Department of Conservation
Te Papa Atawhai

Meeting: Conservation Services Programme Technical Working Group

Date: 1 August 2013
Time: 9:00 am – 5:00 pm
Place: Conservation House, 18 - 32 Manners St, Wellington.
Chair: Ian Angus (ph: 04 - 471 - 3081; email: iangus@doc.govt.nz): CSP TWG

Attendance: Rob Mattlin (MWR), David Middleton (Seafood NZ), Richard Wells (DWG), Barry Baker (Latitude 42), Karen Baird (Forest & Bird), Igor Debski, Kris Ramm, Louise Chilvers (DOC), Martin Cryer, Rohan Currey, Michelle Bertizhoff - Law (MPI), Rosemary Hurst, Ian Doonan, Dan Fu, Jim Roberts (NIWA), Martin Cawthorn (Cawthorn & Associates), Barry Weeber (ECO)
Via telephone with limited connectivity: Bruce Robertson, Liz Slooten (Otago Uni),
Apologies: Katrina Subedar (F&B), Rose Grindley (MPI)

Presentations:

1   POP2012 - 02 New Zealand sea lions – demographic   Jim Roberts (NIWA)
     assessment of the cause of decline at the Auckland
     Islands. Presentation of model options.

DM – are you using Dundas data?

JR – will optimise model using Sandy Bay data, then apply to Dundas

MCryer – may have to relax breeder definition for Dundas

JR – will be very limited information on reproductive rate from Dundas, is likely that we
     will only be able to assess mortality

BW – why were branded animals excluded?

JR – they have a different resighting probability, there are difficulties with difference in
     tag loss compared to other animals, and they form only a small portion of the data
     set. Could be included but would slow down model considerably because extra
     partitions would be required.

DF – branded animals can be used when considering cohorts separately

DM – could add extra partitions once the final model is developed

IDoonan – will consider, though may require a lot of additional computation

LC – what about chips?

JR – not used as there is variation between whether tag or chip was used to identify an
     animal

DM – why no resighting in 1998?

LC/JR – very limited resighting as current protocol was not yet in use, and was a mass mortality year

RC – considered extensions to CJS? for example pradel model

JR/IDoonan – hasn't been done, just straight CJS was used in the MARK validation run

BBaker – how do published estimates of survival compare? for example by MacKenzie

JR – parameterisation and structure varies

Discussion on why there were differences between MARK and SeaBIRD in 2005 and 2006, highlighting the need for further investigation

BW – are all resight years used for estimates?

JR – yes, so over time some cohorts have less years of resight

MCryer – could penalise model fits rather than fix resight probability for breeders to 1 to deal with years of low pup production

LC – how were animals tagged in a single flipper dealt with?

JR – when tag shedding was introduced, they start with one tag

DM – if multiplying age 0 and 1 survival, why not combine?

JR/IDoonan – need to separate to allow identification of individual cohorts in SeaBIRD, can't tag a parameter to a cohort without excessive partitions

LS – should investigate using a step function, for example at 2006, or better, searching for a break point, to look at changes over times?

JR – could do in next phase

DM – do you assume tag loss is independent?

JR – yes, likely to underestimate at present

LC – branded cohort should be used for estimating tag loss

BW – there appears to be particularly poor fit for puppers pupping in 2004 and 2005

JR – 1998 and 1997 cohorts are likely to be important in 2004 and 2005, as was highlighted by Gilbert

DM – would be good to be able to distinguish year effects, from those effects due to legacy of particular cohorts

LS – is a better understanding of juvenile biology actually needed to address proximate cause of decline? – knowing recruitment into adult population most important

JM – agree, but juvenile biology understanding will be particularly important in understanding ultimate rather than proximate causes

DM – what proportion of animals at Sandy Bay are not of known age?

LC – would be at least a third of animals or so, would gain much more information from an aging study at Dundas

MCaw – is there data on animals from epizootic effects on pupping?

JR/LC – yes, can be seen in cohort results

DM – did you investigate sub - antarctic trawl survey data?

JR – yes, though quite limited data for relevant prey species

LS – suggest independent trawl data be overlayed with fisheries CPUE data

DM – would be good to develop ways to show cohort effects over time

2   Presentation of options for field work component of   Igor Debski (DOC)
POP2013 - 01 New Zealand sea lion population project
(Auckland Islands)

Specific Objective 1

All agreed to mark recapture at Dundas, Fig 8 and Enderby for the estimation of sea lion
        production

Discussion of timing and aerial vs boat support trade - off particularly in relation to
        white - capped and Gibson's albatross counts:

LC - Order figure 8 then sandy bay then Dundas

LC - weather difficulties always caused delay in Dundas counts as difficult to land a boat
        on the island

IDebski - will this be a problem with a helicopter?

BBaker - no

BW - does the helicopter affect the animals?

LC - no

RW - other than the offset and increase in loafers in whitecapps last year due to
        combining whitecapped with sea lions what was wrong with last year

IDebski - generally the process went well

LS - can you take a small boat down with you and leave it at the islands?

IDebski - no due to health and safety requirements

LC – two boats would be required

RW - additionally H&S benefits having a helicopter on the island in case anything goes
        wrong

BBaker - there is a benefit for whitecapped having the chopper based on the islands.
        Makes it easier to pick a weather window for the whitecapped survey.

DM - suggest input be limited to that on timing. Logistics can then be worked out based
        on that.

IDebski - this meeting based on a desire by stakeholders for more input, as agreed at
        initial research planning meeting and committed to in Annual Plan.

RW - two counts in one season to allow comparison will fix the trade - off problem - or
        begin a new time series

LC - makes no sense to shift sandy bay. Dundas timing based on logistics and weather.
        Bringing Dundas timing closer will not cause problems.

RW - keen for input at the logistical end, preference for efficient and cost effective process like last year

BBaker - will aerial counts still be needed?

IDebski - given that estimates will be based on mark recapture there is no data need for aerial survey this year

IDoonan - what is the marginal cost?

IDebski - most cost in the analysis of photos

BBaker - can take the photos and not analyse them this year

LC - due to topography of Dundas it is important to maintain ground mark recaptures work

RM - and pup weights

DM - need to consider these tradeoffs within the context of the model, i.e. is the lower quality data still good enough for the model

IDebski - dead pup counts at sandy bay point counted or cumulative count?

DM - less important here than at Dundas

IDebski - max count brings this more in line with Dundas

IDoonan - need a study on the decay in detection of dead pups over time

IDebski – could be completed as an extra investigation at Sandy Bay

IDebski - need for pup searches outside of colonies? Trade of in search effort and time.

RC - any areas where we think we should be looking? Helicopter can help this

BBaker - did a lot of this searching last year as part of a shag monitoring project and didn't see much

LC - not the habitat down there for large scale pupping outside of the main area. Waste of money

BBaker - agree

RM - worth checking south east point

IDebski – yes, should still treat this as a breeding site

LC - maintain the protocol to do an island walk.

RW - as long as any ad - hoc work is reported

MBL - should we better quantify search effort?

IDebski - will be considered later in data requirements and protocol development

Specific Objective 2

RC - Why 400 animals tagged at Dundas? Given this areas importance would we be better allocating more resourcing to this location?

LC - Driven by budget. This is the maximum that can be achieved in 3 days with 4 people. This is driven by accommodation on the island and chopper standby time

RW - should remain consistent with last year

DM - flipper tags vs chips and Dundas effort should be investigated within the model in terms of sensitivity this is a longer term question

In general there was a group preference to remain consistent with the previous year in leu of model outputs currently being available to inform a new project design

Specific Objective 3

Length of resight period - 3 week to 5 week trade off:

BW - the longer the better

RW - last year was three weeks?

IDebski - that was the aim, and they were there for three weeks but due to other work less than three weeks of sighting work occurred

General consensus for 5 weeks of resighting

BBaker - Could helicopter help the resight work on Dundas

LC - logistical and safety limitations on this

JR – major gaps in information include whether breeding rates are changing overtime on Dundas

IDebski - agree would be useful but will cause a major shift in planning (and thus budget) so probably out of scope

RM - chip data is good to have but when cost implications this should be the first thing to go

LC - feel the chip data is still very important. Long handled readers unlikely to help the situation if the team is experienced.

IDebski - agree focus should be on getting an experienced team

IDebski - use of digital cameras for tag resighting?

LC - this will work but very good cameras are required for this which poses large cost implications. Also depends on the competency of the team.

BBaker – could trial use if personnel are there for aerial photographic survey work

Specific Objective 4

RC/RM - supportive of maintaining the database

DM - possibly not as the primary data input method in the field but otherwise yes it is good

LC - there were number identified issues with the system of entry in the field last season

Additional tasks

RW - supports the idea of field necropsies - though possibly to a lower level to allow better synergies with the rest of the work and not require further people. Only interested in pup necropsies

LC - no point doing a half measure on the necropsy as it will fail to answer the questions. The other option will be to subsample a portion of the dead animals

RC - what are we gaining?

RM - gives idea of blubber thickness, disease/ parasitism. We may not need a vet.

RW - interested in disease

LC - need to do a full necropsy to be able to pick this up, again subsampling may be the answer

IA - we can park this decision and allow people to think about the issue before coming to a conclusion - happy to consider wider expertise

DM - this data needs to be reported

DM - collection of health status information from live animals?

JR - can we take multiple measurements to allow for growth rates to be estimated over course of trip

LC - because of trip timing this cannot be made consistent with the 2002 - 2005 work.

JR - can we standardise weights this year to start the time series?

RW - wants to look at scaring of adults (shark bites)

J R - scat sampling has been analysed and is proving useful so should be continued. Would also be good to do at Dundas also.

LC - recommend conintuing direct daily counts given limited amount of resource needed.

RM - supports direct counts

JR - strong reasons for doing female age structure work - though possibly at a lower level than had been done in pervious years

LC - could be done for this year but would be much more work and require more people – permitting and animal ethics need to be carefully considered

RM - flag as important but look for funding elsewhere

IDebski - park the issue for further discussion later

BBaker - royal albatross would be easy / could include Gibson's transects

IDebski - YEP protocols exist

RW - have not seen the analysis of the historic work

The group was generally positive to the extra survey work where time allowed

Shark bite data collection supported if standardised protocols can be developed

3   POP2012 - 08 Pitt Island shags - foraging ecology. Draft   Mike Bell (WMIL)
     final report.

DG – diet?

MB – have diet samples to analyse

KB – how can non - fishing threats be addressed

IDebski – through recovery group, though with change to DOC structure there is some uncertainty as to how these groups will operate going forward

KB – funding for further investigation?

IA – to be considered through strategic planning

4   **POP2011 - 07 Pied shag – population review. Draft final report.**   Mike Bell (WMIL)

DM – any indication of counts prior to 1950s?

MB – very little information, some very high counts from late 1800s suggests numbers were high, then driven to very low numbers through persecution, now recovering

DM – new colonies from juveniles or adults?

MB – unknown, limited colour banding showed adults to be faithful to sites, so likely to be juveniles

DM – have you mapped where tangled birds are?

MB – no, can do.

IDebski – for information it would be useful to also plot the other reported entanglements as a different series to the standard survey records.

5   **POP2012 - 03 Black petrel - at - sea distribution and population estimate. Draft final report.**   Biz Bell (WMIL)

RW – should include more analysis to demonstrate that study area is producing abundance estimates that are representative of full population estimates

DM – should compare study grids with randomised transects

DM – were transects randomised anew this year

BBell – yes, but in 2009/10 there was a mixture of repeating old transects and new transects

There was discussion on the grading of habitats, and the influence of high breeding rate this year on the counts

DG – is return rate related to breeding success?

BBell – in previous two years there were low return numbers and low breeding success, this year high return and high breeding success

RW – were birds weighed?

BBell – some yes, because of tracking, birds were very light

RW – should clarify in report how the habitat classification was determined

DM – what is the longest GPS tracking duration

BBell - 135 hours

DG – would be interesting to plot kernel densities of foraging areas rather than including transit flights

IDebski – would be interesting to report departure and arrival times to help define periods when birds are in the Haruaki Gulf area

DM – will SeaBIRD modelling be re - run

BBell – not part of the contract

KB – will DOC fund a resurvey of Little Barrier Island?

BBell – agree it would be important to resurvey original burrows, as indications are that numbers are still low

IA – no plan in place at present, but can be considered in strategic planning

There was discussion on potential benefits of communicating relevant projects such as this to stakeholders in northern North Island

6   INT2010 - 02. Seabird identification. Six monthly update   Biz Bell (WMIL) Jul - Dec 2012.

KB – under new protocols will there be loss of information?

IDebski – no, it is expected that similar numbers of birds will be necropsied, with additional photo work. It is only for multiple captures of the most commonly caught species in well observed (offshore) fisheries that full return will not happen.

7   For information – Southern royal albatross aerial survey   Barry Baker (Latitude Enderby Island. Results from pilot study.   42)

IDebski – if photographed from directly overhead, may that make it more difficult to distinguish between bird on nest or not

BBaker – possibly

DM – could also use distance sampling to address transect width issue?

BBaker – calibration would be difficult, benefits with photographs, including archival properties

KB – potential use of drones?

BBaker – has potential, though issues with wind etc and maintaining flight height would be an issue

IDebski – would also require transport overheads to get the drone in location

IA requested any further written feedback on any of the presentations or reports by 5 pm 15 August 2013.

Meeting closed.