Department of
Conservation
Te Papa Atawhai

Meeting: Conservation Services Programme Technical Working Group

Date: Monday 18 July 2022
Time: 9:30 am – 2:30 pm
Place: Microsoft Teams Meeting
Chair: Igor Debski (Principal Science Advisor, Marine Species,
              idebski@doc.govt.nz)

Attendance:

>   Graeme Taylor, Igor Debski, Samhita Bose, Lyndsey Holland, Karen Middlemiss,
>   Roger Williams, Clinton Duffy, Hannah Hendricks, Hollie McGovern (DOC),
>   Britt Finucci (NIWA), Johanna Pierre (JPEC Ltd), Alastair Dunn (Ocean Environmental
>   Ltd), Denham Cook (Pelco NZ), Mark Edwards, James Roberston (NZ Rock Lobster
>   Industry Council), Rosa Edwards, Tom Clark (FINZ), William Gibson (FNZ)
>   Lily Kozmian-Ledward, Chris Gaskin (Northern NZ Seabird Trust), Gaia Dell'Ariccia
>   (Auckland Council), Shannon Weaver (Hawkes Bay Regional Council), Jason How
>   (Department of Fisheries Western Australia), Elizabeth Bell (WMIL), Lindon Brown
>   (West Coast Penguin Trust)

Presentations:

9.40am	MIT2021-02 Cetacean interactions with pot fisheries in New Zealand	JPEC
10:45am	POP2021-01 Black petrel research – land based and at-sea components	WMIL
11:30am	BCBC2020-08 Seabird feeding associations with fish shoals: zooplankton analysis	NNZST
12:45pm	POP2021-02 Chatham Island albatross research	Toroa
1:30pm	POP2021-05 Age estimation of great white sharks	NIWA

1. MIT2021-02 Cetacean interactions with pot fisheries (JPEC)

Johanna Pierre presented on cetacean interactions with pot fisheries in New Zealand waters. Rock lobster (CRA) makes up the majority of pot lifts, with a large decline in the number of pot lifts being reported over the past 30 years.

Pot fisheries broadly overlap with humpback migration both spatially and temporally, with most reported entanglements involving humpbacks and orca interactions with CRA gear. Reported gear cannot be interrogated in most instances.

Recommendations include:

- Increased consistent reporting of entanglement events to DOC
- Grow relationship between fishers and disentanglement teams
- Update electronic reporting codes to include all cetacean taxa
- Build knowledge of cetacean distribution and migration (through research and citizen science)
- Investigate the use of pot strings and how fishers are reporting soak time
- Characterise NZ pot fishing gear for future assessment
- Foster adoption of mitigation measures already in use by some fishers
- Investigate galvanic timed releases in entanglement hotspots

Questions raised:

ME – Some improvements mentioned in the presentation are not reflected in the draft report e.g. fishers reporting sightings to other fishers in real time.

> SW - How would fishers react to advice that whales are in the area?
>
> ME - Reducing slack lines in the water is the single biggest mitigation method that fishers can do, as well as not setting pots in clusters (which is a known entanglement risk factor). Industry has good internal communication and fishers could take actions if they have enough warning. There is currently good real time information on whale movements (e.g. marine mammal tourism operators) that is not currently making it to the CRA fishers.

ME – Want to emphasise the importance of getting comprehensive information on particular entanglements to the correct teams. Latest issue of whalesafe document contains waterproof form on make-up of entangling gear.

ME- Use of pot strings precluded on foul ground due to entanglement risk

ME – Coiling vs removing lines– fishers are not going to cut lines because gear would not be able to be deployed in different depths.

ME – Improving entanglement response; lots of scope for improved training and communication.

> JP – DOC has just updated disentanglement SOP, industry welcome to attend disentanglement training, information sharing in entanglement hot spots appears to be good with scope for continued improvement.

MD –Follow up on animals trailing gear, has there been any research on post-release survival, and any attempts to collect DNA samples or fluke images of entangled whales so their source populations can be identified (as pot entanglements can drive some populations to extinction). SPREP is interested in working on disentanglement of whales in Pacific Islands, where many of these animals will end up.

MD – Should not wait to trial galvanic pot releases and different coloured ropes.

2. **POP2021-01 Black petrel research (WMIL)**

Elizabeth Bell presented on the land based and at-sea components of the black petrel research project at Aotea.

Land based work involved collecting key demographic components, in addition to monitoring the ecological interactions between feral pigs, sea birds and the wider Aotea ecosystems.

202 birds were caught at sea over three days, including other sea bird species (Flesh-footed shearwater, Campbell black-browed mollymawk, NZ storm petrel). A further 6 days of at-sea catching is planned for November 2022.

What's next:
- Continued detailed analysis of demographic field data
- Chick recruitment trip in Nov/December
- Population monitoring at study colony
- Pig/petrel deterrent work
- Sharing recapture data with Gaia (Auckland Council), working on Hauturu

Questions:

GT – Why were more Hauturu birds than Aotea birds at sea?

> EB – No tracking data that would say if the birds may have different foraging areas

TC – How do we get a grip on the low recruitment rate of fledglings back to the colonies? This seems to be what is holding the population back. What is happening to them offshore, in their first 4 years of life?

> EB – Focused nocturnal recruitment trip planned for November/December. Transect work outside the zone so far has not found many birds.

> ID – Engagement with Ecuador and Peru has been a priority for DOC over the last 4 years. Collaboration on training and data analysis is beginning to make progress on analysis of overlap with South American fisheries. Transit to South America is rapid (c. 2 weeks) and they spend their time in several fairly concentrated foraging areas.

GT – At-sea work just beginning but shows considerable potential in catching younger birds.

ID – More satellite tagging of fledglings an option when it comes to further research.

3. **BCBC2020-08 Seabird feeding associations with fish shoals: zooplankton analysis (NNZST)**

Lily Kozmian-Ledward presented on the analysis of zooplankton samples collected during 2020-21 field work.

Samples were collected via horizontal surface tow and rod and line, and mainly took place at fish school events, but also at controls and along current lines.

Recommendations:
- Further research into the lifecycle, behaviour, effects of environmental factors, and whether commercial fishing of planktivorous fish species has a positive or negative

effect on krill/zooplankton abundance

Questions:

CD – Why weren't controls paired with samples?

> LKL – In previous years controls were paired with feeding events, however this time around there were time constraints and needing to undertake multiple sampling.

GT – How did design of the net influence the catch?

> LKL – Hard to assess avoidance
>
> CG – There was no evidence from camera to suggest a bow wave effect from the net

DC – Unbalanced design, makes graphs difficult to interpret. Could data be pooled into like events so that main themes are easier to discern?

4. POP2021-02 Chatham Island albatross research (Toroa)

Mike Bell presented on his Motuhara seabird research trip in January 2022.

Motuhara is in good condition, although experienced two bad weather events which caused nest and chick losses (some nests washed away by ephemeral streams, some chicks blown out of their nests).

Buller's population on the island may be increasing, however it is too early to tell. Nest guarding and fledging periods defined for both species, egg laying missed due to SD cards on cameras filling up after cancelled trip in August (COVID). Northern giant petrel nesting investigated.

Questions:

GT – Can you explain what you did with the drone imaging?

> MB – Set up transect and counted from the ground, checking contents of every nest, then will compare that with what is seen in the drone image.

ID – How can you combat the issue with SD cards in the camera filling up?

> MB – Photographic interval could be changed to one photo every 2 hours, which could give you a year (nights could also be omitted).

SB displayed initial analysis of tracks of two Northern Buller's albatross that had GLS tags recovered this year (both foraged in northern Chilean-southern Peruvian waters)

5. POP2021-05 Age estimation of great white sharks (NIWA)

Brit Finucci presented on age and growth estimation for NZ white sharks using vertebral banding patterns and microCT imaging.

Future work:

- Continued biological sampling, particularly of larger sharks
- Investigate alternative non-lethal means of ageing, such as DNA methylation
- Complete a NZ-Australia white shark growth study
- Assessment of vertebrae elemental composition

Questions:

CD – Could any age estimates be validated using bomb radiocarbon dating?

    BF – None of the samples are old enough for this validation technique

Any additional comments should be provided to csp@doc.govt.nz by 5pm, 1 August 2022.

Close of Meeting @ 2:11