

NZ sea lion/ pakake/whakahao report Rakiura 2021-22



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Department of
Conservation
Te Papa Atawhai

New Zealand Government

Cover: NZ sea lion female & pups, Rakiura [Phred Dobbins]

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1 Summary

NZ sea lion/pakake/whakahao tagging survey summary:

- 62 pups tagged in Port Pegasus (37 female: 25 male)
- 18 tagged animals resighted (13 female: 5 male)
- 4 to 5 team members searched known haul out areas within Port Pegasus
- A total of 6.5 search days with 4 people for 6hrs each plus 1 extra person on two days = approx. 168hrs of search effort

Human-caused mortality:

- No known human-caused mortality reported this year, but one unconfirmed report of an adult female being shot, and one adult male in good condition found dead with no obvious injuries

Public involvement:

- DOC Rakiura staff continued the usual engagement initiatives with hunters, fishers and tourists to the island

2 Context

NZ sea lions/pakake/whakahao are endemic to New Zealand and once bred along the coast of the North and South Islands, Rakiura and the subantarctic islands. Sea lions disappeared from mainland New Zealand after being hunted by early Māori for meat, bone, and pelts, and remaining populations on the subantarctic islands were depleted by the commercial sealing industry prior to the introduction of the Seal Fisheries Act in 1873.

More recently, sea lions have begun to expand their range north from the subantarctic islands. Since the 1990s, breeding females have been returning to Port Pegasus in the southeast corner of Rakiura, where the Department of Conservation (DOC) have conducted annual searches and pup tagging since 2011.

The most recent decline of the NZ sea lion population in the subantarctic led to the development of the sea lion Threat Management Plan (TMP) in 2017. The TMP (2017-2022) is a 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 Stewart Island/Rakiura are as follows:

STEWART ISLAND/RAKIURA: FACILITATE POPULATION GROWTH TO REACH BREEDING COLONY STATUS

- Pup counts remain at a number higher than 35 for 5 years in a row, qualifying Stewart Island/Rakiura as a new breeding colony.

- Continued increase in number of pups born to enable colonial breeding behaviour.
- No deliberate human-caused mortality (e.g. shootings)
- Increased public interest and involvement in the conservation of sea lions.

This report describes the work led by the Rakiura DOC Operations team to count and tag all NZ sea lion pups found in Port Pegasus during the annual March survey. This document also includes reports of sea lion mortality and a brief summary of initiatives to increase public involvement in sea lion conservation on Rakiura over the 2021-22 season.

3 Methods

3.1 Port Pegasus survey

The survey team (Phred Dobbins, Louise Chilvers, Andrew Eastwood, Nic White and help from Southern Winds crew Alex Caird) travelled to Port Pegasus on board the *Southern Winds* (skippered by Peter Bloxham and Nic White) on 7 March 2022. Over 10 days (7-16 March 2022), the team of 4 to 5 people searched known areas and scanned the shoreline for evidence of sea lion haul outs, breaking out to search individually on foot in the adjacent scrub and forest. The search area was recorded using GPS track logs and number of hours spent searching each day was logged for effort calculations. When pups were located, teams of 3-4 were deployed to capture, tag and sex pups according to the Pinniped Tagging SOP [DOC-5993453](#). Pups were flipper-tagged with yellow coffin-shaped Dalton Jumbo tags. Resights of tagged animals were collected by all team members to contribute to knowledge of the demographics of this population.

The Port Pegasus trip was planned for the first half of March for two main reasons:

- Firstly, to coincide with pups leaving their natal sites and starting to form loose creches.
- Secondly, to ensure the pup tagging work takes place before the pups start moulting and are too large and/or difficult to handle safely.

3.2 Paterson Inlet survey

The Paterson Inlet/Port Adventure survey was not carried out in 2021-22 due to a rodent incursion on Ulva Island which impacted on staff availability. Anecdotal reports of breeding in the area are reported in section 4.2.

3.3 Mortality records

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

3.4 Data management

Two of the search team were equipped with Garmin 62/64 handheld GPSs that were used to track search effort, and log waypoints of sea lion pup capture sites and tag resighting positions. Tag details were also entered into the GPSs as a backup for notebook entries which were the main method of recording pup tag and resighting details.

Each night during the trip the GPS track logs, pup tagging, and tag resighting waypoints were downloaded to a laptop and viewed in a mapping program while Louise Chilvers transferred the pup tagging and resighting data to a spreadsheet and updated her trip report.

Following the trip, tagging & resighting data were uploaded to the Dragonfly database; backup spreadsheet filed in DOCCM.

4 Results & Discussion

4.1 Port Pegasus

The survey team spent a total of 6.5 search days in Port Pegasus with 4 people for 6hrs each plus 1 extra person on two days = approx. 168hrs of search effort.

The area searched and locations of pups for 2022 are shown in Figure 1.

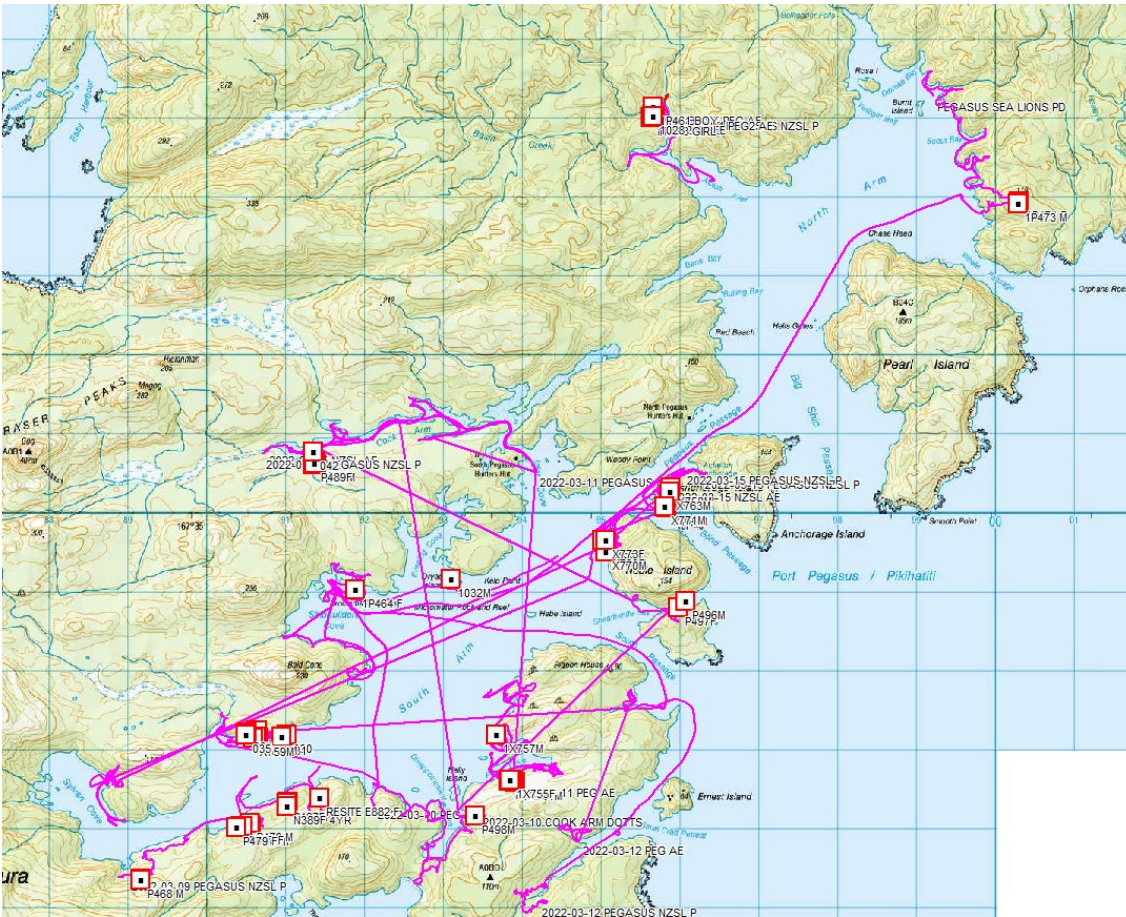


Figure 1. March 2022 Port Pegasus survey tracks (pink) and sea lion pup locations (black/red squares) A total of 62 pups were tagged in the survey area.

A total of 62 pups (37 females: 25 males) were found and tagged this year, which is an increase on last year’s total of 57 (Figure 2). Pup tagging details are in Appendix A; resight data are in Appendix B and filed in DOCCM as [DOC-7024800](https://www.doc.govt.nz/assets/Uploads/DOC-7024800.pdf).

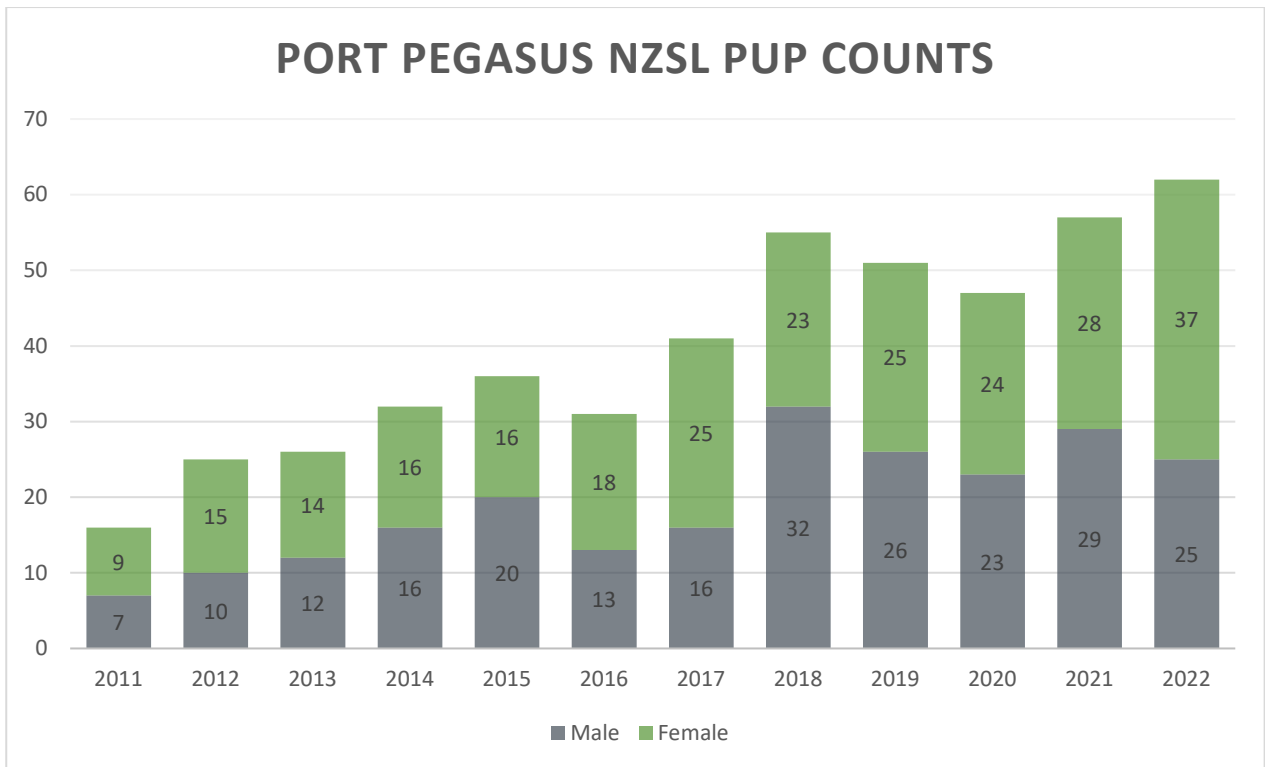


Figure 2. Annual New Zealand sea lion pup survey results for Port Pegasus, Rakiura, showing the sex ratio of pups caught and tagged.

PIT Tagging

PIT tagging was not done this year, as the survey team reiterated concerns about safely implanting the chips in pups on the scrubby, steep terrain in Port Pegasus. Additionally, transponder scans would be very difficult to obtain from animals in the tight scrub, so the demographic data recovered from PIT tagging would be minimal.

Weather

The weather was calm for most of the trip allowing relatively easy access to the shoreline, potential sea lion haul outs and pup sites.

Weighing and Measuring

Pups were not weighed or measured as the team reiterated safety concerns about weighing and measuring the large pups in steep, scrubby terrain.

4.2 Paterson Inlet & Little River

Paterson Inlet was not surveyed this year, but there was anecdotal evidence of sea lions breeding in the area.

DOC staff reported one pup born at the west end of Ulva Island. The breeding female was photographed on the beach in February with a large, fresh shark bite in her side. This shark-bitten female and pup were later reported on several occasions by hunters at the Abrahams Bay Hut on the south side of Paterson Inlet.



Ulva Island shark-bitten breeding female and pup. [Kim Stevenson]

There was evidence of a second Ulva Island pup born in Rogers Bay at the east end of the island.

DOC staff also found a female suckling a large pup in the forest above the Little River estuary near the Rakiura track on 22 January 2022.



Little River female and pup [Phred Dobbins]

4.3 Mortality

A reported shooting of a female sea lion in the Lord River area in autumn 2021 was investigated by the DOC compliance team, but the evidence was inconclusive, and no charges were laid.

A dead mature male sea lion was found in February 2022 on Native Island, Paterson Inlet. This male appeared to be in good condition, with no obvious external injuries, and the cause of death has not been determined.

4.4 Public involvement initiatives

- DOC Rakiura Operations Manager is in discussion with Sanford Big Glory Bay operations manager around NZ Sea Lion vs salmon farm interactions.
- Ulva Island Rangers inform visitors to Ulva Island of pup and adult presence, safe distancing and how to behave around sea lions.
- Rakiura National Park Visitor Centre front counter staff inform visitors/trampers, track and hut users of where they might expect to encounter sea lions and how to behave around sea lions including safe distancing.
- Signage is placed in areas where the public are likely to encounter sea lions.
- Hunting parties at Port Pegasus, Paterson Inlet and Māori Beach are informed of the presence of sea lions in these areas.
- The sea lion sightings poster has been updated for distribution to hunters, fishers and tourism operators

4.5 Other research

There is nothing additional to report this year.

5 Recommendations

- Continue to monitor the Rakiura population with annual flipper tagging & resights at the beginning of March
- Continue to facilitate survey involvement for mana whenua and tangata whenua
- Reconsider the requirement to microchip pups, as there would be minimal recovery of data from this marking method
- Secure capacity to continue advocacy work targeting:
 - Titi Island Community
 - Kaitiaki Roopu

- Rakiura Hunter Camp Trust
- Sanford fish farm at Big Glory Bay
- Stewart Island locals
- Eco tourism operators/guiding concessionaires
- Continue to foster the existing relationship with Massey University and Auckland Zoo and facilitate on-going involvement.
- Describe possible projected issues as sea lion populations spread north and presumably increase and how these might be managed in relation to:
 - Increasing fish farm interactions in Paterson Inlet and Foveaux Strait
 - Increasing interactions on popular walks in and around the Halfmoon Bay township, (Ulva Island, Ocean Beach etc) both self-guided and concessionaires
 - Increasing interactions with recreational water users in Paterson Inlet
 - Increasing interactions on Titi Islands

6 Acknowledgements

I would like to acknowledge the following:

Dr Louise Chilvers for her donated technical expertise, report, recommendations, and field survey effort.

Wildbase, School of Veterinary Science, Massey University for continuing supporting this research.

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Department of Conservation staff Andrew Eastwood and Southern Winds Skippers Nic White and Peter Bloxham and crew Alex Caird.

Kat Manno, Department of Conservation for her help with writing this report.

Appendix A – Pups tagged March 2022

Tag #	Tag colour	Sex	Date	Location
P461	YY	M	7/03/2022	Port Pegasus
P462	YY	F	7/03/2022	Port Pegasus
P463	YY	F	7/03/2022	Port Pegasus
P464	YY	F	8/03/2022	Port Pegasus
P465	YY	F	8/03/2022	Port Pegasus
P466	YY	M	8/03/2022	Port Pegasus
P467	YY	F	9/03/2022	Port Pegasus
P468	YY	M	9/03/2022	Port Pegasus
P469	YY	M	9/03/2022	Port Pegasus
P470	YY	F	9/03/2022	Port Pegasus
P471	YY	F	9/03/2022	Port Pegasus
P472	YY	F	9/03/2022	Port Pegasus
P473	YY	M	8/03/2022	Port Pegasus
P474	YY	F	8/03/2022	Port Pegasus
P475	YY	M	7/03/2022	Port Pegasus
P476	YY	F	9/03/2022	Port Pegasus
P477	YY	F	9/03/2022	Port Pegasus
P478	YY	F	9/03/2022	Port Pegasus
P479	YY	F	9/03/2022	Port Pegasus
P480	YY	F	9/03/2022	Port Pegasus
P481	YY	F	9/03/2022	Port Pegasus
P482	YY	F	9/03/2022	Port Pegasus
P483	YY	F	9/03/2022	Port Pegasus
P484	YY	M	9/03/2022	Port Pegasus
P485	YY	M	9/03/2022	Port Pegasus
P486	YY	M	9/03/2022	Port Pegasus
P487	YY	F	9/03/2022	Port Pegasus
P488	YY	M	10/03/2022	Port Pegasus
P489	YY	F	10/03/2022	Port Pegasus
P490	YY	F	10/03/2022	Port Pegasus
P491	YY	F	11/03/2022	Port Pegasus
P492	YY	F	11/03/2022	Port Pegasus
P493	YY	F	11/03/2022	Port Pegasus
P494	YY	M	10/03/2022	Port Pegasus
P495	YY	F	10/03/2022	Port Pegasus
P496	YY	M	10/03/2022	Port Pegasus
P497	YY	F	10/03/2022	Port Pegasus
P498	YY	M	10/03/2022	Port Pegasus
P499	YY	F	9/03/2022	Port Pegasus
X751	YY	M	11/03/2022	Port Pegasus
X752	YY	F	11/03/2022	Port Pegasus
X753	YY	F	11/03/2022	Port Pegasus
X754	YY	F	11/03/2022	Port Pegasus
X755	YY	F	11/03/2022	Port Pegasus
X756	YY	F	11/03/2022	Port Pegasus

X757	YY	M	11/03/2022	Port Pegasus
X758	YY	M	13/03/2022	Port Pegasus
X759	YY	M	12/03/2022	Port Pegasus
X760	YY	M	12/03/2022	Port Pegasus
X761	YY	F	12/03/2022	Port Pegasus
X762	YY	M	12/03/2022	Port Pegasus
X763	YY	M	13/03/2022	Port Pegasus
X764	YY	M	13/03/2022	Port Pegasus
X765	YY	F	13/03/2022	Port Pegasus
X766	YY	F	13/03/2022	Port Pegasus
X767	YY	F	13/03/2022	Port Pegasus
X768	YY	M	13/03/2022	Port Pegasus
X769	YY	F	13/03/2022	Port Pegasus
X770	YY	M	13/03/2022	Port Pegasus
X771	YY	M	13/03/2022	Port Pegasus
X772	YY	M	13/03/2022	Port Pegasus
X773	YY	F	13/03/2022	Port Pegasus

Appendix B – Tag Resighting 2022



N364, West End of Ulva Island 31/01/2022. Tagged as a pup on 24 March 2018, Flour Cask Bay, Stewart Island [Phred Dobbins]

2022 Rakiura Tag Resights

TAG NUMBER	TAG COLOUR	SEX	No of tags	DATE	SEASON OF RESIGHT	RESIGHTING LOCATION	ISLAND	TAG YEAR	AGE	TAGGING LOCATION	PUP TAG	PUP sex
N364	YY	F	R	31/01/2022	2022	Ulva Island	Stewart Island	2018	4	Flour Cask Bay, Stewart Is.		
E775	GG	F	R	8/03/2022	2022	Port Pegasus	Stewart Is	2012	10	Stewart Island		
E775	GG	F	R	9/03/2022	2022	Port Pegasus	Stewart Is	2012	10	Stewart Island		
E805	YY	F	2	10/03/2022	2022	Fright Cove	Stewart Is	2020	2	Port Pegasus		
E805	YY	F	2	13/03/2022	2022	Anchor Island	Stewart Is	2020	2	Port Pegasus		
E848	YY	F	2	11/03/2022	2022	Fright Cove	Stewart Is	2020	2	Port Pegasus		
E852	YY	F	2	11/03/2022	2022	Fright Cove	Stewart Is	2021	1	port Pegasus		
E882	YY	F	2	9/03/2022	2022	S Silvan Cove	Stewart Is	2021	1	port Pegasus		
H823	GG	F	R	7/03/2022	2022	Albion	Stewart Is	2013	9	Port Pegasus	P461 YY	Male
N366	YY	M	2	10/03/2022	2022	Broad Bay	Stewart Is	2018	4	Port Pegasus		
N383	YY	F	2	12/03/2022	2022	Small Craft	Stewart Is	2019	3	Port Pegasus		
N389	YY	F	R	8/03/2022	2022	Ship Builders Islands	Stewart Is	2019	3	Port Pegasus		
N389	YY	F	R	9/03/2022	2022	S Silvan Cove	Stewart Is	2019	3	Port Pegasus		
N396	YY	F	R	10/03/2022	2022	Sheath knife	Stewart Is	2019	3	Port Pegasus		
V509	YY	M	R	12/03/2022	2022	Small Craft	Stewart Is	2015	8	Port Pegasus		
V583	YY	M	2	7/03/2022	2022	Albion	Stewart Is	2018	4	Port Pegasus		
V589	YY	F	2	11/03/2022	2022	Fright Cove	Stewart Is	2018	4	Port Pegasus		
W678	YY	M	R	12/03/2022	2022	Small Craft	Stewart Is	2019	3	Port Pegasus		
W680	YY	F	R	10/03/2022	2022	Cook Arm	Stewart Is	2019	3	Port Pegasus		
X729	YY	M	R	9/03/2022	2022	S Silvan Cove	Stewart Is	2017	5	Port Pegasus		
X716	YY	F	2	15/3/2022	2022	Noble Is.	Stewart Is	2017	5	Port Pegasus		
X702	YY	F	2	15/3/2022	2022	Noble Is	Stewart Is	2017	5	Port Pegasus	X767 YY	Female