

**Meeting: Conservation Services Programme Technical Working Group
National Plan of Action – Seabirds Technical Working Group**

Date: 19 March 2008

Time: 1.30 pm – approx. 4:30 pm

Place: Department of Conservation, 18-32 Manners Street, Wellington

Chair: Igor Debski (DOC)

Attendees: Johanna Pierre (DOC), Louise Chilvers (DOC), David Middleton (SeaFIC), Greg Lydon (SeaFIC), Martin Cawthorn (Cawthorn and Associates), Dave Gilbert (NIWA), Paul Breen (NIWA), Nathan Walker (MFish), Rob Mattlin (MFish), Doug Nicol (DOC), Kirstie Knowles (Forest & Bird) and Darryl MacKenzie (Proteus).

Apologies: Ed Abraham (Dragonfly), Martin Cryer (MFish)

Population studies:

New Zealand sea lion

POP 2006/01 objective 3 Preliminary results on sea lion pupping rate estimation -
Dave Gilbert

- DG presented his preliminary results for pupping rate estimation. A copy of the presentation is circulated with these minutes.
- PB: is the definition of a breeder DG's or LC's?
- DG: it is a joint definition
- PB: is survival of 2 year olds (approx 0.96) realistic and believable?
- DG: younger animals were not breeding so not present during most of the resighting period and had a resighting probability of only about 0.25. Therefore the estimates are not that good, but for 4 year olds the estimates are plausible and still over 0.9.
- LC: hard to judge, but many of the figures look a bit high
- DMac: how was the curve defined?
- DG: with 5 parameters, 2 exponential curves and a power function. The curves meet at 2 years, and this estimates the mortality. A separate mortality was estimated for each cohort. 1998 had the highest mortality, 1991-93 had the lowest mortalities. Tag loss means mortality is underestimated.
- PB: did you try to estimate the instantaneous rate of increase from a small population size?
- DG: no – have investigated pupping rate at current population size. Could be done (e.g. by using a high arbitrary mortality rate).
- PB: could you look at detection probabilities, i.e. the probability of sighting an animal if it is there?

- DG: am convinced by LC's expert opinion that if they breed you will see them. Some breeders may not be identified but only a small proportion.
- DMid: were tagged and/or branded animals included in the analyses?
- DG: tagged, branded and chipped animals were all used. Branded animals will differ as they have a functional tag loss of zero. Number of branded animals small in comparison to total number of tagged animals so any effect will be minimal. Haven't investigated tag loss further.
- DMid: have the proportion of animals that are frequent and non-frequent breeders been estimated?
- DG: There is a continuous distribution from very frequent breeders to non-breeders. A random effects curve could probably be used to describe it.

POP2007/01 objective 3 Draft methodology for sea lion data analyses 2008-10 - Darryl MacKenzie

- DMac presented his plans for estimating sea lion demographic parameters. A copy of the presentation is circulated with these minutes.
- GL: Gales & Fletcher estimates haven't been used for a number of years
- PB: this method has not been used for the setting of a FRML in recent years, but has appeared in other contexts
- DMac: if a different and better estimate of total population size is required different field data would probably need to be collected.
- DG: do you propose to conduct analyses in an integrated way or separately for each parameter estimation?
- DMac: not as an integrated model, in the first instance
- There was some discussion of tag loss rates, with a rate of 13% per annum noted in DMac's background paper. DMac is to confirm rates. Double tag loss is unlikely to be much more than 1% per annum.
- GL: does successful recruitment include still borns?
- DMac: currently yes, as pregnancy and birth had occurred. There could be many ways to define recruitment, and feedback from the group is welcome.
- DMid: Is the ability to conduct the proposed analyses limited by the size of the dataset (only about 10 cohorts)?
- DMac: there will be restricted precision of estimates for older ages where there are fewer animals.
- DG: main problem will be in the heterogeneous nature of the population (e.g. with respect to fecundity and resightability)
- DMac: can be dealt with in some cases (e.g. use of mixture models), but all methods are only approximating reality.

Mitigation studies:

New Zealand fur sealMIT2006/09 Plans for development and testing of a device to reduce the extent of New Zealand fur seal captures in trawl nets – Igor Debski

- ID informed the group that this project, from the 2006/07 CSP Annual Plan, is about to get underway. The project has been contracted to Clement & Associates. Unfortunately a representative from Clement & Associates could not be present to present an outline of the project. The project will be two-stage. Firstly a desk review will be completed of worldwide best practice of relevant mitigation devices and gear operating procedures, together with plans for developing a device, based on the findings of the review. This will be completed by 30 April 2008. As there is no working group meeting scheduled at that time we propose to circulate this report for written stakeholder feedback via the e-mail list at that time. The second stage of the project will be to construct a device, taking into consideration feedback from the working group, and to trial the device during commercial fishing operations.
- There were several suggestions of relevant literature to consider including the review by Rowe in 2007 and CCAMLR trawl trials. ID will ensure the contractor is aware of these works.
- RM: is this geared towards a particular fishery?
- ID: current plans are to trial the device in the hoki fishery.
- NW: is the desktop review expected to inform project plans?
- ID: yes.
- KK: are the objectives available?
- JP/ID: yes, in the 2006/07 CSP Annual Plan (available at <http://www.doc.govt.nz/templates/MultiPageDocumentTOC.aspx?id=43084>).
- KK: is it proposed to establish a separate working group for this project?
- ID: no, this is a discrete project and will be relatively short in duration, so reporting will be to the current group, as with all other current projects from CSP Annual Plans.
- KK: perhaps input from the SLED WG should be sought?
- ID: this can be assessed after the plans are developed.

Other project updates:

Interim update on New Zealand sea lion Auckland Island field trip (POP2007/01) – Lousie Chilvers

Note: a full field trip report will be given at a later date.

- LC presented a brief overview of the field trip, together with the latest pup counts.
- PB: data should be presented on an appropriately scaled y-axis.
- DMid: what is the expected life of satellite/tdr tags?
- LC: battery life is approx 3 months, but animals moult in March so any still attached should be shed at that point.

- RM: do tags have to be retrieved to download data?
- LC: some yes, some (splash tags) no.
- GL: were there any signs of disease?
- LC: no
- DMid: where did sat tagged animals not recovered swim off to?
- LC: one male to Snares
- MC: what were the overall movements of the tagged animals
- LC: data not yet analysed.

Update on DOC field trip to survey New Zealand sea lions on Campbell Island – Lousie Chilvers

- LC presented a brief overview of the field trip, together with the total direct pup counts.
- RM: what data was collected during necropsies?
- LC: Very similar to Auckland Islands but adapted to harsher field conditions, aim to assess cause of death, including weight and blubber depth. Length was only common measurement not taken.
- GL: are animals still thought to be predominantly bush breeders?
- LC: no. Past visits were late in the season after dispersal from colonies. This was the first trip specifically aimed to quantify colonial breeding and has shown that they are colonial.
- GL: what was the extent of survey over the island?
- LC: extent described, covered all areas pups have previously been found at, and further survey of high areas was added by the albatross team.
- MC: one animal with lesions was present
- LC: lesions are likely to be due to injury from rocky nature of breeding areas.
- KK: what is the reason for such high pup mortality?
- LC: poor environment (rocks and mud pools), malnutrition also found by necropsies.
- MC: observed that females seemed young at Campbell – any sightings of early red tags?
- LC: 3 sightings, plus animals from 5 years ago.

Update on SafeLead safety trials – Igor Debski

- ID gave an overview of current trials to assess the relative safety of a new device (the SafeLead) for weighting surface longlines as a seabird mitigation technique. The work is behind schedule due to mixed results from an initial trial in December 2007. A more detailed trial comparing SafeLeads with traditional weighted swivels and no weighting is about to be conducted. A report should be available by 14 April 2008.
- DMid: how many samples are there for each category?
- ID: there will be a minimum total of 30 breaks but work will continue, to conduct the maximum number possible in one full day.

Update on squid trawl offal management projects –David Middleton

- DMid updated the group on the progress of trials presented earlier at a joint AEWG/CSP WG session (13 Feb 2008). One trial was on batching with observations on several vessels in the squid fishery. One vessel was discharging at controlled intervals, the others following unmanipulated discharge regimes. The other trial was on mincing, and is being conducted on a vessel targeting hoki. Three treatments were applied, one per day. This will allow determination of effects of mince size and discharge continuity.
- RM: what is the size of minced offal pieces?
- DMid: variable, up to about 5 cm.
- LC: any experimental observations of marine mammals?
- JP: usual observer observations of marine mammals were being made, but no additional observations made for the trial.

Plans for a trial of the effectiveness of blue-dyed bait as a seabird mitigation method – David Middleton

- DMid outlined the context behind this trial, and talked through draft plans for a trial. The trial will aim to test the relative efficacy of blue-dyed squid bait to line weighting, with a control treatment.
- DG: is dye permanent?
- GL: fades a little, but squid still blue on hauling.
- KK: is there a preferred bait used in this fishery?
- There was some discussion that each fisher will have different preferences, and may vary according to target species and area.
- DMid: the trial will only use squid in order to keep the number of treatments low and therefore increase the experimental power.
- JP: Australian results suggest blue-dyed fish baits are less effective than squid and birds habituate to them more quickly
- GL: the dye is taken up better by squid bait than by fish bait
- DG: does this method have to be proven for each seabird species?
- DMid: not feasible, generally regarded that functional groups of seabirds would respond in similar ways.
- DG: if blue-dyed bait was to become a common fishing practice, standard observer data could be used to continue monitoring the effectiveness of the method.
- GL: there will be potential danger to observers if line-weighting is being used, and would this limit the collection of data?
- ID/DMid: vessels using line-weighting will be observed anyway and most additional observations required by this protocol are made on setting when there is less danger, however the details of observer safety have not yet been worked through.

ID/JP – minutes and presentations will be circulated to the group with a call for written comments.

End of meeting.