Department of Conservation
Te Papa Atawhai

Meeting: **Conservation Services Programme Technical Working Group**
Date: 10 June 2016
Time: 9:00 am – 5:00 pm
Place: Level 4 Conference Room, Conservation House, 18-32 Manners St, Wellington.
Chair: Ian Angus (ph: 04 471 3081; email: iangus@doc.govt.nz)

Attendance: David Thompson, (NIWA), Graeme Elliot, Kath Walker (Albatross Research), Richard Wells (DWG/FINZ), Karen Baird (Birdlife International/Forest & Bird), Kris Ramm, Katie Clemens-Seely, Freydis Hjorvarsdottir, Graeme Taylor, Igor Debski (DOC), Nathan Walker, James Andrew, Amanda Richards (MPI), Janice Molloy (SSST), Jana Wold, Peter Richie (VUW), Kalinka Rexer-Huber (Otago Uni), Graham Parker (Parker Conservation), Barry Baker (Latitude 42), Meghan Friesen (Auckland Uni), Elisabeth Bell, Claudia Mischler (WMIL), Chris Robertson.

Apologies:

CSP TWG presentations:

1 **POP2015-02: Objective 1 Gibson's albatross – Draft final reports**

Ground survey — **Kath Walker & Graeme Elliott (Albatross Research)**

- **RW/GE**- discussion around the biennial nature of the breeding blurring any patterns
- **RW** do we have a topographical map for the snares as this methodology should be applied to southern Buller's
    - Can do that
- **RW** is there a trend in the start of breeding?
    - Unsure, but can look at that
- **RW** suspect the availability of GPS technology contributes to the improved counts
- **DT** differing numbers in breeding pairs between each year is not necessarily a problem
    - Agree, it tell you something about the environmental conditions (changes in breeder:non-breeder)
- **GT** What proportion of nests that fail would be lost completely?
    - Hard to quantify, we do find failed nest, but we find them at a lower rate because there are no birds on them. A reasonably high proportion of these failed nests are probably missed. We always see a few, because they look like the non-failed nests.
- **GT** You could have the surveys as count of non-failed and failed nests? Instead of focusing on finding birds, you focus on finding nests.

Aerial survey — **Barry Baker (Latitude 42)**

- **RW** is 200m a lot lower than used in different surveys?

    - Depends on slope and topography of the colonies. Generally roughly the same as Disappointment Isl, has been lower than some other surveys
- **GT** do you have an issue with moisture getting into the camera which limits the flying conditions?
    - The design of the pod limits this issue and this did not prove to cause any problems
- **RW** any ways of protecting against corrupt cards?
- **JM** can you see images when you're working or is it done in retrospect
    - Some equipment was taken down to attempt this and allow review, however, the software proved to be too slow to accomplish this, so exposures were taken manually at 2 second intervals
- Further discussion around how to prevent card failures including checking and backups of cards and cameras
- **KRH** is the stitching process affected by the nature of the terrain?
    - Yes, for example can't be done on vertical surfaces, so this must be manually checked once it has come back from "maps made easy"
- **GE** Small differences in placement of bird in ground vs. aerial counts is due to the inaccuracies of GPS and rubberising of maps rather than errors
    - **RW** about a 6ft distance
- **GT** what about darker birds? Does this cause any bias issues?
    - Do not believe so due to the distinctive physical characteristics
- Discussions around differentiating loafers from breeders and the application of correction factors (detailed photos will be reviewed to take a second assessment of the proportion of loafers and therefore correction factors)
- **ID** useful to specifically describe the process and data sources by which bird are categorised as loafers etc
    - Will do
- **KW** would be good to review the most dense foliage areas (most difficult to ground survey) to ensure that areas which have been ground counted as zero are actually devoid of birds
    - Will do
- **KB** useful to examine the trade-offs in both methodology and cost between ground count and aerial
    - Logistics costs are dependent on other complementary projects however analysis costs would be cheaper
    - **ID** these costs can be difficult to disaggregate and vary considerably depending on vessel availability, other synergetic projects etc, so must be done on a case by case basis
- Further discussion around the various trade-offs of each method and the factors which contribute to error in catch method
- **KB** useful to compare loafer:breeder ratios for both aerial and ground
    - Can be done easily
- **KRH** all discussion seems to point to the need to keep birds categorised as loafer vs. breeder as separate datasets which can be grouped together as necessary. This will make the ground vs. aerial datasets more comparable
- **KW** the most appropriate method is dependent on the most important value for management purposes e.g. total population vs. breeding population

- **ID** total population is most important for risk assessment purposes but in the past this has been calculated from breeding population – hence this and similar projects have targeted accurate estimation of breeding population. Ideally models will be used to estimate total population directly from data collected rather than scaling from the estimated breeding population.

2	**POP2015-02: Objective 2: White-capped albatross; aerial survey and ground visit – Project update**	**Barry Baker (Lat42); Graham Parker (Parker Conservation)**

- **RW** will the timing difference of counts between the 2008 and 2015/16 surveys make a difference?
  - Yes that is likely in terms of failure rate
  - **BB** optimal timing for these surveys is 15 December, though while the surveys are later than this, maintaining timing is important to maintain an index of abundance
  - Ideal would be to undertake two surveys (optimal and standard times) to calculate a correction factor
- **KRH** wind direction/strength has a large influence on the number of loafers
  - As does time of day
- **MF** is there ever an overlap in species at the colonies? How are these accounted for?
  - Generally colonics are mono-specific but there are some light mantled sooty albatross which have been assessed in previous years.
- **RW** suggest a table showing the relativity between Disappointment Isl and South West cape
  - This was done previously
  - 2014 was the only year that the two colonies did not follow the same trajectory
- Discussion around the driving factors of biennial breeders and the implications it has on estimating population trajectory
- **KB** given the fluctuation in breeding pairs how do you decide what goes into the risk assessment
- **NW** currently this is taken as an average over a longer time period but currently reassessing the appropriateness of this

3	**POP2015-02: Objective 4: Northern giant petrel – Draft final report**	**Graham Parker (Parker Conservation)**

- **BB** – How do you sex them?
  - Caught alive and then released
- **RW** pigs are disturbing the breeding of Northern giant petrels?
  - Yes
- **BB** confirmed that the team landed on Ewing
  - Yes
- **BB** very hard to see from the air - surprised by the numbers seen on Enderby given the number of flights over there in the past and few to none seen
- **GT** movement on to Enderby could have been caused by eradication of stock off this island
- **ID** can breeding success be assessed in parallel with YEP work?
  - **GE** breed in August so this work may be too late

- **GT** was the West end of Adams Isl covered
    - All areas where they have previously been recorded, Grafton ridge was planned to be visited but time constraints did not allow this.
- **KB** any relationship between giant petrels and sea lions?
    - This has been investigated in other pinnipeds however no correlations have been found
    - **GT** they have been observer to benefit from whale strandings on Chatham islands

4	**POP2015-02: Objective 3: White chinned-petrel - Project update**	**Kalinka Rexer-Huber (Otago Uni)**

- **GT** what do you mean by non burrows?
    - Large holes, potentially caused by erosion, appear to be burrows from a distance but clearly not on closer inspections
- **RW** is the occupancy comparable between years and sites for example Disappointment Isl vs. Campbell
    - Based on this work it would appear so
- **GT** Partitioning between Auckland Isl birds and Antipodean Isl birds is similar to Gibson's and Antipodean albatross
- **GT** This partitioning may be due to prevailing winds dictating foraging grounds
- **GE** do any birds go to the East coast of South America?
    - None of the tagged birds
- **RW** El Nino events are making a large difference to fishing and fish stocks - it has also meant that white-chinned petrels have been much more active around vessels so this may show up in the tracking data for this year.
    - **KRH** – Agree, very important to get the tracking data for this year, it might show us some abnormalities.
- **KB** has any diet work been investigated?
    - Not within the scope of this PhD
- **MF** differences in timing of breeding between populations?
    - Not specifically but observationally it would seem that timings would be similar between sites
    - **GT** some of this can be done by looking at the geolocator data
    - Have looked broadly
- **RW** what are the nature of the morphometric differences?
    - Size, antipodes birds are bigger
- **KB** are there any patterns in the bycatch between the two populations?
- **RW/BB** would need further analysis to get the answer to this based on timing as well as overlap
- **KB** When we assess risk, we generally lump all of the populations together, but if the longline fishery is catching more of the antipodes petrels than maybe we shouldn't lump them all together, this fishery might be the main fishery that catches the antipodes population.
- Further discussion around the differing risk profiles for each population/fishery- agreement that further work should be done on this

5 **POP2014-02: Buller's albatross; Solander Island – Draft final report** **David Thompson (NIWA)**

- **BB** will landslips cause any issues with killing birds?
    - There is evidence that this is the case both here and at other islands, mainly adults
    - **BB** losing space for breeding would potentially be a greater issue than the loss of birds
    - **JM** have you seen evidence that this has increased recently
    - Had difficulty identifying landmarks because they were no longer there, even over the course of a year, though impossible to tell if this has increased over time.
- **KB** are you confident that the apparent increase is not driven by improved methodology
    - It's difficult to tell, the main difference over this time period is the camera technology
    - **BB** some issues may be with the older images due to poor curation
- **KRH** the challenges with ground truthing is that there are some birds that are tucked into vegetation etc and you can't see them from air. Could the helicopter drop people off at sites that you can't reach by foot, but has heavy vegetation and might have birds there?
    - **BB** Unlikely due to the nature of the terrain but not necessarily a problem not having ground truthing
    - **RW** Only a problem if we suspect it's a large number of the birds which can't be detected or if the inaccessible sites have change over time. Otherwise not a problem for management purposes
- **GP** Could look at the changes on the island. Maybe if the slides reduce the size of the Island, the density of the population will actually increase.

6 **POP2015-01: Black petrel – Project update** **Biz Bell (WMIL)**

- **RW** were the trackers which failed here the same as the ones that have failed for other seabird species
    - Differing brand for the tracking devices but same brand as the TDR. There were a number of issues around the causes of failures
- **BB** are the dogs used to detect the birds or used to grab them?
    - Only used for detection
- **KRH** how do you ensure that the detection dogs are only detecting black petrels?
    - Done through timing to avoid Cooks petrels breeding time
    - **BB** can you train up a do on specifically black petrels?
    - Yes it is possible and the dog does indicate slightly differently for each species
- **GT** have you heard males call in flight?
    - Not to date, male have only been heard calling on the ground while females call in flight.
- **KRH** Were the trail-cams to get a fledging date?
    - Getting male and female changeover times etc too, general behavioural data
- **GP** are you getting fishermen coming back for repeated visits

    - Yes, generally fishers want to keep coming back, been a success
- **RW** any hypothesis as to why the birds like to breed at altitude
    - On GB some birds do breed pretty close to sea level
    - **GP** potentially due to more introduced predators at lower altitudes
    - **KRH** across many seabird species available wind is a really big factor in predicting nest site – for example having available ridgelines, etc.

7 POP2015-04: Northern Buller's; review taxonomy – Preliminary results — Jana Wold (Victoria Uni)

- **RW** Is this now an affordable tool to differentiate northern and southern at necropsy?
    - It is possible by mitochondrial DNA so could be affordable at around $400-500 for about 96 samples.
    - **RW** suggest running something of a trial sampling
- **GP** what proportion are on 3 kings
    - Very understudied but about 10 pairs
- **CR** suggest going back through bycaught specimens and test specifically for Northern's. Can then attempt to apply this to the morphological data
- **NW** is it possible that the golden lineage (Hapologoup 3) will be confused genetically with Southern?
    - Given that it is so distinct it is easily distinguishable from Southern - this analysis does not bring up a new lineage, but supports the previous work has done
- **KRH** what areas of the MIT genome was used
    - The control region was used
- **KRH** Have you tested the data using different tool?
    - Yes also used a strict molecular clock
- **KRH** - Were the samples chicks or adults
    - **JW** different between location of samples, but had both chicks and adults.
- **KB** have these also been morphologically characterised
    - **CR** currently not enough there in the sample
    - Now that the concept has been supported can move to larger sample such as the Te Papa collection
- **KB** have you looked at international repositories of bycatch birds?
    - Not yet but can investigate further
    - **KB** think that Japan, Taiwan and Chile definitely have some bycatch samples.
    - **ID** Can present to ACAP to generate some interest

8 POP2015-02: Flesh-footed shearwater; Various locations population project — Claudia Mischler

- **GT** chicks were marked to ensure you didn't double count but did you see any returning the next night?
    - No
- **KB** how did the amount of plastic in the chick compare to those brought back as seabird bycatch
    - There was a surprising quantity of plastic in the dead chicks. The adult flesh-footed shearwaters we get in the bycatch generally have some plastic, but not

nearly as much as this one. Almost all of the birds I autopsied at the Island had a decent amount of plastic in their stomach.
    - **BB** Literature does point to this but there are also other land based threats
    - Once you started paying attention there were small pieces of plastic all over the island
    - **BB** this is worse at Middle Island
- **BB** thermal equipment seems like it would be very useful for detection
    - **BBell** yes but it there are some technical issues with this
- Discussion around access issues for Lady Alice Island

8	**INT2015-02: Petrel and flesh-footed shearwater foraging around fishing vessels – Project update**	**Megan Friesen (Auckland Uni)**

- **GT** seems to be an apparent food preference of black petrels for squid as opposed to fish
- **JM** fishermen suggest that preventing the birds from landing is a useful way of preventing them from diving
    - Can be investigated further
- **NW** what were the deepest dives per species?
    - This study was more about refining detection and testing methodology
- **JM** Was this conducted from a fishing vessel
    - This was from a private vessel but investigating the options for utilising fishing vessels and grounds
- **JM** useful to investigate night behaviours
- **KRH** type of vessel used as the platform would be important to take into account as they would provide different olfactory cues
- **JM** also investigation of soft baits and sink rates of lines
- **FH** have you thought of further improvements to the rig to account for currents in the water
    - Looking into it as the makeup of the rig can make this difficult but some can be done through correct boat placement.