

BATHURST ISLAND the Northern Territory's last mammal refuge?

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The Tiwi Islands are one of the last remaining places in northern Australia with an intact mammal assemblage - no extinctions.

Alarming, in 2015 declining population trajectories were reported for native mammals on Melville Island.

Abundant feral cats and feral herbivores have been suggested as the drivers of mammal declines on Melville Island.

In contrast, neighbouring Bathurst Island has no large herbivores (buffalo and horse are absent) and cats occur at very low densities. However, the stability of its native mammals has never been assessed.

Aim

To conduct a health check of native mammal populations on Bathurst and Melville Island.

Hypothesis

Given the absence of feral herbivores (buffalo and horse), and low density of feral cats, native mammals on Bathurst Island will have remained relatively healthy.

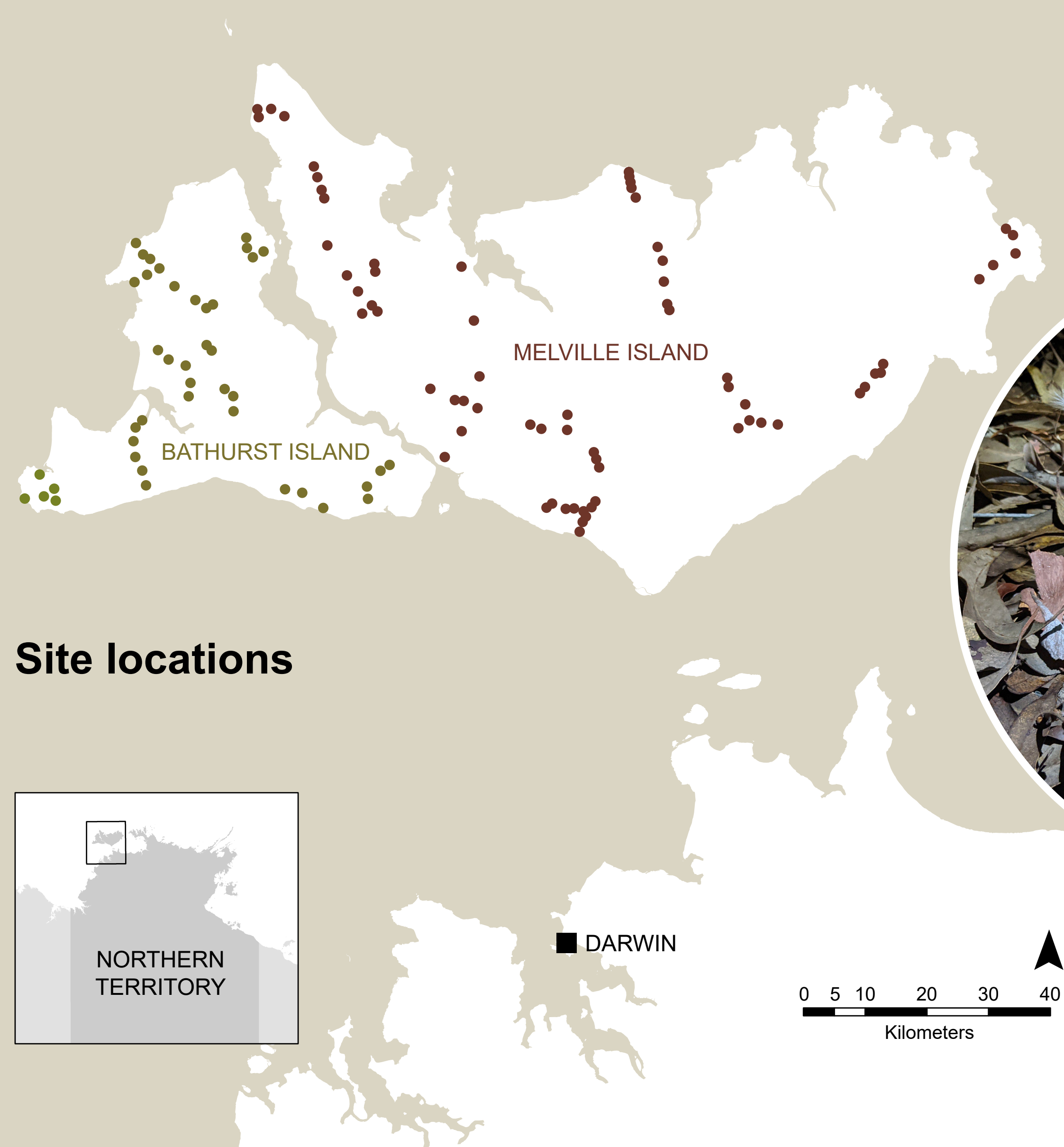
Methods

We re-surveyed 111 sites in 2020-2021 that were originally surveyed between 2000-2002.

The same live-trapping method was used, supplemented with five camera traps.

Live-trapping was conducted for three consecutive nights and cameras remained active for 5 weeks.

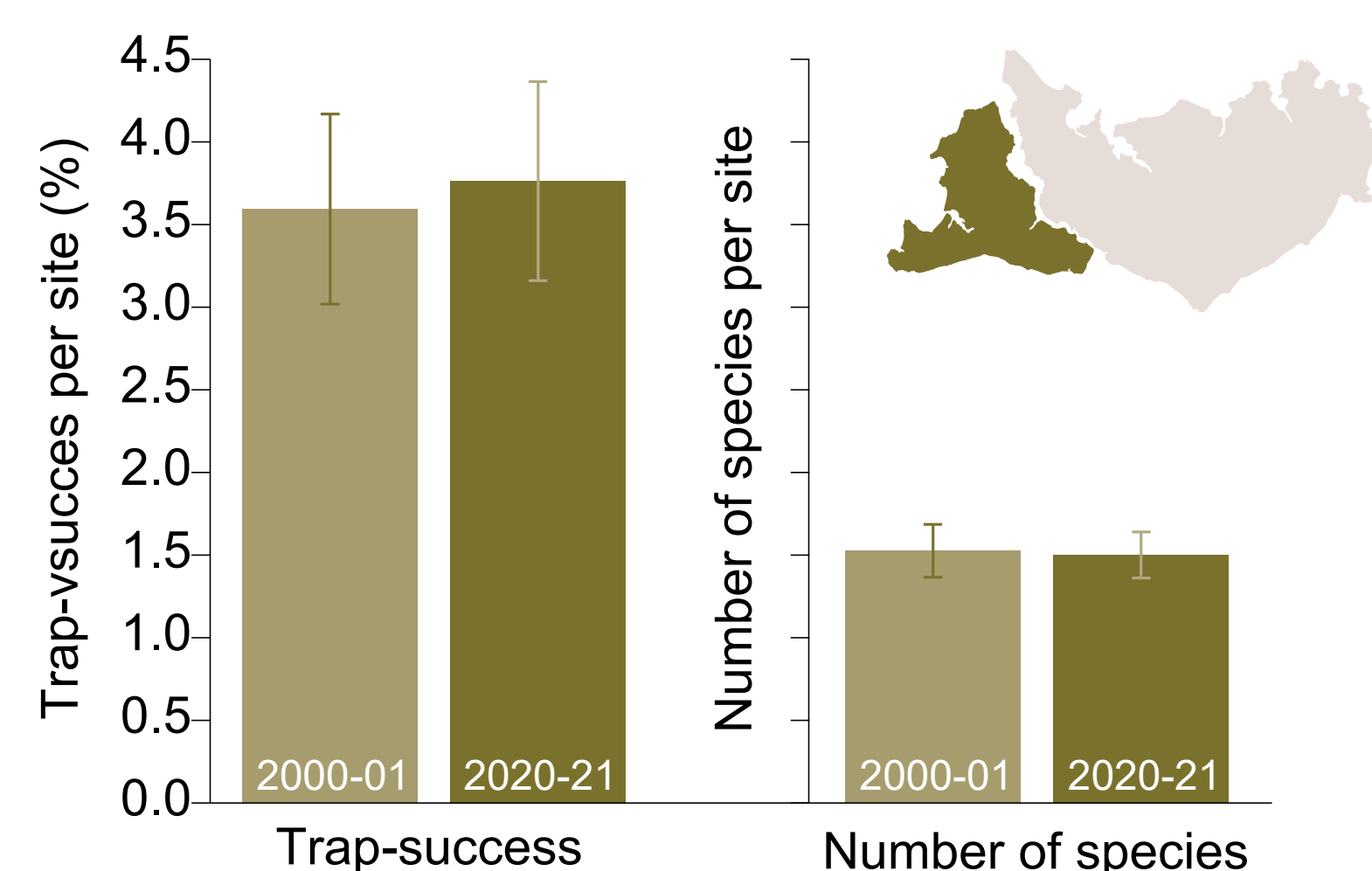
All sites were in eucalypt forest or woodland.



Results

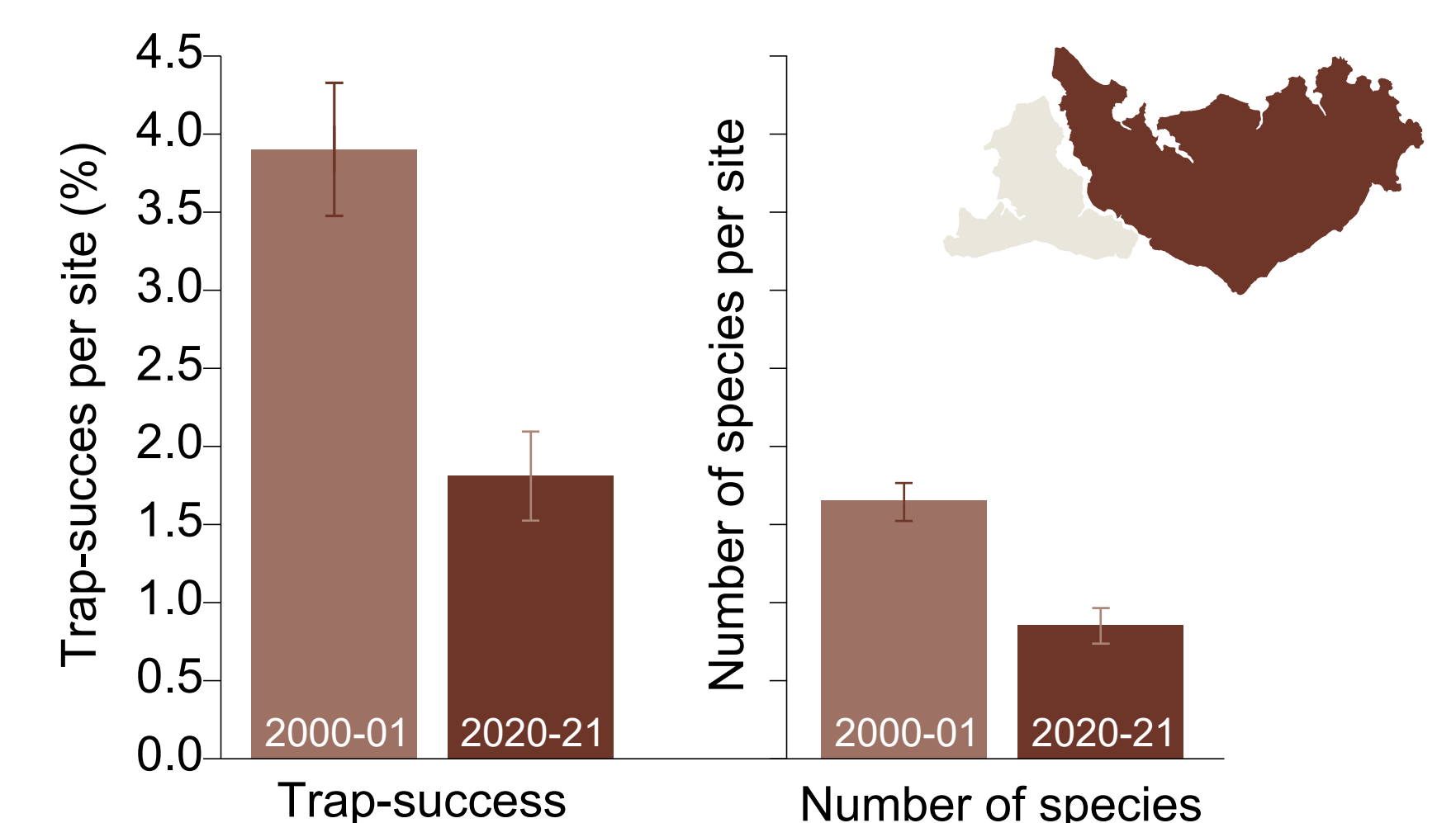
Bathurst Island

No significant change in trap-success or species richness.



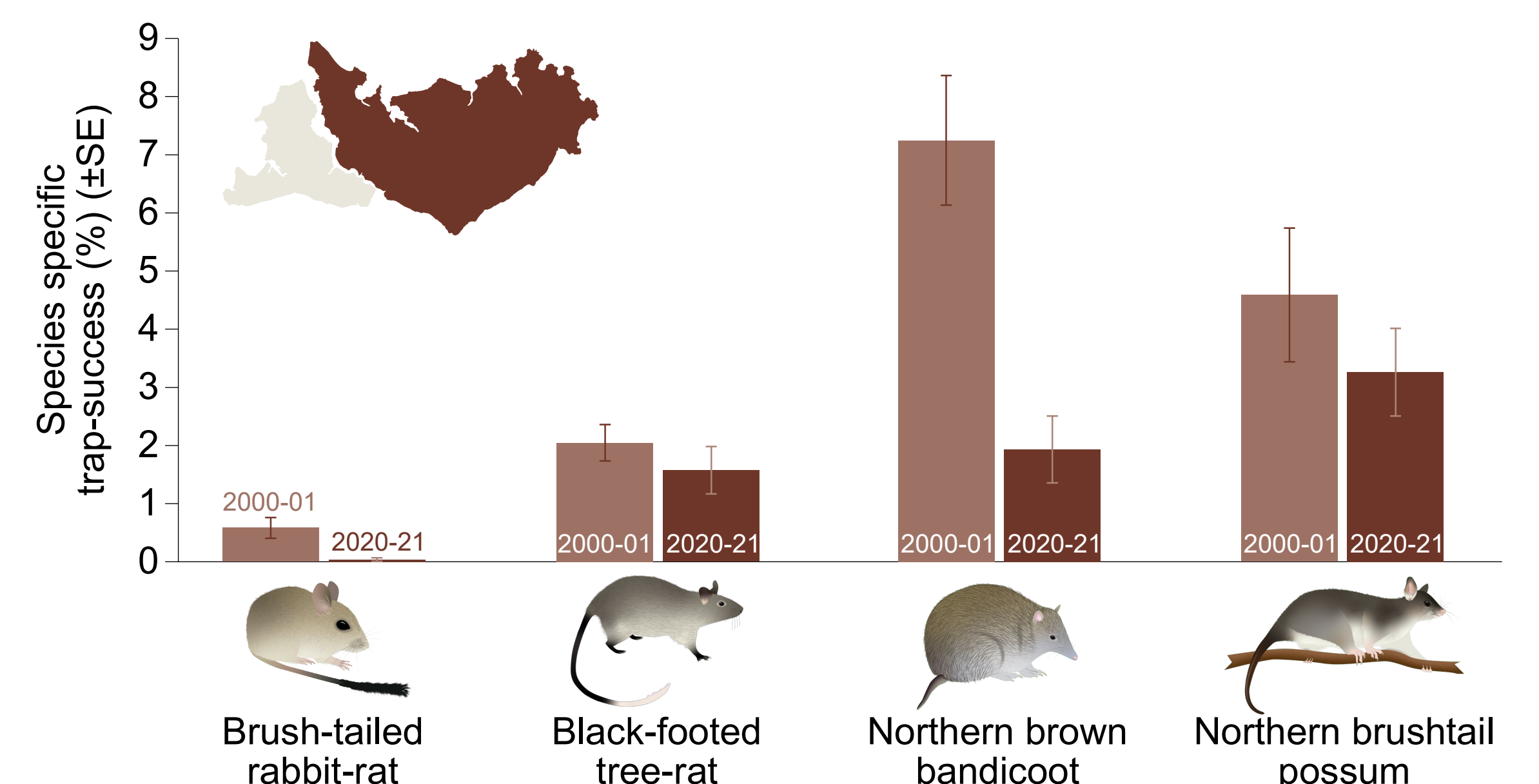
Melville Island

46% reduction in mammal trap-success and a 51% reduction in species richness.

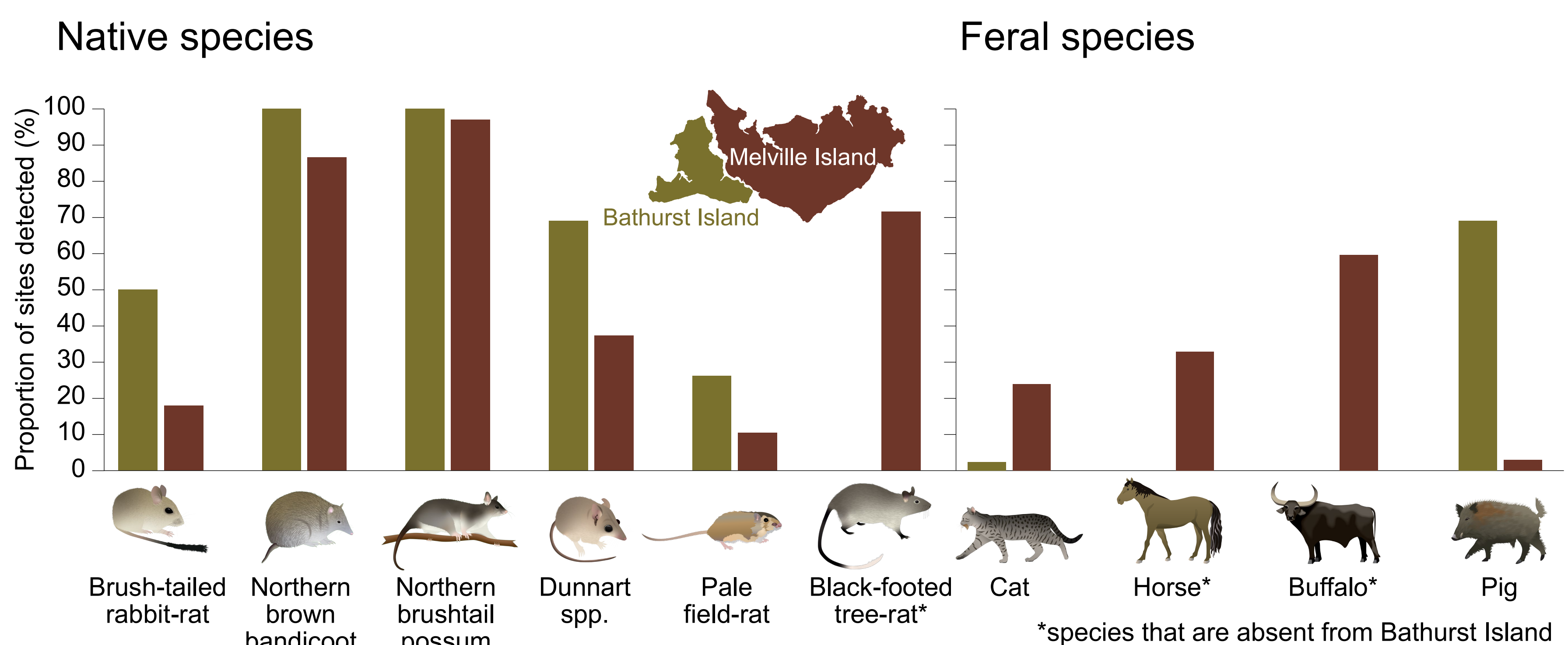


Brush-tailed rabbit-rats were present at 50% of sites on Bathurst Island compared to just 17% of sites on Melville.

Melville Island – species declining



Proportion of sites native and feral species were detected on camera traps



Conclusions

Our results support our hypothesis that native mammal populations on Bathurst Island remain healthy.

This is consistent with the theory that abundant feral cats in combination with higher feral herbivores densities are driving the decline of mammals on neighbouring Melville Island.

Bathurst Island supports the largest stable population of the threatened brush-tailed rabbit-rat and should be considered as one of the most important island refuges in northern Australian.

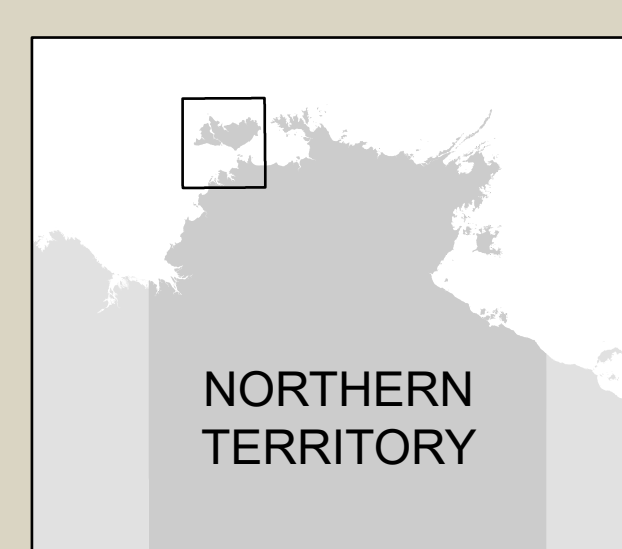


Acknowledgements

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Symbols courtesy of the NESP Resilient Landscapes Hub, nesplandscapes.edu.au and Integration and Application Network ian.umces.edu/media-library.



DARWIN

0 5 10 20 30 40
Kilometers

