



Mokomoko Newsletter

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Hello everyone

As reported in the last newsletter, the Central Otago Ecological Trust is embarking on a proof-of-concept study to see whether it is possible to re-establish a population of Otago skinks in the wild inside a small pest-proof fence. If successful, we will be in a better position to consider future options for restoration of lizard communities on a wider scale. In this edition, we report on progress with this and other work.

Site chosen for skink reintroduction

We have chosen a small site (0.2 ha) [REDACTED] to conduct the study. The site consists of three large rock outcrops with abundant fruit-bearing native shrubs. The site has been inspected by James Reardon and Lesley Judd of DOC's Grand and Otago Skink Recovery Programme, and by specialist fencing contractors. All agree that the site looks suitable for skinks, and that a 190-m long pest-proof fence can be constructed around the site.

A critical requirement of the site are rock cracks that provide refuge for skinks from extreme cold and heat. We monitored temperatures inside the cracks during winter. The lowest temperature recorded was +3°C which

is an excellent result, notwithstanding the lack of an especially cold winter this year. Still, it gives us some confidence that the rock structures at the site have good thermal refuge for skinks. We have also monitored temperatures at Macraes Flat in rock cracks that are occupied by skinks, but the data are yet to be downloaded.

We will need to raise \$95,000 to help fund the fence and the associated costs for the next 3 years. The fence might be completed by the end of January next year but that may be optimistic.

We are hoping to translocate about 20 skinks to the site in the following spring. It's important that we have some understanding of the relative survival rates of captive-born skinks versus wild skinks, so we hope to use 10 of each category.

Tim Whittaker and Lesley Judd from DOC are kindly preparing the necessary permits and consents on COET's behalf to undertake the project.

Over-wintering of captive Otago skinks

We provided improved thermal refuge for our captive skinks this winter by providing them with access to PVC pipes buried 1m below ground. Temperatures inside the pipes during winter did not fall below +3.5°C, despite the temperatures inside the cages exposed to the cold falling to -4.5°C. We are very pleased with this result. All eight skinks appear to have survived the winter so we are encouraged that the new system is a success.

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Results of DOC's experiment on recovery of grand and Otago skinks

Very pleasing results have also emerged from DOC's experiment at Macraes Flat. The evidence is quite clear that eradication of all mammalian predators (i.e. cats, ferrets, stoats, weasels, rats, mice, hedgehogs) leads to recovery of both grand and Otago skinks. The unexpected result was that similar rates of recovery were achieved outside the fence where predators (all species except mice) were intensively kill-trapped over an extensive area. This trapping effect was most apparent in the core of the trapped area. The margins were less effective because of constant immigration of predators into the edge of the control zone. This means that predator control has to be conducted over large areas (1000-1200 ha) in order to protect populations in the middle.

These results have significant implications for COET. Not only is removal of predators critical to re-establishing skink populations, but extensive predator trapping is another management option we can consider for the future if and when we expand translocation over a wider area. Whether the effects of trapping at Macraes will apply to the drier inland basins around Alexandra remains to be seen. This is something we will explore in the future.

The trustees extend their congratulations to the DOC staff who achieved these results, in particular James Reardon, Andy Hutcheon, Karina Holmes, Lesley Judd, Nathan Whitmore and Bruce McKinlay.

Farewell to James Reardon and Karina Holmes

James is moving onto other challenges by taking up a position with the Zoological Society of London. Karina has also made a career change and has moved to Queensland with her husband. James and Karina have been an inspiration and constant supporters of COET. We wish them all the very best for the future.

Conservation Week and the Alexandra Blossom Festival

Both of these events will feature Otago skinks this year. The Central Stories Museum & Art Gallery are lending one of their skinks to DOC for a display in Dunedin during Conservation Week, and they are featuring Otago skinks in a float they are building for the Blossom Festival. These are wonderful venues for educating the public about the Trusts' aims and the conservation of New Zealand's lizard fauna.

Re-vegetation day

We will be holding a vegetation restoration day at the [REDACTED] on Sunday Sept 28. The day will focus on weeding and planting at the new skink release site. We will meet at 10 am at the locked gate behind Conroy's Dam. Garry Nixon will send a reminder soon.

Trustees of the Central Otago Ecological Trust.



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