

Returning small mammals to Booderee National Park

NESP Threatened Species Recovery Hub Project 3.2.2.1

Who is involved?

The project involved Booderee National Park, The Australian National University, Rewilding Australia, WWF-Australia, Taronga Conservation Society, Tasmanian Quoll Conservation Program, Devils@Cradle, Trowunna, Aussie Ark, NSW Forestry Corporation and the Wreck Bay Aboriginal Community Council.

Where is the work happening

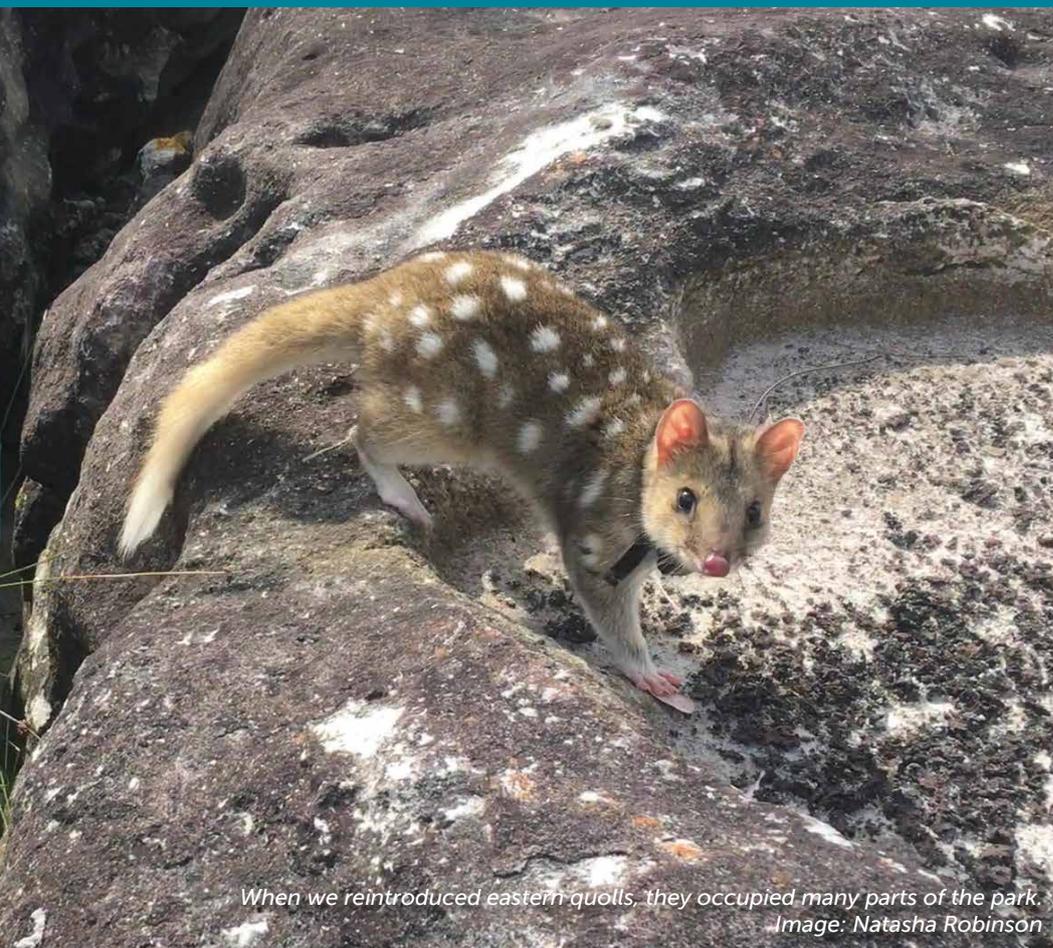
The work took place in Booderee National Park, the traditional land of the Wreck Bay people.

When is the work happening?

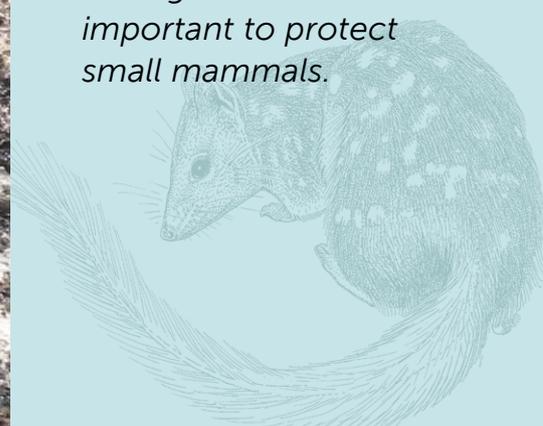
Reintroductions to Booderee began in 2014. The bandicoot and quoll project ran for five years from 2016 to 2021. The park will continue to monitor and manage the animals and the threats they face.

KEY MESSAGES

- *Booderee National Park is home to many unique animals*
- *Some animals are declining and are no longer found in the park.*
- *Good park management has allowed the return of long-nosed potoroos, southern brown bandicoots and eastern quolls.*
- *Bandicoots like heath and woodland vegetation.*
- *Quolls occupied many areas of the park and ate many things.*
- *Ongoing threat management is important to protect small mammals.*



*When we reintroduced eastern quolls, they occupied many parts of the park.
Image: Natasha Robinson*





Caring for Country

Booderee is home to many unique plants and animals. These plants and animals are special to the Wreck Bay Aboriginal Community, who take care of Country.

Many animals have been lost because of past and present threats. Southern brown bandicoots and eastern quolls were once very common in



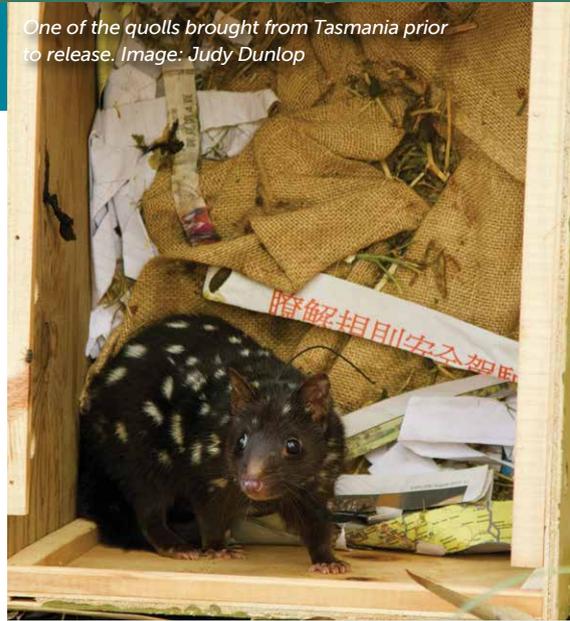
Booderee and nearby areas. Southern brown bandicoots used to be an important part of the local diet. There are bandicoot remains in middens.

Local rangers manage threats to animals. They also brought the animals back to Booderee and monitored them.

BELOW: Children with signs. Image: Rachel Morgain



One of the quolls brought from Tasmania prior to release. Image: Judy Dunlop



What happened to the small mammals?

Small mammals are disappearing from Booderee National Park, like they are across Australia. Introduced animals such as foxes are killing small native mammals, contributing to declines and extinctions. The park has done good fox control for many years. This has allowed many native animals such as possums to recover. However, some animals cannot return without help.

Southern brown bandicoots, eastern quolls and long-nosed potoroos were once common in the Jervis Bay region. These animals had not been seen in the park for many years. But beginning in 2014, scientists and rangers brought these animals back to the park. Initially, all the animals survived but now only the southern brown bandicoots and long-nosed potoroos continue to survive in the park. Ongoing management is needed for the animals to survive into the future.



Returning small mammals to the park

We have returned three species of small mammal to Booderee – 35 long-nosed potoroos, 28 southern brown bandicoots and 60 eastern quolls. We caught the potoroos and southern brown bandicoots in forests near Eden. The quolls were raised in captivity in Tasmania and New South Wales. We wanted to know what would happen to these animals once we released them in the park. Would they survive? Would they find food and shelter? Would they breed and settle in the park? What are the main threats they face?

We set up cameras to find animals. We put tracking devices on individual animals to follow their movements. We set cage traps to check on breeding, weight and health. We collected scat (goona) samples to look at their diet. We also took tissue samples to check on genetic diversity. This is what we found out.

Southern brown bandicoots

Southern brown bandicoots like heath and woodland more than forest. Reintroduced male southern brown bandicoots moved further away than females. Reintroduced bandicoots had good genetic diversity. But the population of southern brown bandicoots at Booderee is small. More southern brown bandicoots will be needed to help this population grow and maintain good genetic diversity.

Eastern quolls

Quolls like to eat many things at Booderee. They ate beetles, moths, birds, lizards, frogs, and small mammals such as rabbits and bush rats. Predators like quolls are less skilled at hunting when raised in captivity. The rangers put out food in tubes to help the quolls get used to living at Booderee.



Tyson Simpson-Brown and Phillip Brown-Smith tracking eastern quolls. Image: Natasha Robinson

The quolls ate this food. When the quolls first arrived they lost weight, but then they put it back on. Female quolls lived longer than male quolls and recovered their weight better. That is probably because male quolls fight more.

We found that some threats to quolls are difficult to manage. Foxes and cars killed many quolls. Despite good fox control, there are still a few foxes in the park. Quolls are also attracted to roads and are easily hit by cars. We put up road signs in the park so drivers will look out for quolls. Unfortunately, we think the eastern quolls are no longer in the park.

Shane Sturgeon (a Parks Australia ranger) releases a southern brown bandicoot. Image: Thea O'Loughlin





Not all reintroductions work the first time

Most reintroductions are not successful. Animals need to find food and shelter in their new environment, and sometimes they encounter new threats. This means that some animals may not survive. We can learn from this and improve the chances of survival for future animals. We may need to release more animals to help the populations get settled in the park. A larger and more genetically diverse population is more likely to survive.



Wreck Bay rangers meet with the Federal Environment Minister.
Image: Patrick Giumelli, WWF Australia

More information

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