

SRARNZ Position Statement on Breeding Lizards for Release in New Zealand

Captive breeding of animals for release in the wild is a conservation tool that has been in use for many decades, both for reintroduction (establishing new wild populations) or reinforcement (increasing existing populations). This is part of the broader tool of conservation translocation, including wild-to-wild translocations. For these purposes, captive for release does not include the “kohanga” technique where pregnant individuals or eggs are taken from the wild and viable offspring returned to the wild. More detailed summaries on the use of conservation translocations are available in a variety of locations (e.g. [IUCN Reintroduction Guidelines](#)). Captive breeding for release has rarely been used as a conservation tool for New Zealand lizards (Romijn & Hartley, 2016), but there is increasing interest in it as New Zealand lizards become both rarer and more widely valued.

Breed-for-release can be a useful tool for species conservation, but if done incorrectly can carry significant risks, including:

- Introduction of exotic diseases acquired in captivity
- Release of physically or behaviourally unfit animals which fail to survive
- Release of inbred animals lacking genetic variation, resulting from captive programmes with too few founders, and leading to poor adaptability of the population in future
- Release of hybrid individuals, potentially resulting in poor fitness because of outbreeding depression and lack of adaptation to the release environment and the species’ ecological niche, and with potential also to introduce hybrid genotypes into surrounding native populations
- Release of the wrong species or the wrong geographical stock within the species, again leading to poor adaptation to the release environment and the species’ ecological niche, and with potential also to introduce exotic genotypes into surrounding native populations.

SRARNZ believes that it is important to avoid these risks. This statement, put together by a working group and endorsed by SRARNZ Council, clarifies SRARNZ’s position on breed-for-release programmes. We expect that DOC, zoos, sanctuaries and private holders will ensure that any specific proposal will agree with this statement. To avoid the above risks, translocations (from any source) should not take place unless all of the following conditions are met:

- The translocation meets all the criteria of the International Union for Conservation of Nature (IUCN) Reintroduction Guidelines, and the New Zealand Department of Conservation’s Translocation Standard Operating Procedure
- The primary cause(s) of decline are managed effectively at the release site
- All necessary permissions have been obtained, including approval to release at the release location (e.g. DOC permits, iwi support)
- The release site is large enough, in good enough ecological condition, and has long-term statutory protection to support a long-term, viable, self-sustaining population. The long-term suitability of the site regarding climate change should also be considered.
- There is a close genetic and ecological match between the source population and the population present or previously present at the site
- Health testing has been carried out to avoid the introduction of exotic pathogens with the translocated animals

- There is evidence to suggest that the recipient habitat is not at carrying capacity for species with an ecology likely to have significant overlap with the proposed translocated taxa.

SRARNZ believes reintroduction using wild populations as a source will result in better outcomes and is always the preferred option if possible (supported by international literature; e.g. Parker *et al*, 2012; Snyder *et al*. 1996). Only under exceptional circumstances where wild sources are unavailable should a lizard breed-for-release programme be considered.

Captive breed-for-release programmes are appropriate under the following circumstances:

- Objectives and purpose of the programme are clearly stated before the initiation of the captive breeding programme; including identification of a release site suitable for the species
 - Wild populations are clearly less suitable as source populations (e.g. the species is very cryptic and attempts to collect founders have failed; a species is sparse and seldom encountered), or impacts to the wild populations are likely to be significant
 - The foundation stock for the breed-for-release programme has been shown to be ecologically and genetically suitable for the release site. Generally, this will mean that:
 - ✓ All the ancestors of the captive lizard population were collected from the same genetic stock – i.e., all from the same location, or all from a regional group of populations known to be genetically similar and compatible
 - ✓ There is very good documentation on where the original collection sites was/were (e.g. word of mouth through several changes of ownership is not adequate)
 - ✓ There has been absolutely no opportunity for mating with individuals from different areas, or for hybridisation with related species
 - ✓ There has been no opportunity (even through wire mesh) for interaction with exotic reptile species
 - ✓ Appropriate source and release group sizes and breeding regimes are used to support the future evolutionary potential of the species or population in the captive breeding program
- N.B. Importantly, these requirements may be relaxed for the most endangered species where security of the species would otherwise be compromised
- The technical challenges in maintaining good husbandry and robust breeding programmes can be met, e.g. maintaining health status, genetic profile, behavioural flexibility

Breed-for-release can provide opportunities for powerful advocacy programmes, but advocacy is not the primary purpose of breed-for-release programmes. A need to dispose of surplus animals that can no longer be kept in captivity does not constitute a breed-for-release programme. SRARNZ endorses the use of euthanasia for animals that are not suitable for release and have no other use.

References:

Parker, K. A., Dickens, M. J., Clarke, R. H., & Lovegrove, T. G. (2012). The theory and practice of catching, holding, moving and releasing animals. *Reintroduction biology: integrating science and management*, 105.

Romijn, R. L., & Hartley, S. (2016). Trends in lizard translocations in New Zealand between 1988 and 2013. *New Zealand Journal of Zoology*, 43(2), 191-210.

Snyder, N. F., Derrickson, S. R., Beissinger, S. R., Wiley, J. W., Smith, T. B., Toone, W. D., & Miller, B. (1996). Limitations of captive breeding in endangered species recovery. *Conservation Biology*, 10(2), 338-348.