

SHORT NOTE

First complete post-breeding survey of the Bounty Island shag (*Leucocarbo ranfurlyi*)

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New Zealand is a world hotspot for shag (Phalacrocoracidae) biodiversity with 12 breeding species, of which 8 species are endemic (Marchant & Higgins 1990). Five of the endemic species breed only in New Zealand's sub-Antarctic islands. The Bounty Islands (47.7500° S, 179.0500° E) are the only breeding site of the endemic Bounty Island shag (*Leucocarbo ranfurlyi*), a species which is currently listed as "Nationally Critical" (Heather & Robertson 1996; Miskelly *et al.* 2008). The Bounty Island shag nests and roosts mainly on small ledges on steep cliffs above the water's edge (Robertson & van Tets 1982). Little is known about the population size, population trends or the biology of this species as the remote and inhospitable nature of the Bounty Islands make visits difficult.

Since the first counts of the Bounty Island shag in 1978, surveys have used a variety of methodologies (Clark *et al.* 1998; Robertson & van Tets 1982; De Roy & Amey 2004; Amey 2012)

including ground, boat and aerial-based counts. Nest counts undertaken in November have ranged from 569 nests in 1978 (Robertson & van Tets 1982), 120 nests in 1997, 359 nests in 2004 (De Roy & Amey 2004) to 393 nests in 2011 (Amey 2012). However, all of these counts have covered only parts of the Island group.

Here we report the first bird count to include an entire circumnavigation of the Bounty Islands group (Fig. 1). We carried out the survey on 27 February 2013 using an 8 m rigid hulled inflatable boat based from the RNZ patrol boat HMNZS *Otago*. This provided an ideal platform as it was large and high enough to provide good views but small enough to maneuver around the islands. The survey started at 0705 h and was completed at 0945 h. The sea conditions were relatively calm with little swell, however, the sea between the islands was confused and choppy. The day was overcast with fog arriving after the survey was completed. The islands were circumnavigated at a distance of 20-75 m from the shore. There was ~300 m of coast where islands were too close together for the boat

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islands accessible. In future surveys, regardless of timing, entire island group surveys need to be attempted. It would be useful to have counts specified by island (unfortunately not undertaken during this survey), so that if the survey needs to stop early due to weather conditions or any other reason, comparisons can be made between surveys for the parts that could be undertaken.

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