Department of Conservation
Te Papa Atawhai

Meeting: **Conservation Services Programme Technical Working Group**

Date: 5 March 2020
Time: 9:00 am – 1:00 pm
Place: G.02 Tangaroa Room, Conservation House, 18-32 Manners Street, Wellington
Chair: Graeme Taylor (gtaylor@doc.govt.nz)

Hillary Ayrton, Karen Lisa Tunley, Lynsey Holland, Ben Sharp, Greg Lydon (MPI/FNZ), Susan Waugh (PCE), Barry Weeber (ECO), Owen Anderson, Di Tracey (NIWA), Peter Frost (Science Support Service), Kalinka Rexer-Huber, Graham Parker (Parker Conservation), George Clement, Geoff Tingley (DWG), Kate Simister, Katie Clemens-Seely, Igor Debski, Shannon Weaver, Trude Hellesland, Anton van Helden, Tiffany Plencner (DOC).

POP2018-05: Westland Petrel population size estimate- Kate Simister/ Susan Waugh

RW You talked about spatial area and how some of that is inaccessible, has that been mapped?

KS It is mapped yes

PF The modelling that you have done, have you thought about other habitat variables to improve estimate of density measure? Slope etc

SW Baker did incorporate slope measurements in the past. What we have done is establish a baseline of the population. Never set out to figure why petrels were nesting where they were

PF Yes, my comments are more around what are the next steps to improve the density measurement

GT With tree falls, how many areas were unable to be accessed?

KS the study areas were roughly intact

KRH Burrow occupancy has improved?

KS Occupancy hasn't, there's just more birds

KS We did a lot more burrow-scoping than Baker has done in the past, around 30 samples per each colony

GT Is the increase driven by population increase not a shift in occupied area/movement of colony?

SW More areas burrowed than there was previously, increased density. Population growth rate is slightly over 1. Even though they have challenges seem they seem to be going okay

Discussion around mark-recapture study

SW Has been a little bit of movement of birds to different study areas but not much

GT Have you looked at birds that have lost their whole colony area?

SW You could from the recapture data have a look at it

GT Would be interesting to know where they settle after an event like that

RW Is there an estimate of survival?

SW There are several published ones yes

Discussion around survival rates

SW 97% for breeding birds, 92% for non-breeding

PF Single line geometric trend on Figure 2, should potentially be two trend lines to include the downwards trend

SW We looked at the year effect and there wasn't one, that would have indicated to separate the years

PF Seabirds are long lived and slow producing, needing much longer population monitoring to really understand trends
SW 2019 had a lot more sampling which may be why it is showing a lower burrow density overall. 2019 was very similar [in burrow density] to 2007-2011. This could explain why is 2016-17 is much higher
PF We have a baseline measure at the moment, for onward monitoring of Westland Petrel, what is the prospect of looking at a selection of sites and monitoring those only, but not every year due to the difficulty of getting there and cost, e.g. 10 sites to track changes through time?

KS Most of the data is based on the study colony, but we want to be monitoring more colonies. Could never really get to 10 logistically. Study burrows will be kept up and grown into other colonies

GT Do you add new burrows into study area or stick to the same amount?

KS Cyclones have knocked out previous burrows so we are going to add some other burrows to bring the number up to what it has been

Discussion around the difficulty of conducting work at night in the study area
SW With the survivorship estimates we published in the last round we did quite a lot of work on pre-breeding birds
GT High survival rate of adults shows they aren't at high risk at sea, what about survival of juveniles?

SW There probably needs to be more work in that area

Discussion around Westland Petrel movements to Chile after breeding
GP I would be careful to assume there is no adult bycatch out there because of the high survival rate
Discussion of observer coverage and Westland Petrel foraging area
SW We are doing another round of GPS this year
PF Is there any annual measure of chick success?

KS Yes there is, it goes up and down but not significantly. Pretty good success at around 60-70%

PF Breeding success could be providing a huge buffer for anything else that is going on out there

GT It would be interesting to put more GLS tags on the birds. Keeping a burrow occupied is quite important for some birds, it could explain why you are getting a whole lot of burrows that look active but aren't breeding
KS Lots more pre-breeding work needed
RW Are there known nesting areas outside this area?

KS No this is it, this is their whole population

Discussion around soil composition and weka population in the area
GP How much effort was put in this year?

KS A team of 4, and I would estimate 4 weeks of work in total

PF We report lots of biological data, should we be keeping a track of costs of long-term monitoring?
Discussion around distance sampling used for White-Chinned Petrel studies
KRH It's important to tailor methods to the study area so for this study the current approach seems appropriate. Repeatability is really important
RW What's the management objective going forward? As there's lots that could be sampled

MIT2018-01 Protected Species Engagement Project

RW Questions re intro, are they congruent with operating procedures on vessels, and on the translations have they got an understanding of fishing terminology?

SW Yes, all operating procedures and regulations were taken into account in the early stages of storyboarding these videos alongside the multiple opportunities for stakeholder input during the whole process. A reminder that these videos are high level where viewers are prompted to consult regulations and procedures for the exact guidelines specific to their fishing

operation and vessel

AVH Can fishers download these videos?

PT Not at this point but these are available via Youtube, downloadable links could be added easily on the DOC website

Discussion around the resources being utilised via the liaison programme

GP They [liaisons] use tablets so if they can download it, they can just hand it over to crew to view

Discussion around why tori line video had the highest views across all videos

PT You could cycle the videos through so a different one is one the top. Needs more social media push with the videos again. Also need to ask if this is useful for fishers, need that feedback

RW Should be an app, can be done relatively cheaply

GT Are there other ideas for videos? Interviews with fishers about mitigation measures and feedback, that leader-led approach could be really effective for adoption of these measures

GP Measures being voluntary will be part of the reason viewership is low

RT Do vessels have hard copies of these resources online?

SW Yes of the handling guides but not the videos, could provide by USB though

Discussion around regulation of mitigation measures

POP2019-05 NZ fur seal Bounty islands population assessment

RW High rate of fur seal bycatch but a small number?

KRH Yes

Discussion around drone vs. fixed wing pros and cons

RW Noting that for a drone you need to get a boat down there

KRH Yes but if you do it in conjunction with other work there's cost saving there

GP Still have the ground-truthing aspect that is required with any aerial work so do need to physically be there

GT How much did the drone cost?

KRH 3-5 K and plenty of spare batteries needed

Discussion around response of animals during drone launch

GP Pups within 5 metres were the most responsive to drone take off and when it was in the air during transects

Discussion around robustness of drones in wind

BS Is it time intensive to go through these images afterwards?

KRH Not really stitching is an automated process, stitching process was a lot smoother with drone work (reduced stitching error) not much difference in counting/processing times between drone and fixed wing

PF Did you increase the brightness of the image to reduce the shadow?

KRH Yes on the composite

BW What time of day was were the transects done?

KRH Noon on a bright sunny day is the best as it reduces shadowing. An overcast day is by far the best weather for flying

AVH You are counting these manually not using AI?

KRH No though those technologies are really advancing. As this was a trial it was really important to count manually

BW Was there multiple fly overs of the same island?

KRH Yes at different levels though not multiple times at the same level

Discussion around timing of work to get accurate pup counts

POP2018-01 Improved habitat suitability modelling for protected corals in New Zealand waters- NIWA

Discussion around taxa included in the work

Discussion around favoured vs. unfavoured habitat for corals

DT There are many corals that do occur on soft sediment

GC Do you get any information on uncertainty via the earth system model?

OA It may do but we didn't use any of that info in our model making

AVH Uncertainty is different for the different variables- depth, salinity and mud

GC Side scanned info may be important to incorporate into modelling in the future

PF Is salinity really a fixed variable?

OA You are right it isn't, it is a changing factor as per the next slide. This was a slide error as it was supposed to be slope. Corrected on the following slide

GT Seafloor salinity is much more stable than the rest of the ocean column

Why would it [the model] be so poor for *goniocorella*?

OA Not sure why

DI Maybe because it has that bimodal distribution- shallow and deep water distribution

FS If a species has a wider environmental niche the AUC can be a little lower though it doesn't mean the model isn't good

Discussion around the different models used

BW Which RCP [Representative Concentration Pathway] was used?

OA Doesn't use an RCP for this but it is referenced in the report

GC What is the depth?

OA 2000m, it's unknown if they exist below that

DT A lot of the black corals and stony corals do exist below that, but they do not thrive in those depths

LH Does that mean record numbers were reduced by much due to that 2,000m cut off?

DT Not by much, around 3 records less

GT Lots of dots for keratoisis + lepidisis in areas that are considered less suitable so it is one of the less believeable graphs

OA Yes, I thought the same, there may be a small green zone when zooming in on that graph

BW Is the overlap useful?

OA I believe so

BW There's no consideration of past impacts, recovery rates etc

OA That would be next steps

GT I don't think you can answer all those questions with this model

Discussion around fishing activity variability into the future

Discussion around the species that are more or less vulnerable

GC Some ground-truthing required for the model to get determinate?

GT Some quantitative measure needed as well as mapping

OA That is supplied within the report

DT Bringing the future date back a bit for management purposes may be useful. We really need to protect these areas of refugia as quick as possible

BW We are 7 years behind

GT I don't think you are capturing the uncertainty adequately

KT If we are going to use this for MPA planning I do think we do need to bring the uncertainty in better

End of meeting