



Meeting: Conservation Services Programme Technical Working Group

Date: 24 May 2017

Time: 9:00 am – 4:00 pm

Place: G.01 Holloway room, Conservation House, 18-32 Manners Street

Chair: Kris Ramm (DOC)

Attendance: Karen Baird (Forest & Bird), Rich Ford, Greg Lydon, Lyndsey Holland, Jo Lambie, Jen Matthews (MPI), Tom Clark (FINZ), Sharleen Gargiulo (DWG), Richard Wells (DWG, FINZ), Biz Bell (WMIL), David Thompson (NIWA), Johannes Fischer (VUW), Graham Parker (Parker Conservation), Barry Baker (Latitude 42), Simon Childerhouse, Lesley Douglas (Blue Planet Marine), Sarah Michael (Sydney/Massey Uni), Wendi Roe (Massey Uni), Igor Debski, Katie Clemens-Seely, Kris Ramm, Freya Hjorvarsdottir, Graeme Taylor, Jody Weir, Laura Boren, Graeme Elliot, Sharon Trainor, Jo Hiscock (DOC), Christopher Robertson, Peter Frost, Paul Sagar

Apologies: Daryl Sykes (RLIC)

Non-CSP presentations

New Zealand sea lion disease research, Auckland Islands

- **RF** How did you know that those sea lions were from Dundas? Where they tagged?
 - **SM** Yes, some of them were tagged, but there are also a lot of untagged animals
- **RW** Are these tags different to the ones we have been using the past?
 - **SM** No, same tags from the same company. Unfortunately, there was a mistake and the numbers were printed on the wrong side, so they needed to be applied differently than previously
- **RF** Do you think the tag loss is due to the different application this year, because of the mistake in the printing?
 - **SM** We aren't sure as we don't closely observe the pups after tagging
 - **SC** Tag loss is highest in the first few months after tagging, once they heal, the tag loss drops significantly
- **RW** I hope that the tags have already been ordered for the next five years?
 - **LB** I would like to suggest that we change companies for the tags. If anyone has concerns about tag colour, numbers, shapes etc. it would be good to have a follow up discussion about this and decide on where to go.
 - **SC** There needs to be a very detailed discussion about this, we need to make sure that we go in the right decision if we decide on making a change
- **RF** Is this survey data or sampling data, and were you able to survey the whole population?
 - **SM** We surveyed Sandy Bay for dead pups every day. But it can be hard finding dead pups in the forest, so this number is a minimum
- **SC** Do you have an idea about sample size that would be needed for more in depth study?
 - **SM** You would most likely need to sample all of them to identify smaller differences
- **MC** Is it worth looking at giant petrels?

- **SM** I planned on doing that, but they are much harder to catch, and as Skuas fill the same ecological niche but are much easier to catch, we decided to focus on them.
- **RW** Is the hookworm a standard pinniped hookworm?
 - **SM** Probably species specific, but same genus to other sea lions.
- **RW** Any link to hookworm in dogs and canine distemper etc.
 - **SM** I think there is, having a worm makes the host more sensitive to other diseases or sicknesses
 - **WR** What is probably more directly linked is the damage that hookworm does to the intestine
- **PF** How is *Klebsiella* transmitted?
 - **SM** We don't know for sure, could be inhaled, could be through wounds, could be caused by the hookworm, could be born with it etc.
- **RF** Is there anything you would change looking back at the field season?
 - **SM** We tried to do as much as we could, so we were doing a lot of things at once, but we would probably focus our effort on what the results will show. It would be useful to have extra people for re-sightings, as we probably missed a lot of pup and mum combos.
- **RF** What would it allow you to say if you had more mum and pup combos?
 - **SM** More birthdates, and if the age, status etc. of mum is a risk factor
- **RW** Have any of the pups showed symptoms of the disease and survived?
 - **SM** I remember one from a few years back, an ataxic pup that we thought might die. We didn't see it for a few weeks but found it again later and it looked much healthier. But unfortunately, the pup ended up dying from starvation later, so we aren't 100% sure.
- **SC** your results seem to be relatively consistent with an ivermectin trial that was done by Louise Chilvers a few years ago
 - **SM** She only had 30 pups over 2 years, but the results showed increased survival. My results are suggesting the same thing, but with a much larger sample size.
- **SC** You spend a lot of time chasing individual pups for the cohort study, do you think it might be useful to have radio senders for those pups?
 - **SM** Yes, it would save us a lot of time
- **MC** Is there any benefit for continuing the samples to Figure of Eight?
 - **SM** There could be, but might be hard to work there for more than a day
- **SC** Are there any things/sampling trips that you could do to get other information to see whether we think it's just as prevalent elsewhere?
 - **SM** Would be useful to see if they continue to die later in the season. We thought it was important to get the basics done at one location and then go over to other colonies.
- Discussion about the causes of mortality on other islands and the possibility of doing necropsies at other areas
- **RW** What about the mainland?
 - **WR** One sea lion died in 2013 of *Klebsiella*, but it's been difficult to get samples. We have looked at samples from adult sea lions and they have all been healthy adults. There is one suspicious case from 2005, but no samples are available to analyse.
- **SC** What about Stewart Island?
 - **WR** We have done necropsy and substrate sampling with Louise's trips to Stewart Island

CSP presentations

MIT2016-02: Entanglement of cetaceans in pot/trap lines and setnets and a review of potential mitigation methods

- **RW** Is that rate that “some suggest” based on fisheries observed rates?
 - **LD** Yes, I can provide you with that
- **RW** Just to clarify the map of setnet fisheries effort, these squares don’t represent fishing effort to the extent of the edges. It is just the stat areas that have been coloured coded for overall effort in that area
 - **LD** Correct, that map just represents overall effort in the area
- **RW** Are there setnet entanglements showed with exact coordinates, or just that they occurred in that stat area?
 - **LD** Unfortunately we don’t have the exact coordinates, just the stat area.
- **RF** Is there any generalisation about how far out these guys go?
 - **TC** There are different depths for different species, but the data exists
 - **RD** Is the data available?
 - **TC** Yes
- **RW** Are the entanglements in the net itself, or in other parts of the net (float line, etc.)
 - **LD** It was unclear, the DOC database didn’t contain that level of detail
- **KR** Did you review the observer diaries?
 - **LD** No, we reviewed the DOC database and two MPI databases that were provided
- **PF** What was the origin of the 36 records in the DOC database?
 - **LD** Some are from DOC responding to entanglement, some from MPI
- **PF** What was the response from the fishing industry? Presumably they are interested in this as this is also a loss for them (fishing gear etc.)
 - **LD** We haven’t discussed the results with them
- **RW** In those top three propositions (from mitigation techniques), the fishers in the Bay of Fundy have vastly differing environmental factors to deal with, such as the tides. The tides are so great that the floats get pulled under water due to the tides, and the fishers must use a lot of extra rope, so the mitigation methods that are being tested there aren’t necessarily applicable here.
- **PF** Has there been any suggestions, or studies, looking at the type of rope as a mitigation method?
 - **LD** Yes, some have looked at things such as the colour or type of rope
- **PF** What about the actual structure of the rope, i.e. smooth vs. rough, etc.
 - **LD** I’m not sure about that specifically, but I do know that some papers have begun to explore the differences in the ropes.
- **BB** Are these only suggestions for mitigation or has there been any experimental work done on these options?
 - **LD** Some experimental work has been done. However, a lot of these mitigation methods have just been implemented prior to scientifically testing them.
- **KB** Are the whales just getting tangled as they swim past or are they deliberately interacting with the gear?
 - **LD** Might be species specific, and different mitigation methods might be needed for different species in different areas.
- **RW** Suggest differentiating between pingers and deterrents in the report as they are very different. Much work has been done but of differing quality, and this topic should be an open book as most of the results aren’t very clear.
- **KB** Most of the humpback whales get caught in June around the Kaikoura coast, wouldn’t temporal closures work there?
 - **LD** Yes, but where? We aren’t sure where exactly the animals are getting tangled as

- they might have only been spotted tangled in Kaikoura
- **SC** The locations of the entanglement reporting is completely independent of the actual entanglement event. Agree that June would be the best time to apply seasonal closure management, but the main question is where, as the whales are migrating at that time and could have been entangled at any point during their journey north along the east coast.
- **MC** The team of trained personnel we currently have is too slow to get to these locations where entangled whales are being seen. However, the fishers from the area are right there, and it is very important to train fishers to respond to entanglement events.
 - **LD** The disentanglement team does a great job but have been under scrutiny recently, but we have high-lighted that in the report
 - **MC** I'm suggesting that the trained personnel include fishermen
 - **SC** half of the trained team in Kaikoura are fishermen
 - **MC** but we need to expand the number of people and areas where trained individuals are located
 - **KR** Can take that forward as a recommendation

Action: Introduce the work of the entanglement team to the public and expand the numbers and areas of trained people

- **PF** So far, it seems that we really haven't engaged the Rock Lobster industry in their experiences of gear loss etc.
 - **LD** We did talk to the industry
- **PF** Have they been responsive to mitigation methods and/or trying to find a solution to the issue?
 - **LD** They've been proactive and have done the whale ID guide, so they do recognise that there's a problem, and seem willing to engage. The next step in this process would be an in-depth discussion with the Rock Lobster Industry fishers about what their experiences are.
- **KB** Did you look at the stranding database and look for individuals that may have died after having been entangled?
 - **LD** That database was a part of the data that we considered.
- Conversation about population models and how this kind of data could feed into them to show it the effects on the population are significant or not

Pop2016-02: Seabird research: Auckland Islands 2016-17 – White-capped albatross ground component

- **RW** In the context of Jim's power analysis, there's a proposition that we get to 50% resight effort in the future?
 - **GP** Yes, that is the proposition. We have been discussing if we should increase the trip there to five days, which would give us a resighting effort around 0.6
- **CR** Why are you restricting yourself to five days?
 - **GP** I would rather have a week or ten days, but I'm trying to be conservative, time is money
- **RW** In your recommendation, are you proposing a special expedition, putting a group of people on the island for a specific length of time?
 - **GP** No, we would still work it in with other work. For example, by early February, Gibson's work has wound down, so the white-capped work can easily take place after that.
- **RW** Have you seen sea lions there?
 - **GP** Yes, both males and females. We believe they are disturbing the nesting albatrosses
- **KB** What proportion of the population is included in the count area
 - **GP** We haven't done a whole island count, the study site is probably a very small

proportion of the whole island colony.

- CR Suggest a minimum of a fortnight to be spent on the island
 - GP We would very much like that of course.

Pop2016-02: Seabird research: Auckland Islands 2016-17 – White-capped albatross aerial component

- Short discussion about the aerial component, further descriptions of methods were included in the other aerial work presentations
- RW Is there also a dataset from last year that hasn't been analysed?
 - BB Yes

Pop2016-02: Seabird research: Auckland Islands 2016-17 – Gibson's albatross

- PF If you looked at those GLS tracks in terms of time tracks, is there any suggestion that some birds go to the old locations, and then disperse out from there?
 - GE You would need to use satellite tags to get that level of infinite detail
 - ID the new technique for analysis of GLS data allows you to get actual tracks
- GT Breeding birds are not necessarily close to the breeding colony when they are developing an egg, so the temperature will be hard to tie in to this. However, these huge drops might be affecting them in some way.
- RF Can you elaborate on why, and how much, data you had to throw out?
 - GE You can easily leave out all those in the Northern Hemisphere. It's also possible to look at the time/distance between points and throw out the ones that would demonstrate a speed between points that is unrealistic for Gibson's albatross.
- GT This shows that the birds are expanding their foraging range and going further to find food, suggesting they are having a harder time finding prey
 - GE Same thing is happening with the Antipodean albatross, obviously something has changed quite dramatically
- Discussion about whether the birds are searching further for food or if, due to their increased survival rates, whether the food they are eating is higher in energy, allowing them to forage further.
- RW Can give you some contacts for fishermen in Australia that have been seeing recruitment holes in some of the commercial species.
- PF Are you able to get any information from the duration of foraging trips? Assuming you can measure that from the GLS data?
 - GE Haven't done that yet, but could be done
- GT Have you analysed the data to look at the length at shore time?
 - GE We could do that from the data we have
- KB One of the complications with the change in foraging is that the birds are heading into areas of increased international fishing effort

Pop2016-02: Seabird research: Chatham Islands 2016-17 – Aerial survey

- RW Do you plot the flight path so that someone else knows which path to fly in the future?
 - BB The flight path is only in my head but there are backups of photos that can show the direction of the flight path
- GT Are the photos time and date stamped?
 - BB Yes, but there are some GPS complications out in the Chatham's which can cause issues
- KB Were you using a handheld GPS?
 - BB I was using a GPS connected to the camera to place a date and time stamp on the photos

- CR During what time of the day were you doing the counts?
 - BB Around midday. By flying between 1100 and 1600 we think we minimize the presence of loafers.
- PF Do we have any knowledge of any possible loss of nests due to the ground counts?
 - BB You can always cause disturbance, but would be very surprised if we are causing any kind of significant disturbance with the work we have done
- CR Were the satellite photos taken at a different time of day from the aerial photos?
 - BB I'm not sure
- CR What's the cost of the satellite images?
 - BB I got them at half price, but would have been around 10,000 USD per image before the discount.
- CR If the nest has a broken egg or a dead chick, then it will be from the current season
 - BB Don't disagree with that, but it could also be from the previous season
- CR If there's an eggshell seen in a colony like that, it will be from the current season, otherwise it would have blown away a long time ago.
 - BB So are you saying that we should include that in the data
 - CR yes
- PS I would agree with Chris.
- There was a discussion about whether the delay/inability to conduct ground truthing during the aerial count would render the aerial count useless or less useful.
- PF How were the satellite images cleaned?
 - BB I reckon he used some kind of photoshop tools
- CR There are two problems, time of day and wind direction (and strength). Satellite images and aerial photographs won't be able to differentiate between that.
- PF What altitude are you flying for the aerial photographs?
 - BB About 1000 feet, and the close ups are around 300-400 feet.
- CR What is the number that you got there actually made from? It's a biannual species and a part of the population is somewhere else. You will need three photographs over the year in different months. The easiest figure to obtain would be the end of August count each year, and would remove, to a certain extent, the problems you are having with determining the actual breeders.
 - BB If you want detailed information, you are looking at ground counts. If you want to get a population estimate and changes over time, then aerial is the way to go.
- CR concerned with the correction factors, especially doing it 15 days to a month later and applying that to the aerial counts seem a bit problematic
 - BB Yes I agree, but as you know, things don't always work out the way you want them to, sometimes there are changes to plans due to weather etc.
- KB Are you going to find some more in how you count the satellite pictures?
 - BB It's in his paper, but I think it's more of an art of science.
- KB The resolution that you got from the satellite photos, is that the best you can get nowadays?
 - BB 30 cm is very good resolution. The miscounts could be due to light, or environmental conditions, or maybe that there are just an awful lot of rocks
- GT How large is a single satellite image that you are paying for? For example, how much of Adams Island could you cover in one photo?
 - BB I don't know the answer to that question specifically, but you will certainly need a lot of images, and to deal with the issue of overlapping
- PF With a 30cm resolution, the images would have to be very large, which would also cause computing issues when trying to analyse them
 - GE Wouldn't necessarily work for Adams Island as it's covered with large white rocks.

INT2013-02: Identification of seabirds captured in New Zealand fisheries

- GP What species were the shags?
 - Biz Stewart Island shags
- GT Have you distinguished between Stewart Island and Foveaux shags?
 - Biz Not yet, but we can
- Clarification on the definition of “liced” was sought
- GT Were they all released alive? (in relation to the 188+ diving petrels on one vessel)
 - Biz We are still waiting further information from the observer diary, but the information in the COD lists that the birds flew off, we just aren’t sure to what extent the birds needed to be assisted off board.
- Clarification was sought on the definition of COD (Central Observer Database)
- KB Haven’t seen so many penguins caught before, any reason for that and do you know where they were caught?
 - KR Increased observer coverage in that area, but don’t know the exact location off the top of my head
 - Biz One event off Stewart Island at least
- RW Could you compare the injuries between years? Have there been any changes? Has the method of getting information affected the results, now having both a sample of the caught birds as well as photographs?
 - Biz Yes we could. We haven’t really considered if the data collection method is affecting the results
- RW If I was to look at a trend in the number of birds with grease on it, would that be reasonable?
 - Biz I would have to confirm with David (NIWA) as to the sampling techniques used then, but the categories and techniques used now are the same as those used in the 90s.
- CR Are the observers deciding on what birds come back?
 - KR With very strict instructions and are only supposed to bring back certain species

Research Updates

Southern Buller’s albatross at the Snares: Population study 2016/17

- Discussion around the confidence estimates used
- BB What’s the oldest you see birds recruiting?
 - PS Since we aren’t seeing them every year, some of them could have been breeding in the years before we saw them
- GP Are you capturing birds that have already failed?
 - PS No
- GT Do you capture loafing birds?
 - PS Yes, sometimes
- CR Does the recruitment rate seem low to you?
 - PS I thought that it was pretty good for this species
- GT Have you ever recorded a switch from Solander to The Snares?
 - PS We have once recorded a chick from Solander
- ID Has the density of nests changed in the population?
 - PS The colonies are constrained by physical landmarks, when the population increases, the density needs to increase within the study colony. Mollymawk bay and Lower Punui has stayed relatively stable; Upper Punui colony has expanded and the number of birds has increased there much more than the other two colonies
- GP Commented that he has heard from recreational fishers that they catch them often

- off the coast of Fiordland
- **CR** Why aren't they moving out to the more open and flatter areas on the Island?
 - **PS** good question, maybe they just prefer the environmental conditions at the other areas
- **RW** Can this report and the last years' reports be lodged with the previous CSP reports
 - **KR** Yes, that can be done

Light-mantled sooty albatross at the Auckland Islands

- **PF** was that flight height from sea level, since you're looking at the birds diagonally on the cliffs? What was the distance away from the birds?
 - **BB** likely a few hundred feet, we fly where it's safe to fly, so distance to the birds diagonally is determined by the flying conditions
- Clarification was sought on the colours used to depict the birds in one of the images. Yellow was for breeding birds, red for loafing and blue was for question marks – unsure whether they were birds, or unsure about their breeding status
- Discussion on the density of birds in that area. Graham Parker gave a description of what the area looked like, how densely populated it was, the fact that it is sheltered, and the fact that they found the site while doing white-chinned petrel work there the year before
- **GE** Whatever counting method that you're using, there will be inter-annual variation, to get anything out of it you would need to do so for a while, come up with correction factors, etc. If you counted that colony ten times, you would get ten different results. You need to know correction factors, and other variable factors that could affect the counts.
 - **BB** Pretty certain that our counting techniques for various sites are pretty robust by this stage. Constrain the time for the counts and come up with correction factors
- **KB** Are we trying to get a population count for the Auckland Islands?
 - **ID** This is why this came up, New Zealand looks to have an important part of the Light-mantled sooty albatross global population and determining a population count is becoming a priority
- **KB** Could you fly all the cliffs and count them?
 - **BB** Would be very difficult, but I can't think of how else you would do it. We have some information about breeders on different islands.
- Discussion about the potential methods for counting LMSAs on different islands, aerial surveys vs. direct counts vs. boat based surveys
- Discussion about LMSA failure rates, and preferred nesting sites of the birds (on different islands), and further discussion on how this technique could potentially be used in the future to come up with a better informed New Zealand population estimate

Royal albatross at Enderby Island

- **GE** Would you be able to keep up with only counting, not photographing?
 - **BB** Absolutely, just do the count with a clicker. Also, the helicopter goes over very slowly and the pilot is able to stop over a spot if you need him to
- **GT** did you have any coordination issues with ensuring that everyone was looking at the same bird
 - **BB** No, not in this case
 - **GT** This problem would certainly arise in higher density situations
- **PF** If your GPS is not connected to your camera, can you not make sure that they are synchronised at the beginning, use the GPS to record the track?
- Discussion about the best method of recording the track, whether the GPS could record the track and the photos could be matched by using timestamps to the GPS locations in the recorded track