

Rodent Eradication Program on Lord Howe Island - Case Study

Section 1. How rodents impacted the flora and fauna on Lord Howe Island

Lord Howe Island is home to many unique and interesting plant and animal species. The ecology of the island has long been recognised as unique, and programs to care for the environment on the island have been in place for over 100 years.

Because Lord Howe Island is small and has evolved in a largely untouched way for thousands of years, it only takes a small disruption to make a big impact. This is certainly the case with the rodents that arrived onto Lord Howe Island.

The House Mouse (*Mus musculus*) appeared on the island in around 1850, and the Ship Rat (*Rattus rattus*) is believed to have arrived in 1918, having escaped from a sinking ship close to the coast of Lord Howe Island.



House mouse (*Mus musculus*)

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By 2019 the rodent population was believed to be around 300,000.² The damage they were causing was considerable. They have caused the extinction of at least two plants, five endemic birds and at least 13 invertebrates, and were considered a threat to 13 other bird species, 2 reptiles and 51 plant species.³

Both Ship Rats and House Mice are nocturnal and would spend their nights on the island eating all sorts of things, including seeds and plants, snails and other invertebrates, the eggs of endemic birds, and sometimes even the newly hatched chicks. There were so many rodents that the people living on the island were having trouble growing their own veggies!⁴

Questions:

- Summarise this section in your own words
- Why do you think the rodents were able to take over the island so effectively?
- What do you think was the most important or interesting point made in this section?
- What does this section make you wonder? What questions do you have about the information in this section?

Section 2. Lord Howe Island is now free of rodents - how did this happen?

In June 2019 the Lord Howe Island Rodent Eradication Program launched. This was a huge project, and the \$15.5 million required to fund the project was provided by the Lord Howe Island Board, the NSW Environmental Trust and the Commonwealth Government.

The eradication program required that poisonous bait traps would be laid out across the island. The bait in these traps would be attractive to the rodents, who, once they had eaten the bait, would die.

The bait traps covered the island like a net, with 2,400 points laid out at 10-metre intervals across the parts of the island that were accessible by foot. In other areas, pellets of poison were dropped by helicopter.

However, there were concerns that some native animals on the island might eat the poison bait. In particular concern was the Lord Howe Island Woodhen, which had been the subject of a conservation program which saw its numbers rise from 30 in the late 1970s to 230 at the start of the eradication program. Scientists were keen to keep its numbers stable and to ensure it wasn't adversely affected by the rodent bait so they moved the entire population of Woodhens to Taronga Zoo for the duration of the rodent eradication program.⁵

The Lord Howe Island Rodent Eradication Program was successful, and the island has been free of rodents for two years. The Woodhens were returned to the island and their numbers have since increased, with 460 recorded at the start of 2021.⁶

In addition, there have been increases in the numbers of other species, including the black-winged petrel and endemic land snails. Plant species are also making a recovery, after years of being nibbled at by the rodents. Local residents are also reporting noticing more insects on the island.⁷

Questions:

- Summarise this section in your own words
- Why do you think scientists were so determined to eradicate the rodents? What was at stake?
- Why do you think the rodent eradication program was so successful? What features of the program and conditions of the island helped make it successful?
- What do you think was the most important or interesting point made in this section?
- What does this section make you wonder? What questions do you have about the information in this section?



Ship rat (*Rattus rattus*)

Section 3. What needs to be done to keep them off? What do they need to ensure the long-term success of the eradication program?

In April of 2021, two rats were spotted on Lord Howe Island. It is believed the rats arrived on a recent cargo ship (they have since been removed⁸). This highlights the need for vigilance around invasive species on Lord Howe Island.

Keeping the rodents - and other invasive species - off the island requires the support of the whole community. Visitors to the island - whether they are there for a holiday or they are on a cargo ship - need to also keep an eye out for rodents and other invasive species. Biosecurity measures need to be in place for any arrivals to the island.⁹



Primarily though, for a project like this to be and remain successful, you need the support of the local community. Because the island is small and the eradication program covers the island, residents across the island will need to be willing to have bait traps in their own backyards. They will need to be willing to keep an eye out for and report any rodents they see into the future. They will need to be willing to engage with any quarantine and biosecurity measures. Working with communities is key in ensuring programs like these are successful.

Questions:

- Summarise this section in your own words
- Why do you think it is important that scientists work with the local community?
- Do you think the hard work of the eradication program has all been done, now that the rodents are all gone?
- What do you think was the most important or interesting point made in this section?
- What does this section make you wonder? What questions do you have about the information in this section?

Find out more about the program:

- The Lord Howe Island Rodent Eradication Project website has a useful infographic: <http://lhirodenteradicationproject.org/the-project/>
- Lord Howe Island Board - Rodent Eradication: <https://www.lhib.nsw.gov.au/environment/environmental-programs/rodent-eradication>
- Step Inc - Lord Howe Island Rodent Eradication Declared a Success: <https://www.step.org.au/index.php/item/418-lord-howe-island-rodent-eradication-declared-a-success>

References

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