Department of Conservation
Te Papa Atawhai

Meeting:	Conservation Services Programme Technical Working Group
Date:	15 July 2025
Time:	9:30 am – 14.15 pm
Place:	Microsoft Teams Meeting
Chair:	Kris Ramm (Marine Bycatch and Threats Manager)

Attendees: Kris Ramm, Hollie McGovern, Igor Debski, Graeme Taylor, Katie Clemens-Seeley, Olivia Rowley, Hendrik Schultz, Kat Manno, Johannes Fischer, Tiffany Plencner, Mel Young, Steve Pilkington (DOC), Peter Frost (Science Support), Ben Leslie (DOC Protected Species Liaison Officer), Chris Gaskin, Edin Whitehead (The Seabird Trust), Biz Bell, Sam Ray, Simon Lamb, Dan Burgin (WMIL), Ben Steele-Mortimer, Dave Goad (SNZ), William Gibson, Olivia Hamilton (FNZ), Graham Parker, Kalinka Rexer-Huber (Parker Conservation), Charles Heaphy (Sealord), Shaun Lee (STET), Gaia Dell'Ariccia (Auckland Council), Matt Pinkerton (Earth Sciences NZ), Janice Molloy (Southern Seabirds Trust), Karen Baird (Seabird Trust/SPREP), Barry Weeber (ECO)

Apologies: Jack Fenaughty

Presentations:

9:35 am	POP2022-01 Black petrel population monitoring	WMIL/NNZST
10:35 am	POP2023-01 Flesh-footed shearwater population monitoring	WMIL
11:30 am	POP2023-02 Southern Buller's population study	Parker Conservation
12:15 pm	POP2022-10 Antipodes Island seabird research	Parker Conservation
13:30 pm	POP2023-04 Campbell Island seabird research	DOC

1. POP2022-01 Black petrel population monitoring

Biz Bell (WMIL) presented the land component of the black petrel population monitoring project. Chris Gaskin (NNZST) presented the at-sea capture summary from 2025.

Discussion:

Land component

PF Is there any merit in looking into the life history of some individuals, to look at things like whether they are super breeders? For example 22% overall have burrows containing non-breeders, were there any previously marked breeders amongst these?

> **BB** We do have breeders that skip a year. We look into family traits, burrow use and individual histories.
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> **PF** Are birds strongly faithful to their burrows?
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> **BB** Yes, we map movement between burrows and there isn't much swapping occurring, males are particularly strongly faithful to their burrows. We are also looking at condition of burrows and if weather conditions are impacting on bird health and success
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> **PF** There are very few studies on skipped breeding. I'm sure it is related to physiological state of individuals, which relates to conditions at sea.

KRH Looks like non-census grid burrows are essentially control burrows. What is the difference as it looks like the non-census grid has better metrics in some years?

> **BB** The non-census grid includes a range of habitat types. Census grid burrows were specifically selected for key habitats but some are in areas that are affected by weather impacts. That is why we want to understand where burrows are and how burrow features may impact on breeding success. Every burrow gets checked over a 3-4 day cycle.
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> **KRH** It would be useful to confirm what impacts handling has on birds.
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> **BB** One of the sites has a closed track so no public access, which will allow for comparison between public and non-public impact areas.

BW What control is there in the area for pigs and cats? Given wetter weather, pigs are probably having bigger impact than normal.

> **BB** Pig control is undertaken mainly by DOC and recreational hunters. There aren't pigs at the main colony, but for any pig reported close to the colony, and hunters are deployed straight away. Cat control is maintained throughout the colony; a DOC contractor is deployed straight away to target any reported cats. It's very successful.

PF Has there been a change in the average age of recruitment in first time breeders?

> **BB** Average age of first successful breeding is just over 6 years, which is more or less the same as previously.

GT The census grids were set up over time to monitor population growth within the defined area of the grid. You would expect to see a proportion of newly returned birds trying to find partners in this area, possibly resulting in lower occupancy rates – do you select random burrows outside the grid to add into the study, or only birds on egg?

> **BB** We originally chose random burrows with visible activity, but in later years, burrows where known banded birds had recruited were prioritised to maintain long-term individual tracking. Currently we don't add burrows from outside grid census area now, only when a new burrow is found inside the grid**.**
>
> **GT** There's a slight tendency for occupancy rate to be higher outside of the census grids. It is valuable to add recruiting birds into the mix but does explain the difference between the two types of areas being monitored.

<u>At sea capture work</u>

BW Was there any particular reason for concentrating on the two areas you did and not south Aotea for example, or is there a pattern of targeting different areas over different years? Have you looked at any relationship between recaptures and whether birds from different parts of the colony are going to different places?

> **EW** We focussed on those areas due to reported sightings and also the best areas to be able to achieve the project objective of catching as many black petrels as possible. It would be interesting to go a bit further offshore as we know they forage there but it's not possible in terms of logistics and practicality. We haven't looked at that relationship but could look at resighting data.

KR Well done to the team for doing a lot of work with very little budget.

JF In relation to the increase recapture rate, were you targeting banded birds over unbanded birds? A key assumption is that the capture probabilities are equal.

> **EW** If they are there then we would try to catch them for the resighting data, but it was still pretty random. We did notice that once birds had been captured once they tended to stick around.

PF Great idea to collect blood and feather samples. It will be good to get handle on what they tell us. What was basis for selecting subsets e.g age, evidence of breeding, body mass, previously banded and/or known history?

> **EW** It was quite a random sample of individuals, usually it related to the time that was available to process the bird, mostly birds only ever caught at sea.
>
> **PF** Is there any merit to being more targeted?
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> **EW** That could be looked into in the future.

PF Were you catching the birds along the edge of the shelf break?

CG The shelf break was a bit further out. Tracking work shows birds following along that line but it was not practical for us to get out there to have a look.

PF Would it be useful to include pure sightings of other birds to get a clearer picture of at-sea distribution?

EW We kept bird lists while we were out there, which are available in eBird. During capture sessions we also recorded how many black petrels were around to give an index of abundance.

PF You mentioned the association with false killer whales – was there any association with fishing boat activity?

EW We didn't see any fishing occurring directly during our trips, only game fishing in January.

DG Did you see any twinked (temporarily marked) birds?

EW We were twinking/paint marking birds at sea, so knew to avoid recapturing birds that had fresh twink, but hard to tell the age of twink on some other birds though. We managed to catch a few birds from the Aotea study colony.

DG If you came across a patch of birds, did you randomly try to sample that?

EW We would only go for birds that came within range. We didn't go up to flocks of birds.

GT The aim of the project was to catch a random sample, the only exclusion was to ignore birds known to have just been caught by paint marks on heads. Also movement of birds, from various tracking work shows that the birds are moving around that coastal section. Some do go up north then head out to deeper water. We are picking up pretty random movement of birds from Aotea. An early concern is we might be biasing towards a group of birds not associated with colony.

2. POP2023-01 Flesh-footed shearwater population monitoring

Simon Lamb presented on flesh-footed shearwater population monitoring on Ohinau and Lady Alice Island.

Discussion

KRH Two different sets of randomised points within the colony yielded similar results. Seems to be greater precision in more recent estimates, has there been a change to the study methodology since 2017/18 population estimates?

SL Think that variation comes from the variation of transects, the method hasn't changed. There's been no major changes in efforts. Most likely due to less burrows, so less variation that could happen.

KRH Were you revisiting some of the same sampling transects from 2017/18 ones?

GT The transects wouldn't have been identical, as they are based off a GPS starting point. They weren't marked with poles/pegs for example, and there is a lot of spatial variability at both sites. The idea of repeating the original ones, was to go back to areas with the same spatial density, there was never an expectation we would be able to capture the exact same burrows.

BW You are relying a lot on the Ohinau 2017/18 count to monitor any change; there's a stronger argument with Lady Alice as more prior counts. Flesh-footed shearwaters are caught quite regularly by longline vessels – are they annual breeders? Is the decline on Ohinau relying on changes in burrow numbers/density?

SL We are only relying on one estimate, which is all the data available. Would be good to have more data but we just don't. We haven't looked into skipped breeding but it would be worthy line of investigations. Compared to black petrels, flesh-footed burrows are quite stable and in sheltered forest. The social aspect of flesh-footed shearwaters hasn't been explored too much, but there is a lot of fighting over burrows, so skipping breeding season could be a result of that.

BW We probably need more regular counts than five-yearly, to fill in the gap,

SL Five years is probably the most realistic financially, if more resources available.

BW Disregarding finance and resource, what would be the most appropriate number of years between counts to give an idea of changes between colonies e.g. 2-3 years apart for counts at Lady Alice might be more reasonable.

SL Our recommendation is five years or less, as they are long-lived seabirds.

GT Annual monitoring of study burrows does provide data on individual burrow-level changes. While study burrows may be lost over time, for example in storms, we would still expect new burrows to be dug out nearby. The significant decline at Lady Alice is a concern. Tracking data suggest differences in foraging behaviour between colonies—e.g., Ōhinau birds travel to the Louisville Ridge while Lady Alice birds remain closer to the Hauraki Gulf—potentially exposing them to different at-sea risks.

DG Is the decline at Lady Alice driven by less burrows in those repeats, might not have been same line and potentially weather that has driven that. Was that a surprise? Not unusual for burrows to disappear and new ones appear.

SL It's quite unusual for burrows to disappear in strong soil, quite a few sections of Lady Alice are very robust and with some burrows collapsing but not a huge

amount. However a lot of burrows were lost from the storm event from the previous season. These islands are very exposed to environmental factors.

JF Was occupancy confirmed by presence of eggs or birds in burrows?

SL Birds on eggs.

3. POP2023-02 Southern Buller's population study

Graham Parker presented the draft report for the southern Buller's research.

Discussion

BW In terms of the decline then suggestion of recovery in the last year, are the changes between survival rates that is still declining over those years and the numbers of birds themselves? What are you measuring in survival in comparison with what you're measuring in the nest counts?

KRH The numbers presented that showed a startling number of nests that had rebounded this year, were just straight nest numbers (breeding pairs). Survival rates are more useful metrics and gives a more powerful way of monitoring the trends, and is based on recapture of banded birds over time, so we have a whole series based on ~1,800 individuals. Nest numbers are more of a year on year snapshot of what is going on.

BW In terms of counts, is mark recapture more useful to do than that type of colony sampling every year? What is the priority in future?

KRH Both are valuable as they provide different types of information. We need to be in the colony anyway to resight banded birds so it makes sense to do nest counts at the same time. Two data types are not sensibly separated. Allowing enough time on trips for recapture of other banded birds (changing over on nest) would make resightings data that much more useful.

JF Yes, both abundance data and survival data should be collected simultaneously

GP It's important to keep mark recapture going for other species, as you lose a lot of detail information as far as what is happening to the age of population, e.g. black petrel recruitment rate, you wouldn't detect that without marking breeders.

PF Agree with hypothesis about breeding; amongst marked birds, it would be possible to recreate bird history in the study colony to see which years they skip breeding. Nice to see some of that reflected. Given non-breeding birds have less constancy of occupancy of the colonies, is that a slight inherent bias that mark recapture is biased towards breeding birds and lower probability of capturing non-breeding birds?

PS Within each study colony, each nest is numbered, and we record contents, band number, and within duration of the trip, we recapture its mate so that we have information each year, we can record breeding status of bird, and its mate (pair bond duration). Separate analysis which has been done in the past and can be updated. Impression from trail camera data is that maybe more birds now are skipping years, but that analysis is yet to be done. In regard to your question about bias toward breeding birds, we record the status of each bird so can run separate analysis on breeding birds, but we have incorporated non-breeding birds as well - non-breeding birds change within the hour, we do revisit the colony several times so tend to pick them up. With the application of alphanumeric bands we should get an increased sighting of nonbreeding birds.

KRH we kept resightability of nonbreeding birds in there because David Thompson checked if there was any detectability differences between non-breeders and breeders, and there wasn't. We haven't rerun that analysis.

PF Agree with trying to estimate adult survival on all birds not just breeding birds.

4. POP2022-10 Antipodes Island seabird research

Kalinka Rexer-Huber presented the draft report for Antipodes Island seabird research.

Discussion

BW Since mice were eradicated, has the island vegetation changes created challenges or positive impacts? What are priorities for white-chinned petrels in future? Low number of occupied burrows is a bit of a concern.

KRH There have been some been noticeable changes in the absence of mice, but more typically noticeable in invertebrate populations (e.g. more flies). Haven't seen many changes with vegetation yet, but could expect to see in the future. In regards to white-chinned petrels, going forward the focus needs to be on getting solid recapture data in order to get a good survival estimate to compare with the last estimate from 2008. We had done some work to get a whole island population estimate of white-chinned petrels, but monitoring is now tied in with mark recapture work.

JF Do you think there's any merit in establishing a second mark recapture study of white-chinned petrels on either Adams or Disappointment Island, given they have different exposure there compared to the Antipodes Island population? If so, which island would be better?

KRH We made some effort to establish a banded population on Adams Island in 2019 for mark recapture, deliberately because of the probability of being able to get back there to do the work. It didn't go for long enough to get useful information for mark recapture though. While there are more white-chinned

petrel burrows around in the Auckland islands, they are more collapsible than on Antipodes Island. I wouldn't expect there to be a majorly different estimate though.

KB It's a relief to see the rate of decline in females (Antipodean albatross) being reduced. Low productivity is a huge concern still. Curious to hear what the response would be if HPAI had been detected on the island. Climate change in the Pacific is a huge contributing factor affecting seabirds at sea. There has been a lot of work looking at how climate change affects tuna distribution, are there any plans to do modelling for how that might affect albatross distribution and whether that might change their vulnerability to fishing?

KRH Changing prey distribution and fishing fleet location would expect to change albatross distribution, quality tracking data will help to track that. It's definitely being looked at.

JF There has been a very thorough assessment on the question of interannual change in Antipodean Albatross distribution: AEBR 331 Assessing inter-annual variability in Antipodean albatross distribution

KRH HPAI response was actions implemented, with very fast turn around and excellent communication.

KR Even though it was a false alarm, it was a good opportunity to run through a response scenario.

GT Why do you think there was such a big difference in occupancy rates between the Auckland Islands and Antipodes Island for white-chinned petrels?

KRH That has puzzled us for years. The most obvious hypotheses has to do with unusually solid substrate that the birds are utilising on Antipodes, which are amazingly robust and do not collapse. Burrows that haven't been occupied for a long time are still there looking like a burrow that's been in use. Simply because the burrows persist for so much longer, can't think of anything else really.

BW Do the different populations forage in different places, could they have been hit by fishing mortality?

KRH We know from tracking data that they do fish in different areas. In both cases, both populations overlap with solid fishing effort, but it's not massively different between populations. Burrow occupancy on Antipodes has historically been low.

5. POP2023-04 Campbell Island seabird research

Claudia Mischler presented the draft report for Campbell Island seabird research.

Discussion

KRH In regard to the Campbell albatross counts, the number of loafers is much higher compared to last year, which suggests more birds have failed than at the same time last year? Is that a reasonable hypothesis, and was there evidence of more failures? By December a lot of that evidence might already be gone.

> **CM** Agree that is possible, but there wasn't any evidence of their failing. We do have photo evidence of slips with large areas of vegetation coming down which may cause more birds to loaf/not attempt to breed.
>
> **KRH** It could explain if birds are looking for their nest because they can't find it. If they aren't in good condition they may skip a year – were there any observations on bird condition?
>
> **CM** Nothing mentioned in that space by the field team.

BW Drone footage would be useful in terms of combined information for multiple species, especially light-mantled sooty albatross.

> **CM** Yes it would be useful for Antipodean albatross and southern royals, however the light-mantled sooty albatross are pretty tucked into the vegetation. They are pretty difficult to see even when you are walking around, so it would be interesting if it's easier to see aerially.
>
> **KRH** The scale of the island means it wouldn't be feasible to do low level enough flight to get high resolution, but targeted flight would be more useful. For light-mantled sooty albatross you still need to know where they are in order to find them with the drones, sometimes easier to see obliquely than from the ground.
>
> **GT** Campbell Island is incredibly windy which means it would be challenging to fly a drone there. From past experience, the light-mantled sooty albatross nests are around the cliff fringes of the island. In terms of timing of a light-mantled sooty albatross survey, peak numbers are ashore at start of November, (they start laying at end of October), so any survey after the end of November would mean there are too many losses e.g. as skua predation on nests is quite high on chicks especially.
>
> **GP** There would also be connectivity challenges on some of those cliffs. Wouldn't rule out using drones entirely, but definitely something to be considered – spare drones will be important.

WG Were the Southern Royal albatross tracking tags used in this project from Fisheries New Zealand?

> **JF** The tags last year were funded by FNZ, this year they were funded by DOC.

PS It would be interesting to compare tracking of mollymawks to compare to 2009-12 tracking data.

Discussion:

Any additional comments should be provided to csp@doc.govt.nz by 5pm, 29th July 2025. Close of Meeting @ 14:15 pm