Report card 2018 | Ō Tū Wharekai

# A giant skink inhabiting Ō Tū Wharekai

Objective 4: Maintain and enhance indigenous species diversity and threatened species

This report card shares a recently completed longterm study into the population of scree skink in Ō Tū Wharekai – the first study of its kind on this Nationally Vulnerable lizard species.

The scree skink (*Oligosoma waimatense*) is one of New Zealand's largest skink species (-26 cm long) and inhabits a stream bed in the Ō Tū Wharekai wetland management area. This skink is rock dwelling, with a limited distribution in the South Island's mountains from North Otago to Marlborough. Until now there has been little known about the scree skink, despite it being one of the area's most threatened lizard species.

## A long-term study

A 10-year study on the local population of scree skinks was completed in 2018. The study aimed to learn about the skinks' ecology, identify threats and make management recommendations. Individuals were counted each year and a small number were radio tagged to estimate their home ranges.



Arawai Kākāriki



## **Research findings**

The number of skinks caught each year varied between 5 and 32.

Three severe flooding events occurred during the study period – most notably in 2009, which caused an 84% decline in skink capture numbers. It took the population ~8.5 years to recover to comparable pre-flood numbers.

The radio-tagged individuals had varying home range sizes (up to 950 m<sup>2</sup>), but never left the rocky streambed, demonstrating their habitat specialisation.

Although no overall declining trend in the scree skink population was observed, this does not indicate population stability. Active management should therefore be considered.



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### Threats

Based on an assessment of New Zealand lizard species, the scree skink is susceptible to extinction due to its habitat specialisation and large body size.<sup>1</sup>

#### Flooding

Severe flooding in May 2009 had the greatest impact on scree skink numbers in this study. Two summer floods had less or no impact on numbers, possibly because skinks are active in warmer weather and can move out of flooded areas. Although flooding is a natural occurrence in braided-river systems, climate change will alter the frequency and timing of these events.

#### Predators

Mammalian predators in New Zealand have caused (or been implicated in) declines of skink species.<sup>2,3</sup> A large body size prevents the scree skink from escaping predation by small mammals, such as mice and weasels. Large numbers of skinks (70+ and 49) have been found in the gut contents of feral cats in Otago.<sup>4,5</sup> Mammalian predators observed during the study were cats, stoats, possums, hedgehogs and mice.





#### Wildlife trafficking

All indigenous lizards have 'absolute protection' under the Wildlife Act 1953, requiring a permit for possession or distribution. New Zealand lizards are desirable overseas due to their rarity, lack of availability overseas, unusual lifehistory traits and endemicity.<sup>6</sup>

#### Weed encroachment

Invasive weeds, such as briar rose, gorse and broom, cover the bare rock inhabited by the scree skink. These weeds alter scree skink habitat and provide cover for predators.



#### References

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- 3. Nelson et al., 2006. Lizard Conservation in Mainland Sanctuaries.
- 4. Reardon, et al., 2012. Predator control allows critically endangered lizards to recover on mainland New Zealand.
- Middlemiss, 1995. Predation of lizards by feral house cats (*Felis catus*) and ferrets (*Mustela furo*) in the tussock grassland of Otago.
- 6. Dr James Reardon. Personal observation, DOC Te Anau Office.
- 7. Auliya et al., 2016. Trade in live reptiles, its impacts on wild populations, and the role of the European market.

#### Next actions...



All photos: Marieke Lettink

Continue monitoring this population and consider pest mammal management.



Monitor four less flood-prone sites to determine impacts of other threats.



Control tall weeds, such as wilding conifers, at affected sites to prevent shading of habitat.

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