

NZ sea lion/pakake report Coastal Otago & Murihiku 2019-20



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Conservation
Te Papa Atawhai

New Zealand Government

Cover: Female pakake. *Photo: Charlie Barnett*

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1 Summary

NZ sea lion/pakake mainland breeding summary 2019-20 (Coastal Otago & Murihiku districts):

- 15 pups born at the Otago Peninsula
- 1 pup born at Akatore
- 6 pups born in the Catlins

Total number of pups born = 22, less two stillborn = 20

- 17 pups tagged (8 male, 9 female)
- 2 surviving pups untagged as of 30 February 2020

Key locations identified:

- Hoopers Inlet creche site
- Smaills Beach
- Catlins Estuary creche site & winter habitat
- Papanui Inlet

Human-caused mortality:

- One adult female & one untagged pup died in the Catlins as a result of an accidental motor vehicle collision

Engagement:

- Mātauranga Māori report submitted and posted on sea lion research webpage
- Chris Page appointed as multi-species liaison officer (Hoiho, NZSL, Maui & Hector's Dolphins)

2 Context

The New Zealand sea lion/pakake, historically distributed along the coastlines of both the North and South Islands, disappeared from the mainland after hunting by early Māori. The species persisted on the remote subantarctic Auckland and Campbell Islands, but these populations were severely depleted by the commercial sealing industry until legislation was introduced to limit sealing activities in 1873.

More recently, sea lions have been expanding their range north from the subantarctics. In 1993, a pregnant female sea lion named "Mum" landed on the Otago Peninsula and successfully raised her pup there, kickstarting the recolonisation of Te Waipounamu. The small but growing population of sea lions on the mainland may be critical to the long-term survival of the species, as the subantarctic breeding colonies have low survival rates linked with extreme weather, interactions with fisheries and disease pressures.

The precipitous decline of sea lions in the subantarctic in the 1990s ultimately led to the development of the sea lion Threat Management Plan (TMP) in 2017. The TMP is an overarching 20-year strategic programme of work agreed to by the Ministers of Conservation and Primary Industries with goals set across the sea lion range. The site-specific measures of success for Te Waipounamu are as follows:

SOUTH ISLAND / TE WAIPOUNAMU: SUPPORT POPULATION GROWTH

- Pup counts increase above 16 per year along the Otago and Southland coastline, with an increased number of breeding sites.
- No deliberate human-caused mortality.
- Increased public interest and involvement in the conservation of sea lions.

This report describes the work of the Operations team in the Murihiku and Coastal Otago districts to locate and mark all sea lion pups born on the South Island in 2019-20. This document also includes reports of human-caused mortality in the area and a brief summary of notable progress on public involvement in sea lion conservation.

3 Methods

Opportunistic summer beach surveys were conducted by NZ Sea Lion Trust volunteers and DOC Operational staff to locate females in advance of the 2019-20 breeding season. Any breeding activity was noted and individuals were tracked through tag resights. When pups were located, teams were deployed to capture, tag and measure pups according to the Pinniped Tagging SOP [DOC-5993453](#). Tagging and resight records were uploaded to the web-based NZ sea lion Dragonfly database <https://sealions.dragonfly.co.nz/demographics/>.

The DOC Duty Officer system responded to any reports of sea lion deaths or injuries and local Operational staff followed the Marine Mammal Stranding SOP [DOCDM-1171061](#) to investigate and report incidents.

4 Results & Discussion

4.1 Breeding records/pup tagging

DOC Operational staff recorded 22 NZ sea lion pup births in Otago and Southland in the 2019-20 breeding season, which is an increase on the previous year's total of 17. Fifteen of this year's pups were born near the Otago Peninsula; 1 was born at Akatore and 6 pup births were recorded in the Catlins. Of these 22 pups, two were stillborn, 17 (8 male and 9 female) were tagged and microchipped, one died as a result of a vehicle accident and two remained alive and untagged at the time of reporting (Table 1).

NZ sea lion pup births were recorded this year along the coastline of Te Waipounamu stretching from Warrington Beach to Waikawa (Figure 1).

A male pup was tagged this year at a point just south of Taieri Mouth. This is the fourth male pup we have tagged at this site used by 'Kotahi'. The Taieri coast is remote and mostly rocky with a multitude of small sandy coves. It is likely we miss some births along this part of the coast; pregnant females have been seen in the area but pups are rarely located.

This year, 'Angel' left the Otago Peninsula population to give birth at Waikawa, which suggests that females may travel quite far along the coastline in some years.

Table 1. Mainland breeding female & pup tagging records for 2019-20

| Female ID | Pup birth date | Date pup found | Pup birth Place | Pup Tag | microchip | Pup tag date | Pup tag place | Sex |
|-----------|----------------|----------------|-----------------|-----------|-----------|--------------|---------------|--------|
| Gail | | 17/01/2020 | Otago | 2VAA | yes | 6/03/2020 | Otago | Male |
| Joy | 27/12/2019 | 27/12/2019 | Otago | 2TEA | yes | 17/01/2020 | Otago | Female |
| Zoe | | 12/01/2020 | Otago | 2X9A | yes | 23/01/2020 | Otago | Female |
| Seazar | | | Otago | 2V9E | yes | 27/05/2020 | Otago | Male |
| Mia | Not found | | | | | | | |
| Nuki | | 12/01/2020 | Otago | 312G | yes | 23/01/2020 | Otago | Male |
| Patti | 26/12/2020 | 26/12/2020 | Otago | 32TP | yes | 23/01/2020 | Otago | Female |
| Moana | | 15/01/2020 | Otago | 3339 | yes | 28/01/2020 | Otago | Female |
| Lena | 31/12/2019 | 1/01/2020 | Otago | stillborn | | | | Female |
| Huru | | 12/01/2020 | Otago | untagged | | | | Male |
| Brionie | No pup | | | | | | | |
| Gem | | | Otago | 332A | yes | 29/01/2020 | Otago | Female |
| Vega | 5/01/2020 | 6/01/2020 | Otago | 2TV1 | yes | 29/01/2020 | Otago | Female |
| Pippa | | 24/01/2020 | Otago | 32E2 | yes | 6/03/2020 | Otago | Male |
| Madeline | | | Otago | 32HX | yes | 28/01/2020 | Otago | Male |
| Hiriwa | 16/01/2020 | 17/01/2020 | Otago | 2XP1 | yes | 29/01/2020 | Otago | Female |
| Tektite | 15/12/2019 | 15/12/2019 | Otago | stillborn | | | | Male |
| Janet | No pup | | | | | | | |
| Olive | No pup | | | | | | | |
| Pebble | No pup | | | | | | | |
| Kotahi | | 16/01/2020 | Otago | 2TAE | yes | 10/02/2020 | Otago | Male |
| Angel | | 11/02/2020 | Catlins | 2T5N | yes | 11/02/2020 | Catlins | Female |
| Matariki | 13/01/2020 | 13/01/2020 | Catlins | killed | | | | Female |
| P448 | | 14/01/2020 | Catlins | 30XP | yes | 11/02/2020 | Catlins | Male |
| untagged | | 4/03/2020 | | 30N1 | yes | 4/03/2020 | Catlins | Male |
| P446 | | 6/05/2020 | Catlins | untagged | | | | |
| P449 | | 12/06/2020 | Catlins | 32G1 | yes | 12/06/2020 | Catlins | Female |

Hoopers Inlet continues to be an important creche site for sea lion pups and the temporary fence erected to keep pups off the road at this site disappeared partway through the season. A more permanent barrier to separate animals from the road is needed. The Catlins Estuary pups are exhibiting similar creching behaviour in pools adjacent to the road and we expect more of the same next year, and work must be done with Councils to find solutions to these issues.

Coastal forest and estuaries along the eastern coast of the southern South Island are continuing to emerge as key habitat for breeding females.

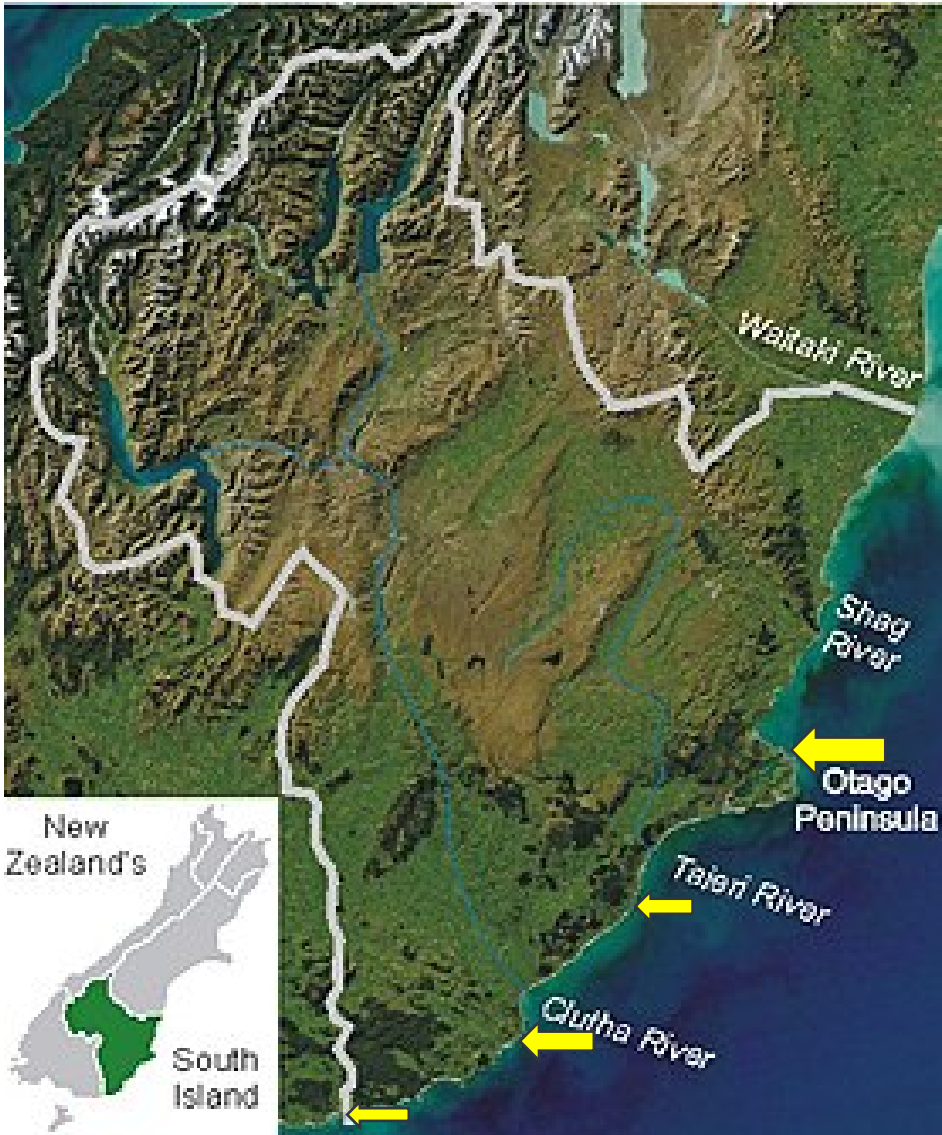


Figure 1. Sea lion pupping locations recorded in 2019-20.

4.2 Mortality

There was one incident of human-caused mortality reported in the region in 2019-20, resulting in the deaths of an 8-year-old female sea lion (“Matariki”) and the female pup she birthed in a hay shed on Inch Clutha Island (Table 2). Matariki and her pup were moving towards the creche site in the Catlins estuary when they hauled up at Kaka Point in early February. On 12 February at 23:30, the DOC Duty phone received a phone call about an injured sea lion on the Kaka Point Road by Port Molyneux school.

DOC staff responded and found Matariki lying on the road. The pup was transported to the Owaka workshop, where she died as a result of her injuries. The following morning Matariki was assessed by the local veterinarian as having sustained serious injuries including paralysis of her hind flippers, and a call was made to euthanise her. The post-mortem showed that Matariki had sustained various injuries consistent with a motor vehicle collision. The driver of the vehicle has since come forward and reported this event as an accident, not a deliberate killing.

Table 2. Known NZ sea lion deaths in Otago & Southland 01/12/2019 - 30/02/2020

| ID | Date | Where | What | Necropsy |
|---------------------------|------------|------------------|---|--------------------------------|
| Stillborn pup 4yo mother | 15/12/2019 | Smalls | Birth complication | Massey |
| Stillborn pup Lena mother | 01/01/2020 | Long Beach | Deformity? | Massey yet to examine |
| Adult female untagged | 13/01/2020 | Papanui Inlet | Drowned by male | Massey |
| Juvenile male V553 | 27/01/2020 | Shag River mouth | Shark bite | No necropsy; photographs taken |
| Yearling male Bruin | 06/02/2020 | Otapahi | Crushed by adult male | No necropsy; frozen locally |
| Matariki | 12/02/2020 | Kaka Point | Euthanised following serious injuries sustained in motor vehicle accident | Local vet |
| Matariki's pup (untagged) | 12/02/2020 | Kaka Point | Died of injuries following motor vehicle accident | Local vet |
| Adult male untagged | 14/02/2020 | Cannibal Bay | inconclusive | Local vet |

4.3 Public involvement in conservation

In 2019, the NZ sea lion trust approached the Department of Conservation with a request to lead a school group of 100 adults and students from Mount Aspiring College to learn about sea lions at Surat Bay. The original DOC staff assigned to the task were unable to take the group on the day and a decision was made to send the group out with just one local Ranger and to change the destination to the Catlins Estuary. The Ranger reported that group enjoyed their day out and learned a lot about the animals. Unfortunately, a number of the group returned to the site on their own at a later date and crowded the sea lions, causing them to move out of their estuary creche site.

Catlins Estuary pups began congregating in pools near the intersection of Hinahina Rd and Wyber Rd in April 2020, which created some concerns about interactions with road traffic, especially logging trucks in the area. The Department approached Rayonier Forestry and they were very proactive in their support, immediately contacting the truck drivers and requesting they slow to 20kph. South Roads provided signage support for free and signs were installed to alert road users to the presence of pups. An electric fence was erected by DOC to try and prevent the pups from crossing the road from the seaward side, but the unit and battery were stolen from the site.

A student from the Catlins Area school investigated signage efficacy by conducting a survey of tourists at the area iSite. The study found that language issues were creating information gaps among this group of coastal users.

In January 2020, Chris Page was appointed as the Multi-species Liaison Officer (hoiho, NZ sea lions/pakake, Hector's and Maui dolphins).

4.4 Other research

Rauhina Scott-Fyfe completed her research report entitled "Mātauranga Māori Project on the NZ sea lion", including recommendations for strengthening the relationship between Ngāi Tahu whānui and DOC with regard to management and kaitiakitanga of the NZ sea lion. The report has been posted on the sea

lion research webpage at <https://www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/marine-conservation-services/reports/nz-sea-lions/matauranga-maori-nz-sea-lion-report-2019-scottfyfe.pdf>.

Department staff assisted Nathan Reed from Texas A&M University in commencing a sea lion tracking study in winter 2019. Four adult female sea lions in Cannibal Bay and Hinahina Island were captured, anaesthetised and fitted with GPS trackers and Video Depth Recorders (VDR). The VDR units malfunctioned, but the preliminary GPS data show the home ranges of these four females over two months and indicate key habitat along the coastline, highlighting the importance of the Catlins Estuary in particular.

5 Recommendations

- Continue active engagement with local rūnaka about sea lion management; recruit mana whenua to assist with pup tagging
- Continue the advocacy roles of the DOC/DCC Summer Rangers promoting good behaviour around sea lions
- Implement a coordinated campaign to educate beachgoers in Otago and the Catlins, especially dog owners, surfers and divers
- Consider group sizes and Ranger capacity for sea lion viewing to ensure key messages are reinforced
- Continue & improve school outreach programmes targeted at sea lion education
- Locate/purchase a set of pup tagging and scanning equipment for the Owaka office
- Work with the Otago District Council and Dunedin City Council to install sea lion signage and consider fencing off roads near creche habitat
- Continue reaching out to local landowners around areas of key sea lion habitat to promote the protection of these areas as much of it is privately-owned
- Improve habitat through plantings to create more coastal forest, especially around estuaries
- Expand the GPS tracking study to improve our knowledge about habitat use in the Catlins

6 Acknowledgements

NZ sea lion trust volunteers have worked tirelessly to promote sea lions in local communities throughout Otago and the Catlins

Nathan Reed for sharing the preliminary results of his tracking research

Olly Halleux from Rayonier Forestry for assisting with road management

South Roads for loan of signage

Clutha Vets for assisting with the response to Matariki's accident

Kat Manno collated information from Coastal Otago and Murihiku district to produce this report.