

Tīkapa Moana Te Moananui ā Toi Hauraki IMMA

Summary cont....

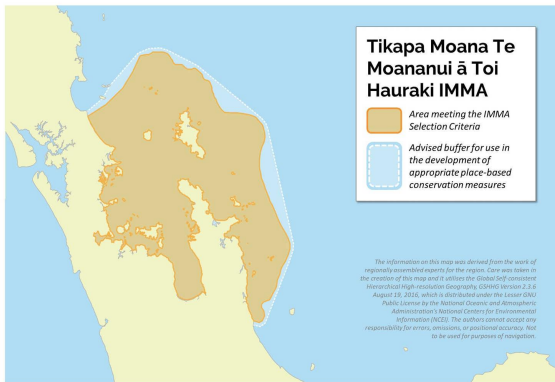
calves. This is a core habitat for Bryde's whales feeding on zooplankton and small fishes, and for killer whales. New Zealand fur seals are increasingly observed but it is not an established breeding region. The area has high levels of human impact from fisheries, vessels, tourism, and land modification with some evidence of habitat shifts by Bryde's whales and common dolphins in response to warm-water events.

Description:

The Hauraki Gulf - Tīkapa Moana - Te Moanauī-ā-Toi covers the inshore and offshore waters off the Auckland region. It is New Zealand's (NZ) only marine national park (Hauraki Gulf Marine Park Act 2000;) but very few areas have protection from exploitation. The productive warm-temperate, wind-mixed waters are influenced by cooler upwellings from the continental shelf and, in summer, the warm East Auckland Current increases sea temperature. There are year-round populations of Bryde's whales, common bottlenose dolphins and common dolphins with regular sightings of killer whales (Kozmian-Ledward 2015, Hupman et al. 2015, Dwyer et al. 2016, Colbert 2019, Stephenson et al. 2020). In the summer and



Figure 1 – Two common bottlenose dolphins. Photo credit: University of Auckland.



Area Size

16,990 km²

Qualifying Species and Criteria

Bryde's whale – *Balaenoptera edeni*

Criterion B2, C2

False killer whale – *Pseudorca crassidens*

Criterion C2

Pygmy blue whale – *Balaenoptera musculus*

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Criterion A, C2

Marine Mammal Diversity (D2)

Orcinus orca, *Pseudorca crassidens*, *Delphinus delphis*, *Globicephala melas*, *Ziphius cavirostris*, *Mesoplodon grayi*, *Berardius arnuxii*, *Balaenoptera borealis*, *Megaptera novaeangliae*, *Balaenoptera bonaerensis*, *Physeter macrocephalus*, *Eubalaena australis*, *Hydrurga leptonyx*, *Arctocephalus forsteri*

Summary

The Hauraki Gulf Marine Park, located on the northeast coast of the North Island of New Zealand, has productive warm-temperate waters influenced by a seasonal sub-tropical current. There is high species diversity with year-round populations of Bryde's whales, common bottlenose dolphins and common dolphins, and regular sightings of killer whales, false killer whales and long-finned pilot whales. There are sightings of other baleen whales and beaked whales and numerous strandings, particularly of Gray's beaked whale females with

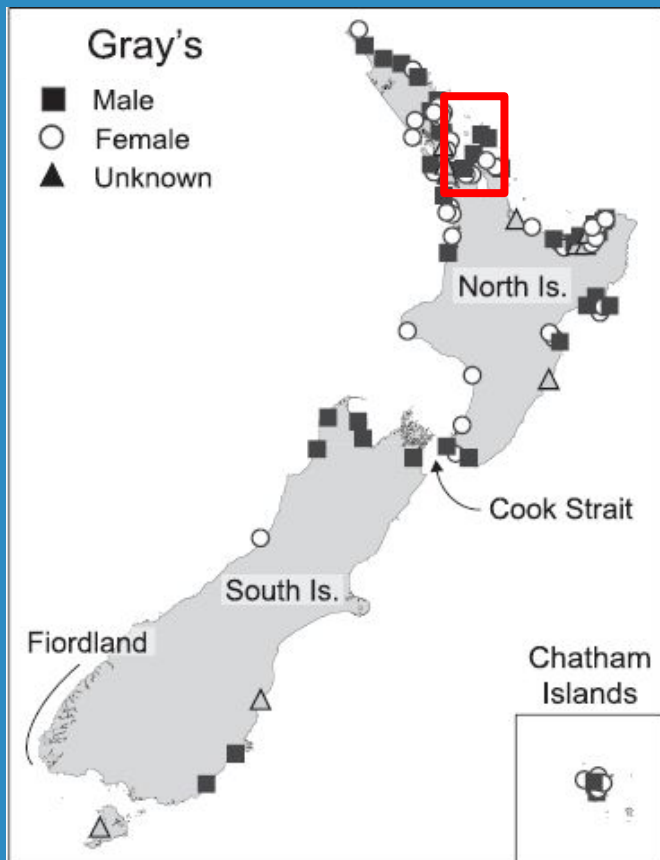


Figure 2 – All genetically confirmed Gray's beaked whale strandings in New Zealand. The Hauraki Gulf region is denoted by the red box. Modified from Thompson et al. (2013).

2019, Stephenson et al. 2020). In the summer and autumn (January - May) there are frequent sightings of false killer whales, pilot whales and pelagic bottlenose dolphins, sometimes foraging together (Zaeschmar et al. 2013). Humpback and pygmy blue whales are seen regularly; minke and southern right whales are observed occasionally, and there is at least one resident sei whale (R. Constantine unpub. data). Pygmy right whales, sperm whales and beaked whales (e.g., Gray's, Arnoux's and Cuvier's) are observed occasionally but are unlikely to use this area much except when stranding (Figure 2) (Thompson et al. 2013). For Gray's beaked whales the strandings may involve females coming inshore during the summer-autumn with calves (Thompson et al. 2013). There is a resident leopard seal with increasing reported sightings of this species in the region (Hupman et al. 2020).

Criterion A: Species or Population Vulnerability

Pygmy blue whales, listed as Endangered on the

IUCN Red List, use the Gulf for foraging in the summer months (Olson et al. 2015; Barlow et al. 2018). Whilst not listed as endangered by the IUCN, the Gulf is an important year-round habitat for a small, resident population of Bryde's whales and frequently used by killer whales ranging more widely throughout New Zealand waters – both species are listed in New Zealand as nationally critical (Baker et al. 2019).

Criterion B: Distribution and Abundance Sub-criterion B2: Aggregations

The Hauraki Gulf forms an integral part of the home range of Bryde's whales, even though some individuals range outside the IMMA. There is niche separation between the three main species feeding on zooplankton, fishes and squids (Kozmian-Ledward 2015, Carroll et al. 2019). The Bryde's whales appear to shift habitat slightly offshore during warm-water events (Colbert 2019). An estimated 135 (95% CI = 100-183) Bryde's whales use the Gulf, with some individuals year-round residents and others transient (Tezanos-Pinto et al. 2017). Bryde's whales were threatened with unsustainable levels of ship-strike mortality but this has been resolved with voluntary speed reductions by the shipping industry (Constantine et al. 2015, Ebdon et al. 2020). Whether this has led to an increase in population size is yet to be determined.



Figure 3 – Bryde's whale doing a chin slap while feeding on zooplankton. Photo credit: University of Auckland.

Criterion C: Key Life Cycle Activities

Sub-Criterion C2: Feeding Areas

There are increasingly regular summer-autumn aggregations of pygmy blue whales over the past decade (Olson et al. 2015; Barlow et al. 2018). These whales are feeding on zooplankton (Barlow et al. 2018), most likely krill that are a preferred prey of Bryde's whales in the Gulf (Carroll et al., 2019). In summer-autumn, two primary groups of false killer whales regularly use the outer Gulf waters for feeding, often in association with pelagic bottlenose dolphins (Zaeschar et al. 2014).

Criterion D: Special Attributes

Sub-criterion D2: Diversity

The area is a key area for cetaceans in New Zealand (Stephenson et al. 2020) with 17 species recorded in the Gulf. There are migratory species such as humpback whales and southern right whales that are infrequently sighted but likely to increase in number as populations recover from whaling (Cranswick et al. 2022). Reports of live beaked whales are infrequent, although mother-calf pairs of Gray's beaked whales may come closer inshore during the summer months to feed in the outer parts of the Gulf (Thompson et al. 2013). There is a wide diversity of large and small cetaceans as well as native and vagrant species of pinnipeds including leopard seals. New Zealand fur seals are increasing in number, although this is not an established breeding area as it was historically (MacDiarmid et al. 2016).

Supporting Information

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