

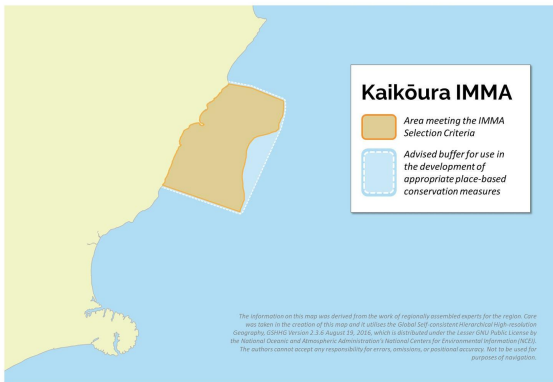
Kaikōura IMMA

Description:

The Kaikōura region has nearshore turbid habitat, rocky coastlines as well as proximity to the Hikurangi Trench deep-water canyon system, making this a marine mammal hotspot (Stephenson et al. 2020). There are two marine mammal protected areas; Te Rohe o Te Whānau Puha – Kaikōura Whale Sanctuary and Ōhau Point Seal Sanctuary, both incorporated in the Kaikōura Marine Strategy (Te Tai o Marokura) Marine Management Act (2014). This is one of New Zealand's most studied regions, with multiple long-term studies of marine mammal species having been conducted. There are several well-established New Zealand fur seal colonies with all age-classes hauled out along the coastline (Boren et al. 2006). Resource availability is an important predictor of breeding sites for New Zealand fur seals, and Kaikōura has a highly suitable coastline for breeding and feeding habitat (Bradshaw et al. 2002). The impacts from land- and boat-based tourism on cetaceans and pinnipeds are well-managed, including viewing pups in the inland forested stream area at Ōhau Point (Acevedo-Gutiérrez et al. 2011, Boren et al. 2002, Lundquist et al. 2012, Richter et al. 2006). Areas with large river outflows are ideal habitat for Hector's dolphins



Figure 1 – Several males leaping while scramble competing for a female. Photo credit: Bernd Würsig



Area Size

5,902km²

Qualifying Species and Criteria

Hector's dolphin – *Cephalorhynchus hectori hectori*

Criterion A

Antarctic blue whale – *Balaenoptera musculus intermedia*

Criterion A

Pygmy blue whale – *Balaenoptera musculus brevicauda*

Criterion A

New Zealand fur seal – *Arctocephalus forsteri*

Criterion C1

Marine Mammal Diversity (D2)

Megaptera novaeangliae, *Balaenoptera borealis*,
Balaenoptera physalus, *Eubalaena australis*,
Lissodelphis peronii, *Tursiops truncatus*,
Delphinus delphis, *Orcinus orca*, *Globicephala melas*,
Hydrurga leptonyx, *Mirounga leonine*, *Physeter macrocephalus*

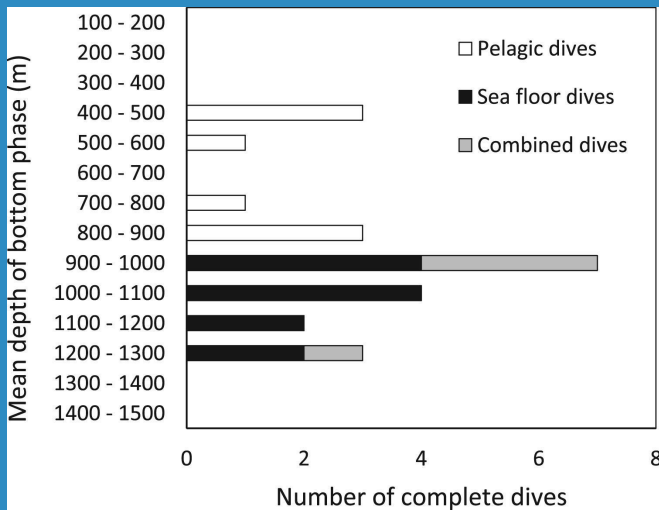


Figure 2 – Types of foraging dives performed by tagged sperm whales. A histogram of the mean bottom phase depths for all complete foraging dives (n = 24), distinguishing between dive types. From Guerra et al. (2017).

(red-listed as Endangered). There are two Hector's dolphin populations that are largely isolated from one another by the environmental barrier formed by the deep-water Kaikōura Canyon, with larger numbers to the north of the canyon (Weir and Sagnol 2015). This barrier has led to clear genetic differentiation (Hamner et al. 2016) and movement patterns reveal that these two populations have very restricted home ranges compared to other populations of Hector's dolphins (Bräger and Bräger 2018). Dusky dolphins forage at night on mesopelagic fish that rise near the surface with the deep scattering layer (Dahood and Benoit-Bird 2010). During the day the dolphins come close to shore to rest and socialise in aggregations of tens to hundreds of individuals, particularly during the summer months (Würsig et al. 2007). Dusky dolphins are occasionally associated with common, Hector's and common bottlenose dolphins in nearshore and offshore waters. Suspected hybrid common-dusky and bottlenose-dusky dolphins have been sighted.

Kaikōura provides important habitat for mainly young male sperm whales feeding on squid and fish in the demersal and mesopelagic waters (Childerhouse et al. 1995, Guerra et al. 2017, Giorli & Goetz 2019) (Figure 2). Numbers have declined over the past 30 years, possibly related to prey shifts associated with changes in water temperature (Guerra 2019).

There are increasing numbers of humpback and blue whale sightings off Kaikōura (Constantine et al. 2007, Barlow et al. 2018). Humpback whales and blue whales are primarily travelling north as part of their migration path to breeding grounds (Constantine et al. 2007, Warren et al. 2021), or simply to reach different feeding grounds (pygmy blue whales, Goetz et al. 2021). There have been several instances of humpback whale entanglement in craypot (rock lobster) lines which is cause for concern.

The submarine canyon is ideal habitat for teuthophagous species in addition to sperm whales, such as pilot whales and beaked whales with strandings and live sightings recorded in the region. Common dolphins, common bottlenose dolphins and southern right whale dolphins are often sighted in the canyon, often in association with dusky dolphins. Pinnipeds such as leopard seals (Hupman et al. 2020) and southern elephant seals are occasionally sighted in the region.

Criterion A: Species or Population Vulnerability

The IMMA contains year-round habitat for two genetically differentiated populations of Hector's dolphins (Hamner et al. 2016). The species is red-listed as Endangered by IUCN. The two Kāikōura populations are quite isolated and as such, both require conservation action (Roberts et al. 2019). Both Antarctic (Critically Endangered on the IUCN Red List) and pygmy blue whales (Red-Listed as Endangered) are regularly sighted in this region and recent acoustic surveys detected blue whales throughout most of the year (Warren et al. 2021). There were peaks in Antarctic blue whale calls from June – November and pygmy blue whale calls peaked from March – June with low level detections during other months (Warren et al. 2021).

Criterion C: Key Life Cycle Activities

Sub-criterion C1: Reproductive Areas

The Kaikōura region has several large pupping grounds for New Zealand fur seals (Boren et al. 2006). These are well-established along the rocky coastline but also include an inland forested stream area at Ōhau Point where pups aggregate before weaning (Acevedo-Gutiérrez et al. 2011, Boren et al. 2002). Resource availability is an important predictor of breeding sites for New Zealand fur seals, and Kaikōura has a highly suitable coastline for breeding and area restricted feeding habitat (Bradshaw et al. 2002). The impacts from land- and boat-based tourism on cetaceans and pinnipeds are well-managed, including viewing pups in the inland forested stream area at Ōhau Point (Acevedo-Gutiérrez et al. 2011, Boren et al. 2002, Lundquist et al. 2012, Richter et al. 2006).

Criterion D2: Diversity

Kaikōura is one of New Zealand's cetacean hotspots (Stephenson et al. 2020). The region has resident sub-populations of Hector's dolphins, seasonally resident dusky dolphins that use nearshore waters during the day then move offshore at night to feed. There are frequently sighted but non-resident common bottlenose dolphins, common dolphins and southern right whale dolphins. There is also the year-round presence of primarily young male sperm whales feeding in the deeper canyon waters (Guerra et al. 2017). Long-finned pilot whales and beaked whales are sighted in deeper offshore waters where they are likely foraging on squids and fishes (Meyer 2020). There are seasonal sightings of migratory humpback whales, and both Antarctic and pygmy blue whales as they migrate past the east coast of the South Island. There are also occasional sightings of sei and fin whales. Kaikōura is a key location for fur seals, with elephant seals and leopard seals often sighted.

Supporting Information

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We would like to thank the participants of the 2020 IMMA Regional Expert Workshop for the identification of IMMAs in the Australia, New Zealand and South East Indian Ocean seas region. Funding for the identification of this IMMA was provided by the Global Ocean Biodiversity Initiative funded by the German government's International Climate Initiative (IKI). Support was also provided by Whale and Dolphin Conservation and the Tethys Research Institute.

Suggested Citation: IUCN-MMPATF (2022). Kaikōura IMMA Factsheet. IUCN Joint SSC/WCPA Marine Mammal Protected Areas Task Force, 2022.

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