

Maui's Dolphin (*Cephalorhynchus hectori maui*) Alongshore Aerial Survey, Awakino to Hawera, November 2012 – March 2013

Aim: To gather information on the alongshore distribution of Maui's dolphins¹, in particular, the southern extent of their range.

Methods: Aerial surveys were undertaken in a Cessna 172 fixed-wing aircraft. The single-engine, 4-seater, high-wing aircraft was flown parallel to the coast at an altitude of 500 feet (152m) at a speed of 100 knots (185km/hr) approximately 1 to 2nm from shore. The aircraft took off from New Plymouth Airport, flew to Awakino, and returned on a slightly different offshore range, but still within 1 to 2nm from shore. After refuelling, the aircraft flew south along the coast to Hawera, returning to New Plymouth Airport, again on a slightly different offshore range.

The survey team consisted of four observers; two in the front (including the pilot at front-left) and two in the back. The pilot called out opportunistic sightings, but was primarily focussed on flying the plane. The survey leader sat in the front-right and operated a Garmin hand-held GPS 62s, directing the pilot as to the appropriate distance offshore and marking waypoints of any significant sightings. All four persons had radio communications (via headset) and comments were called to the scribe, who was seated at the left-rear of the aircraft. Pinnipeds (New Zealand fur seals), cetaceans (whales and dolphins) and significant shoals of kingfish and kahawai were recorded.

Five alongshore aerial surveys were conducted in good visibility (>20km) with wind less than 10 knots and sea state between Beaufort 0 and 3 on:

- 21 November 2012
- 22 January 2013
- 30 January 2013
- 20 February 2013
- 21 March 2013

Results: A total of 1811km was surveyed with a total of 12 hours and 6 minutes of on-effort observation. No Maui's dolphins were sighted (see Figure 1).

Few other mammals were sighted. An orca with calf was observed near Opunake and four New Zealand fur seals were sighted between Rapanui and Manaia.

Discussion: Although Maui's dolphins were not sighted during aerial surveys, we need to acknowledge the limitations of the survey. Due to the large area that was surveyed, limits of offshore range that can be covered during each survey run and the small population size of Maui's dolphins, the chances of sighting a dolphin at the extremes of their range (where they may be sighted infrequently) are low. Surveys are only a snapshot in time and as sighting distance is limited to a few hundred metres either side of the aircraft, even if dolphins were present it is still possible they could be passed by unnoticed. However, aerial surveys provide an important platform of sighting opportunity, and although they do not provide for the opportunity to take biopsy samples (important in determining subspecies), they provide better visual and spatial coverage than when compared to boat-based surveys.

¹ Where this document refers to Maui's dolphin, it is recognised that without genetic sampling it is not possible to determine if the dolphin is Hector's or Maui's dolphin. Given the evidence of Hector's dolphins sampled off the west coast of the North Island there remains a small possibility that the dolphins sighted could include Hector's dolphins, however, based on the proportion of Hector's dolphins sampled, this remains a low proportion <5%.

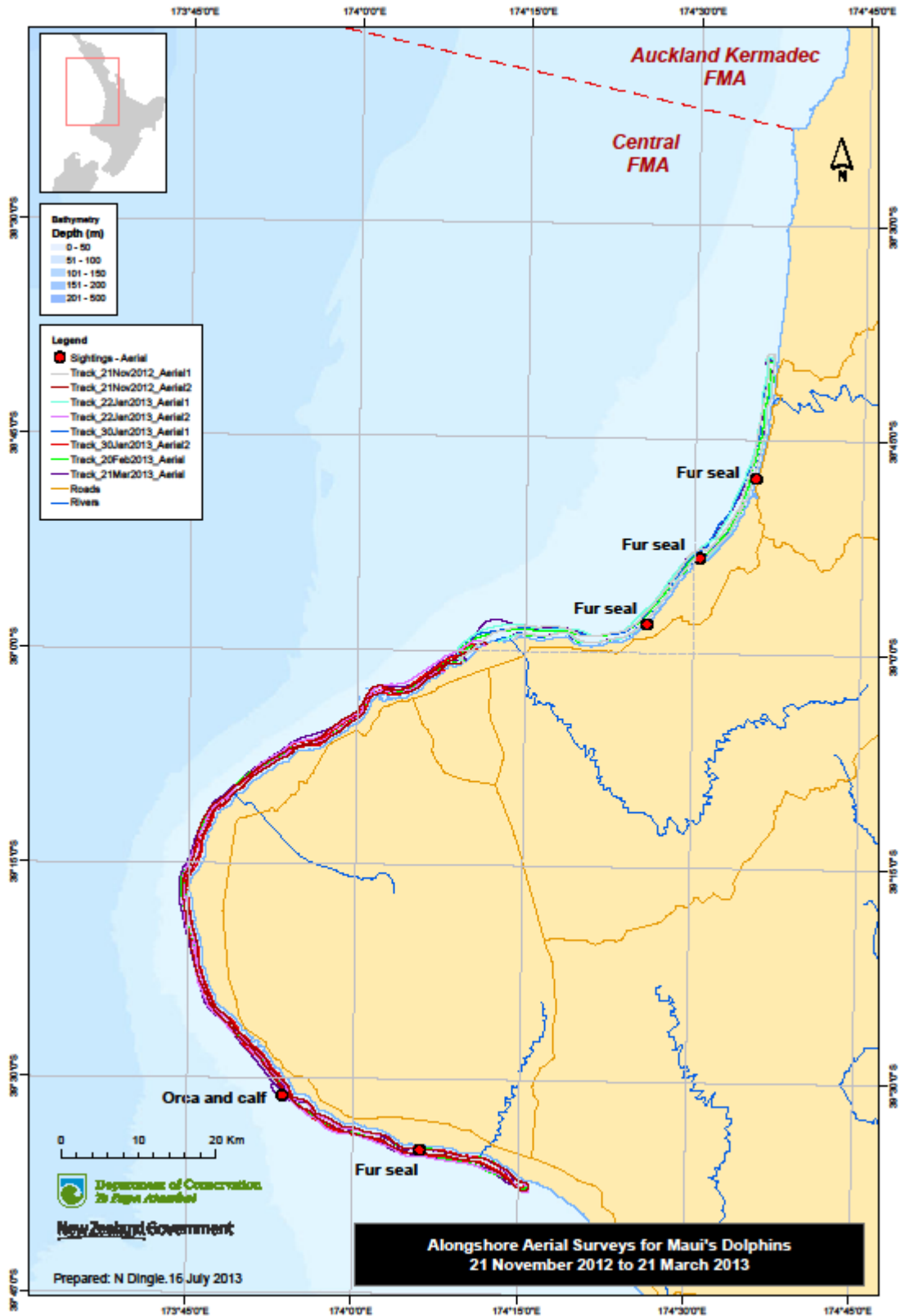


Figure 1. Alongshore Aerial Surveys for Maui's Dolphins, November 2012 to March 2013.