

# Norfolk Island – Protecting an Ocean Jewel

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Released by the Invasive Species Council in November 2017, the report *Norfolk Island – Protecting an Ocean Jewel* calls for a new biosecurity regime to protect the island's unique native plants and wildlife.

One of many changes resulting from the revocation of self-governance on Norfolk Island in July 2016 is the federal government assuming responsibility for most pre-border and border biosecurity. This transition offers the opportunity to establish an exemplary island biosecurity system. Stronger biosecurity is very much needed, for invasive species are the major driver of extinctions on Norfolk and Phillip Islands and new harmful exotic species continue to arrive and establish on the islands.

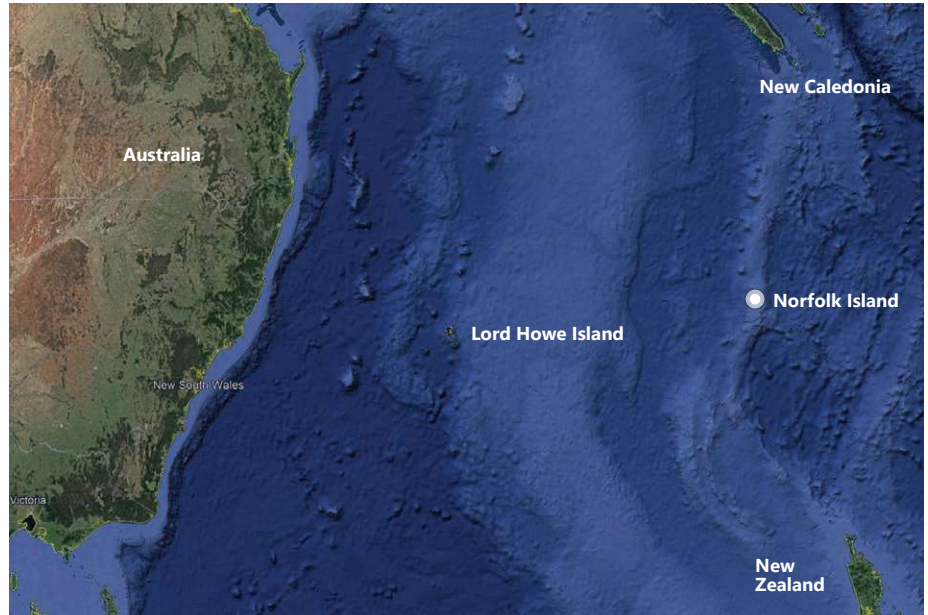
## Location

**Norfolk Island Group:** Just 38km<sup>2</sup> in area, these islands lie about 1700km northeast of Sydney, 1100km north of Auckland and 700km south of Noumea. The largest – Norfolk Island, 35km<sup>2</sup> – has about 1400 human residents, supplemented by up to 600 tourists at a time. Phillip Island (190 hectares), the limestone Nepean Island (10 hectares) and other small islets in the group are not inhabited by people.

As with islands elsewhere, this biological isolation has given rise to a highly endemic flora and fauna, with species highly susceptible to decline when that isolation is breached by humans and human-introduced species.

## History

The history of European occupation is as old as that of mainland Australia. A party of convicts and settlers under the command of Philip Gidley King was dispatched from Port Jackson (Sydney) to harvest pines and cultivate flax and food for the new colony, and to prevent French colonisation. The tumultuous history of



convicts, mutineers and settlers since then has had a massive impact on the biology of these islands, mainly due to extensive clearing and the introduction of species from other parts of the world. For much of the islands' recent history there has been a major effort to repair the damage and protect the much-depleted populations of indigenous wildlife.

## ENVIRONMENTAL VALUES

There are many special things about the Norfolk Island group – their cliff-ringed beauty and fascinating human history, teeming seabird colonies, and a plethora of species found nowhere else in the world. Many of these species have acquired the conservation significance of rarity since human colonisation, due to habitat destruction and the introduction of exotic species from all over the world.

Species indigenous to the islands include about 180 plants, 50 macrofungi, 50 birds (an additional 70 or so are vagrants or non-breeding migrants), and several hundred invertebrate species, including more than 60 land snails.

However, the rate of new species arrival has dramatically escalated, with most of the hundreds of new species establishing in the past 230 years having been

brought by or hitchhiked with humans. Some of these are causing a great deal of damage, by preying on or competing with native wildlife or degrading their habitat.

A substantial proportion of the indigenous species on Norfolk and Phillip Islands are found nowhere else on Earth – 43 plants (almost a quarter of the native flora), 15 birds (species and subspecies), 3 marine fishes, and hundreds of invertebrates (including 60+ land snails, 65 beetles, 30 moths, 12 thrips, 11 booklice, 3 katydids, springtails, and a cricket, cicada, centipede and ant).

Europeans arrived in 1788, Norfolk and Phillip islands were densely forested, with the endemic Norfolk Island pine (*Araucaria heterophylla*) dominant in the canopy. Now less than 10% of the original forest survives, mostly within the national park on Mt Pitt and Mt Bates.

The bald rolling hills of Norfolk are densely covered in kikuyu grass (an introduced species), and the Norfolk Island pine is threatened.

Land clearing, hunting and invasive species have led to the loss and decline of many native species.

Fifty-eight Norfolk species are listed as threatened under Australia's national

environmental law (Environment Protection and Biodiversity Conservation Act 1999 [EPBC Act]): 46 plants, five birds (four land birds and one seabird), two reptiles and five land snails.

## Norfolk Island Green Parrot

The critically endangered Norfolk Island green parrot (or parakeet) has the 'dubious honour of having to be rescued from the brink of extinction not once, but twice'. In 1988 the population was reduced to 32 birds due to predation by rats and cats and competition from crimson rosellas and starlings. Numbers rebounded to about 200 in 2008 due to a recovery program, but by late 2013 they had sunk again to no more than 100, including just 11 breeding-age females. A rescue effort since then has involved setting up rodent-proof nesting sites and spreading chicks among parents to improve survival rates. A project is under way to establish an insurance population on Phillip Island.

## Important Bird Area

Norfolk and Nepean Islands are listed by Birdlife Australia as an Important Bird Area (among Earth's most exceptional places for birds) for supporting the entire populations of the white-chested white-eye (*Zosterops albogularis*), slender-billed white-eye (*Zosterops tenuirostris*), green parrot (*Cyanoramphus cookii*) and Norfolk gerygone (*Gerygone modesta*), as well as more than 1% of the world populations of wedge-tailed shearwater and red-tailed tropic bird.

Of the 15 species or subspecies of endemic land birds known from Norfolk Island at the time of European settlement, six are listed as extinct under the EPBC Act, two are listed as critically endangered and two as vulnerable. The main causes of extinction and decline have been extensive forest loss and introduced predators and competitors.



Critically endangered Norfolk Island green parrot. Photo: Luis Ortiz-Catedral

## WEEDS, RATS & FERAL CATS

Island wildlife can be highly susceptible to from invasive species. Evolving with fewer competitors, predators and parasites than wildlife on continents, they often have poor defences against invaders.

Species introduced by or arriving with humans are often very different to indigenous island species and could not travel across oceans under natural conditions. They can thrive on islands due to fewer predators, competitors and pathogens than in their land of origin, and vacant ecological niches.

As a result, invasive species on islands have been responsible for a great proportion of global extinctions over the past few centuries. Three-quarters of the recorded extinctions of terrestrial vertebrate animals have occurred on islands, mostly caused by invasive species.

Norfolk and Phillip islands exemplify the vulnerability of island species to invasive species.

Invasive species – particularly weeds, rats and feral cats – constitute the major threat to the islands' wildlife. For example, the threats go beyond predation and competition. By decimating seabird colonies on Norfolk Island, rats and cats have seriously compromised ecological processes, due to the reduction in

phosphorous previously deposited in the guano of millions of seabirds.

Most animal extinctions and declines on the Norfolk Island group have been caused by introduced predators – two rat species and the domestic cat.

## ARGENTINE ANT

The Argentine ant (*Linepithema humile*), was first detected in 2005, this invasive ant is likely to cause serious harm to Norfolk Island's wildlife if not eradicated.

The species has invaded many countries, including the Australian mainland, where it forms super-colonies and competitively displaces most other ant species. On Norfolk Island, the diversity and abundance of other ant species has been noticeably reduced around Argentine ant colonies.

The local loss of other ants can compromise ecosystem processes such as soil aeration, nutrient cycling and seed dispersal. Ground-nesting seabirds and threatened species such as the green parrot and Norfolk Island robin are at greatest risk.

## Contact us

For more information about the Invasive Species Council and to get a copy of this report visit our website, [invasives.org.au](http://invasives.org.au).

## Polynesian rat (*Rattus exulans*), black rat (*Rattus rattus*)

These two rat species prey on land birds and seabirds (including eggs and nestlings), reptiles, and invertebrates, including land snails. They are considered to be the most destructive predator on Norfolk Island, responsible for the loss of several endemic bird species and the two lizard species. Rats threaten the endemic golden whistler, Norfolk Island robin, green parrot, gerygone, slender-billed white-eye, fantail, most nesting seabirds and land snails.

Photo: Black rat © Nga Manu Images

