



Department of Conservation
Te Papa Atawhai



Fisheries New Zealand

Tini a Tangaroa



Te Rūnanga o NGĀI TAHU

**New Zealand Sea Lion (rāpoka) Conservation Services
Programme and Threat Management Plan Technical Working
Group**

Meeting Report

October 2019

Objective: The New Zealand Sea Lion (rāpoka) Technical Working Group (NZSL TWG) met to discuss project planning for the 2019/20 field season. Projects fall under the Conservation Services Programme (CSP) and the NZSL Threat Management Plan (TMP).

Date: 4 October 2019

Time: 9:30 am – 3 pm

Place: Department of Conservation, 18-32 Manners Street, Wellington

Chair: Ian Angus (email: iangus@doc.govt.nz)

Attendees: Richard Wells (Resource wise & DWG), Enrique Pardo (DOC), Greg Lydon (MPI), Ian Angus (DOC), Jim Roberts, Kris Ramm (DOC), Marco Milardi (MPI), Mark Witehira (Ngāi Tahu), Megan Melidonis (DOC), Micah Jensen, Penelope Bilton (Proteus), Rata Rodgers (Ngāi Tahu), Rauhina Scott-Fyfe (Ngāi Tahu), Sarah Michael (Massey University), Dahlia Foo (UTAS), Simon Childerhouse (Cawthron Institute), Tamar Wells (TOKM), Tom Brough (DOC), Tom Burns, Tom Clark (SeaFIC), Veronica Frans.

Apologies: Tiffany Bock, Ben Sharp, Sarah Wilson, Katrina Goddard, Amanda Leathers, Shaun McConkey, Jordana White, Richard Gibson, Kirsty Woods, Bruce Robertson, Stefan Meyer, Louise Chilvers, Wendi Roe, Mark Hindell, Mary-Anne Lea, Kath Large, David Middleton, Darryl McKenzie.

Ian Angus opened the session and handed over to the presenters. Presentations and background reports for each item are available for download here: [CSP meetings and project updates - 2019](#).

CSP project (with TMP components)

- POP2018-03: New Zealand Sea Lion: Auckland Islands pup count

TMP projects

- Otago / Southland / Stewart Island pup counts
- Campbell Island pup count and mortality
- Sea lion suitable habitats model S South Island
- Pup mortality and necropsies Enderby
- Campbell Island: pup behaviour
- Mātauranga Project update
- 2019/20 fieldwork expectations and Next actions and research

Item 1 - Update on projects underway (Tom Brough)

The sea lion component of Operation Endurance was cancelled for 2019 due to a high level of uncertainty around task delivery. This was largely due to the significant logistic and equipment requirements demanded by the pup mortality mitigation tasks. Delivery of these tasks remains a high priority and the TMP team will endeavour to find a solution to get mitigation in place – some will be implemented at the start of the upcoming summer season. Operation Endurance is still providing some opportunities for tag resighting and searching for additional colonies using personnel from other DOC marine teams.

The CSP and TMP teams are facing severe financial and logistical challenges as the Evohe is not available for hire for the 2019/20 Subants field season. The teams are currently negotiating costing and dates with other providers and a decision will be made mid-October as to whether the work 1) can proceed as planned, 2) needs to be scaled down, or 3) needs to be cancelled for this season. There were detailed discussions around prioritising counting and tagging on Auckland Islands should this be necessary. At present, it is 'business as usual' and the team is in the process of purchasing tags and recruiting field teams.

Comment/recommendation:

- There was discussion around purchasing a vessel to mitigate future issues around vessel availability and cost.
- It was agreed that a five year programme would help streamline the budget and logistics for this work.

Item 2 – Fieldwork methods (Tom Brough)

[Presentation \(PDF 3,940 K\)](#)

Fieldwork methods were summarised for the Subants. Suggested methods of assessing the efficacy of mitigation included the use of trail cams with GPS tracking. Simon mentioned that adaptive management methods were trialled in the 1990's and were found to be effective. DOC are scaling back on disease work at Campbell Island this season with no post-mortems to be undertaken. Disease research will be carried out as per previous methodology at Enderby Island. A targeted plan for necropsy work at Campbell Island will be developed for future seasons and will be informed by the analyses of existing samples. However, each team at Campbell Island will have at least one vet who will be able to document mass mortality should it occur and take biological and environmental samples. Pup production, resighting, tagging and weighing/measuring methods will follow the same approaches as previous seasons. Campbell Island colonies will have an additional focus on mark/recapture methods (direct counts were used last season), to make the methods more comparable to Auckland Islands and are less labour intensive. Due to health and safety issues an extended season on Dundas Island is not possible, thus, similar to previous seasons, a short deployment will be carried out. This field season is planned to start in mid-December and will run through to the end of January (Campbell Island) and the end of February (Auckland Islands). Microchipping and will only be done on Enderby. Pup mortality mitigation will be implemented at Davis Point and includes a scaled down version of the previously proposed fence and filling bogs and holes.

Comment/recommendation:

- Sea lions are now nationally vulnerable and all reports have to be updated to make this clear to the reader.
- Source Sarah and Tom's reports on adaptive management.
- Simon mentioned that weighing and measuring should be done on Figure of Eight (F08) if possible.
- Jim suggested that a few dead pups are brought back for autopsy at Massey in the absence of a dedicated 'cause of death study'. Although fewer than two individuals will not provide much information, frozen tissue samples can be used for bacterial analysis.
- Wendi and Sarah (Massey University) need to guide the team on what measurements should be recorded for deceased individuals.
- Campsites on the Campbell Island need to be improved.
- Crucial to trial a small electric fence with a deep cycle battery (e.g. similar to that used in the Catlins).
- Rangers must be kept up to date with latest research and decisions.
- Methodology must be consistent, pups must be weighed at both sites at similar times for accurate pupping curves.

Item 3 – Refine projects and plan for 2020/21 (Tom Brough)

[Presentation \(PDF 1,460 K\)](#)

Identified the need to focus on some mainland projects that provide good case studies for the range of threats faced by NZSL in coastal settings. It was agreed that support for a project at Hooper's Inlet, which contains all the complexities and threats, would provide this opportunity. Community involvement should be prioritised. Mainland NZSL populations are increasing and DOC need to plan ahead and have systems in place to manage human/animal interactions (i.e. Blue Skin Bay). IVL proposals may provide funding for these 'case study' type projects throughout the mainland and at Rakiura. It was noted that fisheries projects are of low priority and are already being carried out by MPI. Engagement strategy work will be implemented by new Mountains to Sea team and liaison officer when they come onboard. There is a desire to do more tagging on Stewart Island (Rakiura) to inform interactions with aquaculture (e.g. anti-predator nets). There was a strong call for work focusing on the cause of death of NZSLs and it was agreed that this should be addressed by specialised studies separate from CSP and TMP (e.g. universities). The Campbell Island pup count has surprisingly remained stable over the last four years (lag?) and there is currently limited evidence that klebsiella bacteria is killing pups on this island. Discussion on more satellite tagging work to update foraging distribution and diet studies (with camera attachment). This was given a lower priority given funding constraints – it has less direct conservation outcomes. Sarah presented plan for ivermectin trial at Enderby next year – this is a high priority. Important for good data on disease prevalence /mortality to be collected this year for comparison.

Comment/recommendation:

- Create a database of interactions to inform ‘green farming certification’.
- A central database/repository of data is urgently needed. The behavioural field for data published on Dragonfly is essential for modelling and is often not completed properly, if at all. Need to train field teams to accurately record behavioural data.
- There is no clear reporting on the outcomes of projects funded. A summary of completed work should be provided and presentations circulated through clear communication. Learning needs to be applied and should not be entirely volunteer based.
- GIS team to finalise digitised maps.
- High priority: Trials need to be initiated for disease mitigation (e.g. hookworm Ivermectin treatment) as current sample sizes are too small.
- High priority: Lab based experimental work around the minimum temperature threshold of klebsiella bacteria.
- Low priority: Foraging information should be updated for the Auckland Islands and data collected for Campbell. Fo8 foraging data should be obtained from Louise. Dundas data is 10-20 years outdated.
- Low priority: Trial of new methods to collect nutritional stress data.
- Low priority: Andrew called for shark scars to be recorded on Enderby according to the ‘shark scar survey protocol’.

Item 4 – Matauranga project (Rauhina Scott-Fyfe)

Contact Rauhina directly for details on this project.

In depth discussion about naming conventions for NZSL. Previously ‘pakake’ was used for all pinnipeds and this needs to be clarified. Historically, within a Ngāi Tahu context, ‘rāpoka’ refers to leopard seal. Rauhina provided a history of the relationship between Ngai Tahu and NZSL with interesting examples. Ngāi Tahu whanui very keen to be involved in conservation work for NZSL, however difficult for iwi to have capacity due to absence of funding for targeted roles.

Comment/recommendation:

- There should be a review of the term ‘rāpoka’ due to confusion with the leopard seal. This should be led by Ngāi Tahu.
- DOC should aim towards having early conversations with hapu and iwi to build important relationships.
- Since the NZSL TMP is co-authored, research teams should meet with Murihiku and Ngāi Tahu representatives keeping in mind that much of their work is done in a voluntary capacity.
- DOC to explore ways to expand opportunities to involve Ngāi Tahu in NZSL conservation, especially in increasing capacity beyond volunteer roles.
- More extensive educational material is required.

Item 5 – Habitat suitability final report (Veronica Frans)

Contact Veronica directly for details on this project.

Veronica presented her modelling work and demonstrated potential range expansion of NZSLs based on habitat suitability data from Sandy Bay. It was agreed that results were remarkably accurate and that this can be used as a decision-making tool for conservation by assisting with the identification of potentially suitable breeding sites. The limitation for habitat types dissimilar to those at Sandy Bay were acknowledged (e.g. Campbell and Fo8). Data from different locations and habitat types could help improve the resolution. Ground-truthing would also be worthwhile.

Comment/recommendation:

- Veronica will send the final map to Tom by mid-October.
- Dahlia can provide GPS tracking data of pups on Davis Island.

Item 6 – NZSL tagging update (Megan Melidonis)

[Presentation \(PDF 748 K\)](#)

Merko Dalton have enough stock of the Superflexi tags to cover the 2019/20 field season only (Figure 1). Due to limited stock availability, purple tags were ordered for Dundas and light orange for the remaining islands. This will allow the tagging of a maximum of 1675 individuals. Samples of Dalton Primotags (Figure 2) and Allflex mini tags (Figure 3) will be sent to the New Zealand Sea Lion Trust (NZSLT) for assessment of suitability. If they appear to be robust enough for NZSL tagging, they will be trialled on mainland populations before deployment onto Subants islands this year. Surplus microchips are being stored in Dunedin from previous trips and there is no need to place an order this year. The supplier changed the size of these chips last year and provided plastic applicators which were not suitable for the field. Jim Fyfe has managed to adapt the existing applicators and these adaptations will be sent into the field this season with the view of changing the microchip supplier for the 2020/21 field season. The supplier of caps and glue remain the same.

Comment/recommendation:

- Simon to conduct research into the suitability of alternative microchip designs and provide recommendations for the 2020/21 field season.
- NZSLT to trial Primotags and Allflex mini tags this year.
- It was mentioned that notching and punching of tags significantly reduces the life and retention of tags.
- Tom Clark's tag printing recommendations to be considered for the 2020/21 field season.

Summary of actions arising from meeting and people responsible for follow-up

Actions – Project updates

- Explore options for a five year programme budget for Subants. Discussions with other DOC operations units on the purchase of a vessel. – IA

Actions - Fieldwork methods

- Accurately update the vulnerability status of NZSL populations in all future reports. – All DOC
- Source Sarah and Tom's reports on adaptive management. – MM
- Incorporate weighing and measuring in training for Figure of Eight (F08). There was a request to train field teams to accurately record behavioural data, although this was not included in the scope of the 2019/20 surveys. – MM
- Contact Wendy and Sarah (Massey University) about guideline for the collection of data on deceased individuals (e.g. blubber measurements, frozen samples etc.). – MM
- Draw up a plan for campsite improvements and electric fence construction. – Lou McNutt
- Updated briefing and educational material for Southland rangers. – Liaison officer

Actions – Project planning 2019/20

- Create a database of interactions to inform 'green farming certification'. – TB
- Find out whether behavioural fields can be included on Dragonfly database. – MM
- Provide a summary of completed work and circulate presentations using clear communication channels. – TB
- GIS team to finalise digitised maps. – MM

Actions – Matauranga project

- Rauhina to consider contacting other iwi around NZ. – RSF
- DOC to provide updated and comprehensive educational material at site specific locations. – Liaison officer
- DOC should aim towards having early conversations with hapu and iwi to build important relationships. – TB
- Co-author collaboration between DOC research teams and Ngāi tahu hapu as well as TRONT representatives. – TB

Actions – Habitat survey

- Veronica to send the final habitat suitability map to Tom by mid-October. – VF
- Contact Dahlia for GPS tracking data of pups on Davis Island. – MM

Actions – Tagging

- Conduct research into the suitability of alternative microchip designs and provide recommendations for the 2020/21 field season. - SC
- NZSLT to trial Primotags and Allflex mini tags this year. - MM

Appendix I: Agenda



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Conservation
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Meeting: TMP/CSP Technical Working Group
Date: 4 October 2019
Time: 9:00 am – 3:00 pm
Place: Room WLG G.01, Conservation House, 18-32 Manners St, Wellington.
Chair: Ian Angus
(Manager, Marine Species, ph: 04-471-3081; email: iangus@doc.govt.nz)

| Time: | Event: | |
|--------------|--|--------------------|
| 9:00 am | Welcome, Introductions, Scope, Objectives, Apologies | Ian Angus |
| 10:30am | Update on projects underway | Tom Brough |
| 10:00am | <i>Morning tea-provided</i> | |
| 10:15am | Subantarctic fieldwork methods for 2019/20 | Tom Brough |
| 11:00 am | Refine projects/plan for 2020/21 | Tom Brough |
| 11:45 pm | Matauranga project | Rauhina Scott-Fyfe |
| 12:30 pm | <i>Lunch provided</i> | |
| 1:30 pm | Habitat suitability final report | Veronica Frans |
| 2:15 pm | Tag situation updates | Megan Melidonis |
| 3:00 pm | <i>Close of meeting</i> | Ian Angus |

Appendix II: Tags



Figure 1 Dalton Superflexi tags will be used for the 2019/20 Sub Antarctic field season as in previous years.

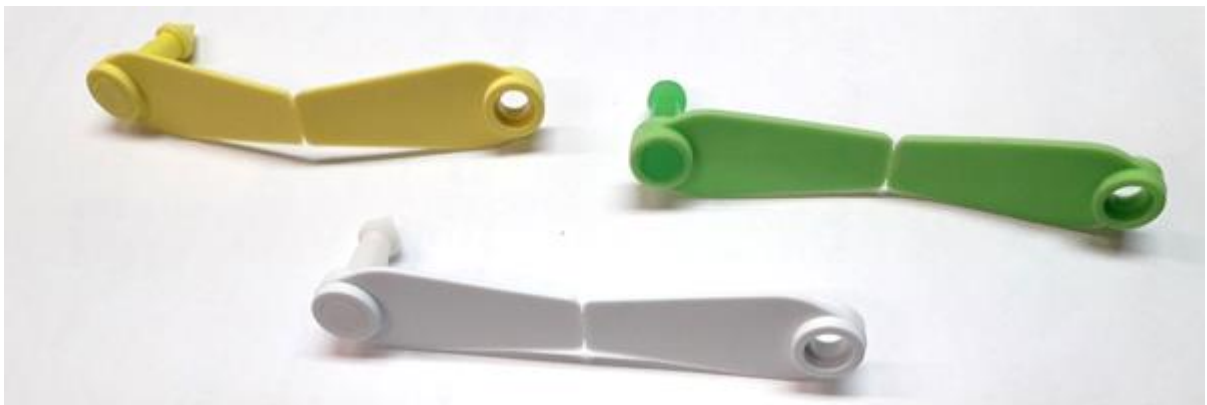


Figure 2 Dalton Primotag samples will be ordered and tags will be trialled by NZSLT if suitable



Figure 3 Allflex mini samples (locally supplied) will be ordered and tags will be trialled by NZSLT if suitable