

# NZ sea lion/pakake/whakahao Threat Management Plan report South Island 2021-22



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Cover: Female pakake. *Photo: Charlie Barnett*

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# 1 Summary

NZ sea lion/pakake/whakahao South Island breeding summary 2021-22 (Coastal Otago & Murihiku districts) (at the time of report 8 June 2022):

- 21 pups born around Otago Peninsula; 20 tagged
- 1 pup found and tagged 'mid-coast' (between Taieri Mouth and Clutha River)
- 7 pups born in the Catlins; 3 tagged

Total minimum number of pups born = 29

- 24 pups tagged (13 male, 11 female)

Key locations this year:

- Warrington
- Boulder Beach
- Hoopers Inlet creche site
- Catlins Estuary creche site & winter habitat
- Tomahawk beach, Aramoana beach

Mortality:

- No verified cases of deliberate human-caused mortality
- Two Otago Peninsula pups killed in road accidents near estuaries (Hoopers Inlet; Papanui Inlet)
- Two Catlins pups reported killed by a sub-adult male sea lion named "Wero" and two other pup deaths in the area are under investigation (suspect Wero)
- One adult female likely killed by boat strike in Catlins

Engagement:

- DCC has been very responsive with dog control bylaws and road management
- Local newspapers have run stories promoting good behaviour around sea lions
- Our Big Blue Back Yard and CNN have filmed Otago sea lions for upcoming documentaries
- DOC, NZSLT & DCC summer rangers educated beachgoers and surfers
- Community groups are increasingly stepping up to protect their local animals

## 2 Context

The New Zealand sea lion/pakake/whakahao, 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 decline of sea lions at breeding colonies in the subantarctic 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 Oceans & Fisheries 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 2021-22. This document also includes reports of sea lion mortality in the area and a summary of progress on public involvement in sea lion conservation.

## **3 Methods**

Opportunistic summer beach surveys were conducted by NZ Sea Lion Trust (NZSLT) volunteers and DOC Operational staff to locate females in advance of the 2020-21 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 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 29 NZ sea lion pup births in Otago and Southland (from Warrington to Waikawa) in the 2021-22 breeding season, which was an increase on last year (Figure 1). Twenty-one of this year's pups were born near the Otago Peninsula; all descendants of the founding female 'Mum'. Seven pups were born in the Catlins, of which six were descendants of the founding female 'Marea'. The other known Catlins pup was born at Waikawa to 'Angel'; a female that is believed to have come from Rakiura.

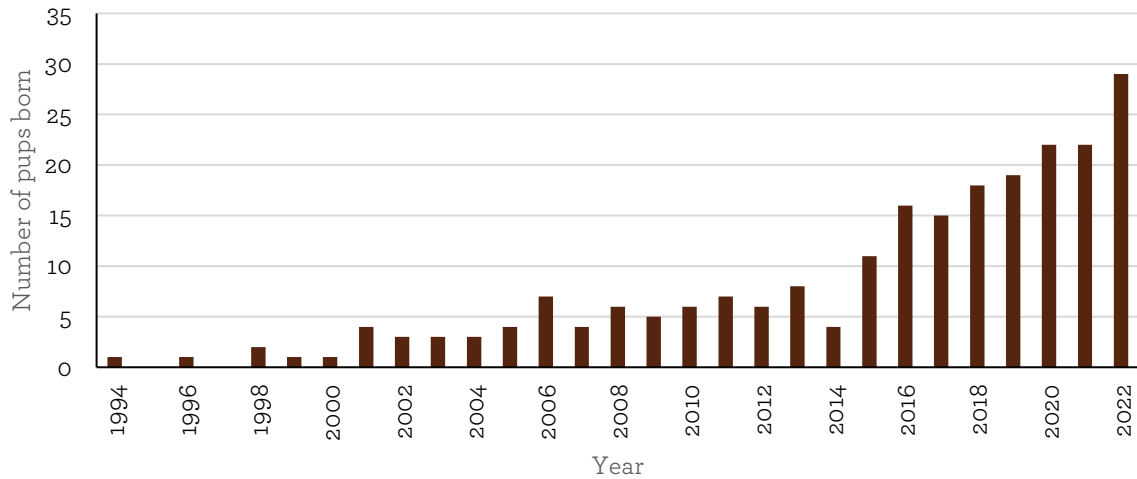


Figure 1. Count of annual mainland NZ sea lion pup births 1994-2022.

Of the 29 pups, 24 (13 male and 11 female) were tagged and microchipped, one disappeared from Papanui Inlet (presumed dead), two were likely killed by a sub-adult male sea lion, and a further two pup deaths are under investigation (also possibly linked with a sub-adult male) (Table 1; Appendix A).

A number of birth sites in Coastal Otago required management this year, including:

- Warrington (Hope had her first pup on 22 of December near a busy walking track; Joy had her pup just before New Year’s by the inlet carpark)
- Aramoana (Janet, 6-year-old, had her second pup on the main track from Parry Street carpark to the beach)
- Smails Beach (Tektite, 6 years old, had her first surviving pup less than 5m from the bottom carpark)
- Chisholm Golf Links (Hiriwa 11 years old, 8th pup)
- Tomahawk (Pebble had her pup in the lagoon and the activity here attracted other sea lions into the area. Hiriwa also moved her pup to Tomahawk at about 5 weeks old, and Madeline and her two-year-old were frequently found in Tomahawk creek beyond the road culvert)

Tracking pup births and sea lion activity in the Catlins was more difficult due to the remoteness of the area and the limited capacity of DOC staff and NZSLT volunteers.

## 4.2 Mortality

There were no known incidents of deliberate human-caused mortality in 2021-22, though there were two deaths linked with human activity (Table 1).

Table 1. Known NZ sea lion deaths in Otago & Murihiku 01 March 2021 – 30 April 2022<sup>1</sup>

ID	Date	Where	What	Necropsy
Adult male, untagged	06/09/2021	Porpoise Bay, Catlins	Too decomposed for necropsy	No

<sup>1</sup> There was also a call centre report of a bloated & decapitated seal/sea lion on the Nuggets Road in the Catlins on 14/05/2021; due to a breakdown in communication, the species was not verified and the body was not retrieved for examination. At least two further untagged males with severe injuries were found dead in Otago late in the season; the injuries of these males were consistent with fighting in the subantarctic breeding harems. Also, one male pup (mother: Huru) disappeared from Papanui Inlet, presumed dead

Adult male, untagged	08/10/2021	Tautuku Beach, Catlins	Good condition animal; foaming at mouth, but cause of death not found	Clutha Vets
Male “Ted” 7yo yellow coffin tag P442	11/12/2021	Waikouaiti	Inconclusive	Massey
Adult female, untagged	30/12/2021	Roaring Bay, Catlins	Blunt force trauma to head (consistent with boat strike)	Clutha Vets
Pup, untagged	02/01/2022	Kaka Point, Catlins	Sub-adult male “Wero” witnessed killing pup	No - unable to recover
Stillborn pup; Vega (6yo) mother	20/01/2022	Smaills Beach	Too decomposed for necropsy	No
Pup, untagged	30/01/2022	Surat Bay, Catlins	Sub-adult male “Wero” witnessed killing pup	Sent to Massey
Pup, untagged	30/01/2022	Surat Bay, Catlins	Not determined - suspect sub-adult male sea lion	Sent to Massey
Male “Ranui” 12yo; white coffin tag 9005	22/02/2022	Manuka Beach, Long Point (Catlins)	small flesh wound on neck and severe blood loss in chest cavity; poor condition (no fat)	Clutha Vets
Pup, untagged	01/03/2022	Cabbage Point, Catlins	Pup found degloved and partially eaten - suspect sub-adult male sea lion	Sent to Massey
Female pup; pink coffin tag 301N (Gem mother)	21/03/2022	Hoopers Inlet Road	Hit by car on road near Hoopers Inlet creche site	No
Male pup; pink coffin tag 331E (Mika mother)	26/06/2022	Papanui Inlet Road	Hit by car on road near Papanui Inlet	No

#### 4.2.1 Vehicle collisions

Fencing was used at Tomahawk, Smaills and Hoopers Inlet this year. DOC and DCC are in close collaboration to ensure road signage can be put in place quickly when sea lions move into new areas. Catlins River Estuary, Hoopers Inlet and Papanui Inlet are important creche areas for pups from 2 months to 6 months old and are all bordered by low-lying roads.

Despite fencing and road signage a female pup was killed by a car on the road at Hoopers Inlet this year. The Hoopers roadside pool has been an active pup creche over the last five years and DOC are working closely with DCC to manage the site. The pool is now a popular tourist attraction; congestion of cars has become an increasing problem and the local farmer generously made his paddock available for parking during busy periods.

A second Otago Peninsula pup (male; tag 331E) was hit and killed on the road in late June (this time at Papanui Inlet). The driver of the vehicle failed to notify DOC; a member of the local community reported the incident when they found the pup. DOC and NZSLT reminded the public of the requirement to report marine mammal deaths.

As sea lion numbers increase on the mainland, there will be increasing interactions with public infrastructure, including roads and railways. It will be important to identify areas of conflict and address

issues proactively. DOC are working with councils in coastal areas to address these concerns in long-term plans.

#### **4.2.2 Boat strike**

One female was found dead in Roaring Bay in late December with injuries consistent with a boat strike (Table 1).

#### **4.2.3 Interactions with fisheries**

A flipper tag of a yearling male sea lion from Rakiura were found in a commercial set net off cape Saunders this summer. This animal was subsequently seen alive, which suggests a brief entanglement.

Sea lions occasionally interact with commercial and recreational set nets in Otago and the Catlins. DOC, in conjunction with Fisheries New Zealand, have previously worked with recreational fishers on a code, including seasonal restrictions, in Papanui Inlet. Until inshore set netting regulations are reviewed it could be important to take steps to encourage local codes for other important inshore habitats (eg Otago Harbour, Catlins River Estuary, Waikawa Harbour)

There were two other reports of entanglement on the Otago Peninsula this summer. In the first, a sea lion was seen towing fishing gear at Allans beach; the animal swam out to sea before DOC staff could intervene. In the second, a sub-adult male was found with nylon line wound tight around its neck; this animal was successfully disentangled by local DOC staff.

#### **4.2.4 Intraspecies sea lion aggression**

The Coastal Otago office have reports of at least two untagged males found dead late in the season, likely from injuries sustained in breeding harems.

Sub-adult male “Wero” was implicated in the deaths of two Catlins pups this summer. Investigations are underway to determine cause of death for a further two pups in the area, but initial signs point to a sub-adult male (likely Wero). DOC staff also intervened when Wero attempted to grab a female sea lion pup at Owaka Heads on 1 March 2022.

A male pup disappeared from Papanui Inlet, presumed dead, as its mother “Huru” was witnessed by DOC and NZSLT calling for her pup for days. Owing to Huru’s poor condition when she was calling for the pup, the team suspect she was bailed up by males and isolated from her pup for a time before he disappeared.

### **4.3 Public outreach initiatives**

- Annual pre-season meetings with community groups (NZSLT, Warrington, Long Beach, Aramoana, Smaills Beach, Otago Peninsula Community Board and DCC)
- DOC are actively promoting the “Lead the Way” programme and working with District Councils to encourage responsible dog ownership and behaviour in coastal environments
- DCC Parks&Rec and Roding and Clutha District Council have been helpful in managing threats to sea lions in City Reserve areas and near roads
- There was great media messaging, particularly from the ODT, promoting good behaviour around sea lions
- NZSLT, Dive Otago and Derek Morrison have helped with outreach to local surfers and divers encouraging respect and appreciation for sea lions
- Community members are becoming more active in advocating for sea lions and expecting appropriate standards of behaviour from others

## 4.4 Other research

- Moss Thompson (supervisor Will Rayment, Otago University) is completing his study on pup survival in Otago
- Murihiku DOC staff, along with Simon Childerhouse (Cawthron Institute) and Micah Jensen have started a second year of satellite tracking sea lions in the Catlins this winter, to contribute to our understanding of habitat use and potential threats to the animals.
- Carissa Turner is undertaking a PhD on effective messaging to influence change in human behaviour, focussing on dog owner behaviour in relation to wildlife.
- Nia Weinzweig has started a Master's degree investigating disease transmission across sea lion populations.

# 5 Recommendations

- Continue active engagement with local rūnaka about sea lion management; recruit mana whenua and tangata whenua to assist with pup tagging and other activities and implement a role for mana whenua to be involved at all levels of TMP planning and delivery
- Continue the crucial advocacy roles of DOC/DCC Summer Rangers on the beaches after hours and on weekends promoting good behaviour around sea lions
- Boost capacity for responding to sea lion incidents in the Catlins, particularly over the Christmas holidays
- Implement a coordinated campaign to educate beachgoers in Otago and the Catlins, especially dog owners, surfers and divers
- Focus on Tomahawk beach to mitigate threats from road traffic and dogs
- Work with the ORC and DCC to install sea lion signage and permanent fencing along roads near creche habitats
- Work with the ORC and CDC to ensure future planning for road management and other activities in coastal areas mitigate risks to sea lions
- Continue to work with the local authorities to investigate reports of vehicles harassing animals on beaches
- 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
- Continue advocacy with recreational set-netters and other coastal users to report interactions with sea lions
- Improve habitat through plantings to create more coastal forest, especially around estuaries, and aim to recognise and protect important creche areas
- Closely monitor Wero's activities and consider options for protection of next year's cohort of Catlins pups

# 6 Acknowledgements

DOC Operational staff, particularly Jim Fyfe, Ros Cole and Charlie Barnett who lead most of the work to protect sea lions in Coastal Otago and Murihiku

Mana whenua for their continued advocacy for this taonga species

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

DOC/DCC Summer Rangers for their work patrolling beaches after hours and on weekends

Local community groups for leading the protection of animals in their neighbourhoods

## Appendix A. Pup birth & tagging records Coastal Otago & Murihiku 2021-22

Female ID	Pup birth place	Pup Tag number	Pup Tag colour	microchip	Pup tag date	Pup tag place	Pup sex
Gail	Allans Beach	3266	pink	yes	6/03/2022	Hoopers Inlet	Female
Joy	Warrington	3V1T	pink	yes	21/01/2022	Warrington	Female
Zoe	Long Beach	2VVX	pink	yes	28/01/2022	Aramoana	Male
Seazar	Papanui Inlet	31TT	pink	yes	8/02/2022	Papanui Inlet	Male
Mia	Allans Beach	323A	pink	yes	6/03/2022	Hoopers Inlet	Male
Nuki	Aramoana	30TV	pink	yes	28/01/2022	Aramoana	Male
Patti	unknown	322E	pink	yes	8/01/2022	Papanui Inlet	Female
Moana	Boulder Beach	31A5	pink	yes	27/01/2022	Boulder Beach	Female
Lena	Long Beach	2V3N	pink	yes	28/01/2022	Long Beach	Male
Huru	unknown	dead	N/A	N/A	N/A	N/A	Male
Brionie	Boulder Beach	31PV	pink	yes	27/01/2022	Boulder Beach	Female
Gem	Smaills beach	301N	pink	yes	13/03/2022	Smaills Beach	Female
Pippa	Boulder Beach	2V5H	pink	yes	17/02/2022	Boulder Beach	Female
Hiriwa	Lawyers Head	2TN5	pink	yes	26/01/2022	Lawyers Head	Female
Tektite	Smaills beach	2T2T	pink	yes	26/01/2022	Smaills	Female
Janet	Aramoana	2TH6	pink	yes	28/01/2022	Aramoana	Male
Pebble	Tomahawk	2X2N	pink	yes	6/03/2022	Hoopers Inlet	Male
Hipi	Papanui Inlet	320H	pink	yes	8/2/2022	Papanui Inlet	Female
Hope	Warrington	2TP3	pink	yes	21/01/2022	Warrington	Male
Mika	Sandfly Bay	331E	pink	yes	13/03/2022	Hoopers Inlet	Male
Kaea	unknown	3365	pink	yes	13/03/2022	Hoopers Inlet	Male
H101 (blue coffin)	unknown	TTEN	white	yes	1/04/2022	Bull Creek	Male
P447 (yellow coffin)	Pounawea	GAAA	white	yes	1/03/2022	Cabbage Point	Female
Angel	Waikawa	92GT	white	yes	4/2/2022	Waikawa	Male
Jade	unknown	VETH	white	yes	5/6/2022	Pounawea	Male
P446	Hays Gap	dead	N/A	N/A	N/A	N/A	Male
P448	Long Point	dead	N/A	N/A	N/A	N/A	unknown
unknown	unknown	dead	N/A	N/A	N/A	N/A	unknown
unknown	unknown	dead	N/A	N/A	N/A	N/A	unknown