

New Zealand sea lion

Phocartos hookeri (Gray, 1844)

Rāpoka, or *Whakahao* (male sea lion), *Kake* (female sea lion)

Nearly lost again



New Zealand sea lions in rātā forest, Auckland Islands, DOC

Quickfacts

Number of pups being born has decreased by 50% and population is rapidly diminishing.

Currently numbers around 10,000 adult sea lions.

Nationally Critical conservation status

A population has recently re-established itself on the southeastern coast of the South Island

Population crash

New Zealand sea lions used to live on beaches right around the coast from the north of the North Island down to the sub-Antarctic islands in the south. Both Māori and early European settlers hunted sea lions for both their fur and meat, but the population of New Zealand sea lions was decimated when commercial sealers turned their attention to the NZ coast and Subantarctic islands in the 1800's. It is very hard to estimate how many sea lions were killed and sealing stopped mostly because so few sea lions remained it no longer made financial sense to make the long and sometimes dangerous boat trips. NZ sea lions were protected by law in the 1880's.

Now, 200 years later, the New Zealand sea lion is at risk of being lost again. The main breeding populations of New Zealand sea lions are on the Subantarctic Auckland Islands where recently there has been a huge decrease in the number of pups being born, with a possible decline of 50% to around 1,700 pups in 2015. NZ sea lions are now classed as Nationally Critical, and there are only about 10,000 adult sea lions left.



There are a number of factors that are potentially contributing to the current reduction in numbers of the New Zealand sea lion. A recent report has shown that a major cause of the pup mortality has been infection by the bacteria *Klebsiella pneumoniae*. It is not clear whether this bacteria has always been present in the population or whether it is a new disease that has suddenly become a problem due to some other factor. In addition, the New Zealand sea lion's foraging territory overlaps with the southern arrow squid fishery in the Southern Ocean and were being caught in trawl nets. As sea lions are air breathing mammals they drown if caught in a net. From 1993 the New Zealand Government has imposed a limit on the number of sea lions (typically 60 to 70) that can be killed before the squid fishery is legally excluded from the Auckland Islands Marine Mammal Sanctuary. Sea Lion Exclusion Devices, or SLEDs, which are escape holes built into a trawl net designed to reduce the chance of sea lions being caught in trawl nets, have been used in the southern arrow squid fishery since the early 2000's, and since 2007, all boats within this fishery have been using SLEDs while fishing. Since 2013, SLEDs have also been used in the Campbell Island southern blue whiting fishery. However, as southern arrow squid and fish, together with the endemic yellow octopus *Enterocarpus zealandicus*, are important food for New Zealand sea lions these fisheries are likely also impacting on the amount of food available for the sea lions.

New Zealand sea lions also face natural threats such as being mired in mud holes and being trampled by adult male sea lions during the often-violent mating season. Recently planks have been installed in some mud holes on Auckland Island to help pups escape. Further complicating considerations on sea lion conservation is the inherently variable nature of the marine environment, which is exacerbated by El Niño-La Nina weather patterns and a changing global climate.

The New Zealand sea lion

Formerly known as the Hooker's sea lion, the New Zealand sea lion was first scientifically described and named by John Gray in 1844. Gray was an English zoologist who was the keeper of zoology at the British Museum in London. He gave them the genus name *Phocarctos* from the Latin for seal which is "phoca." The species name *hookeri* was given in honour of Joseph Dalton Hooker, a British botanist and explorer who would have seen New Zealand sea lions during his travels in the sub-Antarctic islands. The Māori name for male sea lions is whakahoa, and for the females it is haki or rapoka. The New Zealand sea lion is a taonga species for the South Island iwi (tribe) Ngāi Tahu and they have special cultural significance and importance to the iwi. Recently it was discovered that the sea lions that inhabited the Chatham Islands were a different species that became extinct around 1650, soon after Māori people arrived on the Chathams. The scientists estimated that if each person on the Chathams at that time killed as few as one sea lion each year, then that would have been sufficient to cause the extinction of the sea lions there within 200 years.

New Zealand sea lions are otariids or eared seals, with small ear-flaps visible on the sides of their heads. They are large animals, weighing up to 400 kg for a 3m adult male, and are able to turn their hind flippers forwards and walk, or even gallop, surprisingly fast. They have thick fur, and a thick layer of fatty blubber that keeps them warm in the cold seas. Males and females are different sizes (sexually dimorphic) with the males being considerably larger than the females. Females are also a lighter creamy grey colour, with dark flippers and males are darker brown to black and have a mane of longer fur down to their shoulders – hence the name sea lion. NZ sea lions can be distinguished from NZ fur seals as they have flatter faces; the NZ fur seal has a very pointy nose.

New Zealand sea lions are strongly philopatric, which means that the adults return to breed on the beaches on which they were born. The breeding season starts in late November when the adult males arrive to set up their territories by fighting each other and vocalising. The winner becomes the beach master for a particular area of beach. During the breeding season the beach master does not leave the beach to feed and has to constantly defend the beach and his harem of females. The adult females arrive in early December and give birth a few days afterwards. 7-10 days after giving birth the females are, once again, ready to mate with the beach master. Although the females have mated, the egg does not implant until a few months later and the gestation period is about nine months. The females will start short foraging trips ten days after giving birth, leaving their young pups in nursery groups on the beach.

The harems break up after the breeding season and the male sea lions head offshore. The females stay with their pups, who suckle for about ten months. Females reach sexual maturity at 3 years old. As males have to fight for dominance of the beach, their age of first breeding is much later. Sea lions can live to about 23 years.

New Zealand sea lions are, of course, air-breathing mammals but they can dive as deep as 600 m to feed on squid, bony fish, rays, octopus and other invertebrates. Sometimes they also prey on fur seals and penguins. Usually they 'only' dive to 200m and stay underwater for 4-5 minutes.

A small population of sea lions started breeding on the Otago coast in 1993 when a female from Enderby Island, who was subsequently named "Mum", had the first pup to be born on the mainland in 200 years. This small population is expanding gradually as Mum's descendants return to breed on the beaches on which they were born, and in 2016 fifteen pups were born. These sea lions are close to urban centres and interactions on the beaches between humans, dogs and sea lions need to be carefully managed. Dog owners (and people) should be aware that sea lions are carnivores, and are quite capable of catching and killing an annoying dog that gets too close.

What next?

The threats to the survival of the New Zealand sea lion are:

1. Changes in food supply in an increasingly variable marine environment.
2. Being caught in fishing nets.
3. Diseases.
4. Disturbance from people and dogs.

Protecting New Zealand sea lion from these is going to be a difficult task. They inhabit remote areas of New Zealand and the factors causing the population decline are complex and difficult to study. The areas that the sea lions forage are valuable commercial fishing grounds which can lead to a conflict between the needs of the fishing industry and the needs of the sea lions.

In 2017 the Department of Conservation and Ministry for Primary Industries produced a Threat Management Plan for New Zealand sea lion which aims to halt the decline of the New Zealand sea lion population within 5 years and with the ultimate goal of their being classified as 'Not Threatened'. They aim to achieve this through:

Engagement

1. Establishing a Forum and advisory Group.
2. Appoint a liaison officer to coordinate activities for South Island sea lions.
3. Developing an engagement campaign.

Direct mitigation

4. Expanding the 'Planks for Pups' programme on the Auckland Islands.
5. Developing a strategy to stop pups drowning in mud holes on Campbell Island.
6. Establish a Technical Advisory Group to review the squid fishery operational plan (SQU6T) in sea lion areas.

Targeted research

7. Continuing research into disease on the Auckland Islands.
8. Researching nutritional stress and diet.
9. Establishing population demographic parameters.
10. Track sea lion movement relative to fishery activities.
11. Review potential impacts of aquaculture on Stewart Island.

Evaluation

12. Monitoring using tagging, pup counts and tag re-sights on Auckland Island, Campbell Island, Stewart Island and the South Island.

This plan has received criticism from some conservation groups who believe more

needs to be done to protect sea lions, particularly adult females being inadvertently killed by the fishing industry as the death of an adult female sea lion often also means the death of both an unborn pup and a dependent pup in the nursery.

Ultimately, a carefully considered and adequate response is needed from all parties involved in using the sub-Antarctic area if both fishing and sea lions (and other species that inhabit this area) are to flourish.

More information

Website: New Zealand sea lion trust. [Link](#)

Website: DOC – New Zealand sea lion. [Link](#)

Strategic Document: New Zealand sea lion/rāpoka Threat Management Plan.

Department of Conservation & Ministry for Primary Industries. 2017. [PDF](#)

News article: What's killing the sea-lions? By Bill Morris. New Zealand Geographic, Issue 138, 2016.

Scientific paper: Human-mediated extirpation of the unique Chatham Islands sea lion and implications for the conservation management of remaining New Zealand sea lion populations. By Nicolas J. Rawlence, Catherine J. Collins, Christian N. K. Anderson, Justin J. Maxwell, Ian W. G. Smith, Bruce C. Robertson, Michael Knapp, K. Ann Horsburgh, Jo-Ann L. Stanton, R. Paul Scofield, Alan J. D. Tennyson, Elizabeth A. Matisoo-Smith, Jonathan M. Waters. *Molecular Ecology*, 2016.

Photos



A female sea lion being restrained in a holding bag during a research project. DOC



Capturing sea lions on the Otago Peninsula. DOC



Sea lion visiting a research hut on Auckland Island. DOC



Adult male sea lion with 2 female sea lions on Otago Peninsula. DOC

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