New Zealand sea lion Campbell Island Project 2014/15

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1.0 Introduction

- NZSL Campbell island Project 2014/15
- Funded by Deep Water Group, MPI and WWF
- Only significant breeding site outside the Auckland Islands estimated at 27% of total pup production in 2010
1.1 Project details

- Survey data suggests that pup production is increasing at Campbell despite high levels of pup mortality
- The aims of the research are broadly to:
  - Estimate total pup production for Campbell Island
  - Ensure comparability with previous surveys in 2008 and 2010 to allow for direct comparisons
  - Identify and estimate causes and magnitude of pup mortality
  - Install mitigation measures (e.g. ramps) to prevent and reduce pups dying in holes
1.2 Project outputs

- Completed data collection forms, photographs, and any other hard copy data.
- An electronic copy of data collected in a format suitable for upload into the New Zealand sea lion database.
- Autopsy samples for further analysis of causes of pup mortality.
- A technical report detailing the methods used, a summary of data collected and estimates of New Zealand sea lion pup production at Campbell Island presented to MPI AEWG.
2.0 Methodology

- Closely following previous surveys of NZSL at Campbell Island to ensure compatibility between abundance estimates:
  - Maloney et al. (2009, 2012\(^1\))
  - Childerhouse et al. (2005\(^2\))

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2.1 Area of operation

- Campbell Island (53°S, 168°E), New Zealand
  - Davis Point
  - Paradise Point
  - Norwest Bay
  - Perseverance Harbour
2.2 Location

[Map showing locations including New Zealand, South Island, Stewart Island, Chatham Islands, Auckland Island, Snares Island, Campbell Island, Macquarie Island, and Antipodes Island with specific features labeled like Penguin Bay, Sandy Bay, Capstan Cove, Camp Cove, Beeman Base, Garden Cove, Six Foot Lake, Medium Bay, and Tucker Cove.]
2.3 General methods

- Departs Bluff 16 Dec 2015 aboard Evohe
- Returns to Bluff on 31 Jan 2015 aboard Tiama
- 4 person team including one person from 2008 and 2010 surveys and one vet
- All live pups found double flipper tagged
- All tag resightings recorded
- Davis Point and Paradise Point visited 1-2 time per week each
- The rest of Campbell surveyed last two weeks in Jan
2.4 Assessment methods

- **Live**
  - One-off direct counts & daily direct counts
  - All pups found will be tagged
  - Potential: Mark-recapture estimates

- **Dead**
  - Direct dead counts (single or multiple counter)
  - Dead pups counted and discarded in holes to prevent recounting
3. Tag resighting

- As per previous survey work at Auckland Islands by Childerhouse (2013)
- Resighting of tags and brands
4. Management of tag data

- Data are collected in an accurate and robust fashion and these data are provided in an electronic format suitable for upload into the New Zealand sea lion database.
- As per previous survey work by Childerhouse (2013).
- Working with Dragonfly to develop minor revisions to the New Zealand sea lion database for use this season.
5. Acknowledgements

- Deepwater Group and MPI for funding, in particular Richard Wells and Vicky Reeve
- DOC including Igor Debski, Katie Clemens-Seely, Paul Crozier
- Andy Maloney for advice on previous surveys
- Evohe and Tiama
6. Comments?

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