

Ecology and conservation of the Christmas Island goshawk and hawk-owl

Project information



Resilient
Landscapes

National Environmental Science Program



Christmas Island goshawk (left) and Christmas Island hawk-owl (right). Photos: Rohan Clarke.

The Christmas Island hawk-owl and Christmas Island goshawk are elusive and poorly understood species. We're researching how these apex predators affect, and are affected by, other species on the island to help ensure the conservation of species and ecosystems on Christmas Island.

Knowledge gaps

Little is known about the ecology of Christmas Island's 2 endemic apex predators – the Christmas Island hawk-owl (*Ninox natalis*) and Christmas Island goshawk (*Accipiter fasciatus natalis*). As apex predators, both species are integral parts of the island's ecosystem.

Christmas Island is a priority place under the Australian Government's *Threatened species action plan 2022–2032*, and the goshawk is listed as a priority species under the same plan. However, effective conservation management of these threatened and ecologically important species is impeded by our lack of knowledge.

To conserve these species, this project is collecting new data on their population sizes, habitat preferences, diet and genetic diversity.

Understanding the ecology of Christmas Island raptors

This information is critical for supporting effective management of both species. In the case of the hawk-owl, it will help us understand the importance of hollow-bearing trees as nesting sites.

For the goshawk, new information will help resolve its taxonomic relationship with other *Accipiter* species. It is also important to understand how both species impact on the populations of invasive prey species like black rats.

Our results will help determine important areas for habitat management on Christmas Island and develop monitoring practices for the 2 raptor species.



A juvenile Christmas Island goshawk. Photo: Rohan Clarke.

Key research goals

To address the challenges to conserving apex raptor species on Christmas Island, this project is:

- collecting data on the distributions, abundances, demographics, individual health, spatial ecology, diet and genetics of the Christmas Island hawk-owl and goshawk
- establishing robust monitoring design
- providing important insights into how changes in populations of other species might affect these predatory birds
- determining how urgently conservation actions may be required.

What is the NESP Resilient Landscapes Hub?

The Australian Government's National Environmental Science Program (NESP) funds environment and climate research. NESP currently supports 4 multi-disciplinary research hubs, each hosted by an Australian research institution. The program:

- provides evidence for the design, delivery and on-ground outcomes for environmental programs
- helps decision-makers, including from Indigenous communities, build resilience
- supports positive environmental, social and economic outcomes.

This project is funded by the NESP Resilient Landscapes Hub, which is hosted by the University of Western Australia. The Resilient Landscapes Hub's research supports the management of Australia's terrestrial and freshwater ecosystems and makes them more resilient to extreme events and pervasive pressures.



*A Christmas Island hawk-owl, also called a boobook.
Photo: Rohan Clarke.*



Further information

The project is being led by Professor Justin Welbergen from Western Sydney University, Dr Nicholas Macgregor from Parks Australia and Associate Professor Rohan Clarke from Monash University.

This document and further information are available from the project website at neslandscapes.edu.au/projects/nesp-rlh/goshawk-and-hawkowl.

Contact:

j.welbergen@westernsydney.edu.au,
rohan.clarke@monash.edu,
nicholas.macgregor@dceew.gov.au or
neslandscapes@uwa.edu.au.

Or scan the code:



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