13} As well as allowing Chagos’ other native biodiversity once again to thrive.

23. CCT is undertaking a detailed feasibility study to understand the precise requirements for an archipelago-wide eradication project. Following this it is anticipated that a fundraising campaign will be needed to raise the funds required for the whole archipelago eradication, estimated at between £2-3 million.

24. The need for this work has clearly been made and is part of BIOT’s draft management priorities. Funding of this work however remains a significant challenge.

Recommendation

25. We recommend that the BIOT Administration publish the BIOT Conservation Management Plan as soon as possible to publicly acknowledge invasive species eradication is a priority conservation action in BIOT.

26. We recommend that the UK Government establish a new funding instrument to support large-scale invasive species removal in the UK Overseas Territories.

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\textsuperscript{12} Biomass = the total quantity or weight of organisms in a given area or volume.