

Best Speed Talk – Doctoral Student: Kirsten Thompson

Title:

Gray's beaked whales: An elusive but abundant species of the Southern Hemisphere?

Authors:

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Abstract:

Gray's beaked whales (*Mesoplodon grayi*) were known as 'scamperdown' whales by whalers - an elusive species not hunted deliberately. These whales are rarely seen alive yet are one of the most frequent cetaceans to strand around New Zealand. We used the unique opportunity of long-term sampling to study Gray's beaked whale biology. Samples and specimen data were collected from strandings over a 22-year period. Previously, Thompson et al. (2016) showed that Gray's exhibit high genetic diversity and a lack of population structure across ~6000km to Australia and our estimates of long-term, female effective population size were large.

Here we investigate group composition and genetic kinship in Gray's beaked whales (19 groups, 56 whales) and 57 whales that stranded individually. Mitochondrial haplotypes and microsatellite genotypes (16 loci designed from genomic sequencing) were obtained for 103 whales. Mean group size was 3.4 (± 0.5 SE). More females were found in group strandings than males (32 females, 20 males) and sub-adults were common. Genetic kinship analyses revealed that none of the adults stranding together were related. We identified six mother-calf pairs and two half-siblings, including two whales in different strandings found 17 years and 1500 km apart.

Our results are consistent with post-weaning dispersal by both sexes and potentially a fission-fusion society. We have no data on the temporal nature of these groups or whether they are a true reflection of Gray's beaked whales associations offshore. However, we propose that the richness of deep-water habitat around New Zealand may have resulted in a large population that exist in groups that are formed opportunistically for foraging or reproduction. In this context, we also investigate novel streams of data, e.g. tracking live stranded whales and passive acoustic monitoring, which could prove useful in tackling our lack of understanding of this rarely sighted species.