

# Competition with humans responsible for decline of New Zealand's endangered sea lions, study shows

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Marine researchers in New Zealand have identified the direct impact of fishing as the largest known human factor in the decline of the endangered native sea lion population. The team's findings, published in *Mammal Review*, discount non-human factors, such as disease and identifies resource competition and by-catch incidents as the most likely causes.

The New Zealand [sea lion](#) *Phocarctos hookeri* is the country's only native pinniped species and is listed as 'nationally critical'. The species breeds in the sub-Antarctic, south of New Zealand's mainland, with 71% of the population on the Auckland Islands and the remaining 29% on Campbell Island.

Breeding at the Auckland Islands has declined by 40% since 1998 with only 1501 pups being born in 2009. This decline is directly linked to females not returning to breeding areas. However, while the Auckland Island population has declined, the Campbell Island population appears to be slowly increasing.

Potential reasons for the decline in the Auckland Island population, but not in the Campbell Island colony, include non-human factors such as disease, predation, migration or [environmental change](#). However, possible [human factors](#) include population 'overshoot', the effects of contaminants, resource competition and by-catch deaths.

Of the nine potential reasons for the decline of the sea lion population the team discounted six by comparing the Auckland island population with the colony on Campbell Island.

"The most plausible hypotheses based on available evidence is that the decline of breeding females in the Auckland Island population is caused by fisheries-induced resource competition and by-catch incidents" said author Dr Bruce Robertson, from the University of Otago. "Resource competition can lead to nutrient stress and decreased reproductive ability in sea lions and this should be a priority area for future research."

"A fundamental component of assessing and managing any species in decline is the long-term monitoring of changes in numbers and population dynamics in each population of the species," said Robertson. "Both human and natural influences must be taken into account and our study indicates the need for further research and greater conservation management to protect the species."

**More information:** [DOI: 10.1111/j.1365-2907.2011.00186.x](https://doi.org/10.1111/j.1365-2907.2011.00186.x)

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