

Western Magellan Strait IMMA

Description:

The Magellan Strait connects the Pacific and the Atlantic oceans. It harbours marine habitats diverse in depth, coastal morphology, tides, and precipitation. Upwelling in the western portion of the strait stimulates primary productivity, which in turn supports a complex food web. It also receives important fresh water contributions and sediments from glaciers at the nearby Santa Inés island. The depth varies at the central part of the Strait from about 60 m down to 500 m. A density gradient in the water column separates surface waters (0-70 m) from deeper waters entering the strait from the Pacific (Gibbons et al., 2000).

The first MPA in Chile was declared in 2003 in this region, involving two legal instruments, the Francisco Coloane Marine Park and the Francisco Coloane Marine Coastal Protected Area (MCPA, or AMCP in Spanish). The marine park was declared with a rationale to conserve marine biodiversity, including cetaceans and other marine mammals and seabirds.



Figure 1: The fluke of humpback whale (*Megaptera novaeangliae australis*) in Western Magellan Strait before diving. Photo: Carlos Olavarria



Area Size

2 262 km²

Qualifying Species and Criteria

Humpback whale –

Megaptera novaeangliae australis

Criterion A; C (2)

Summary

The first MPA in Chile was declared in the Magellan Strait in 2003. Humpback whales (*Megaptera novaeangliae australis*) use the area to feed during the summer around Carlos III island, in the western portion of the Strait. This represents the only known regular non-Antarctic Southern Hemisphere feeding area. Humpback whales' peak presence in this area is between December and March. They feed mostly on krill, lobster krill and Fuegian sprat. Migratory connections for these whales have been established with breeding areas from northern Peru up to Costa Rica. Whales return to this feeding area at a high rate, with 64% of the whales photo-identified in the area being resighted in more than one year. The humpback population in this area has grown at 2.31% per year, with an abundance estimate of 93 in 2016/2017. The Magellan Strait serves as a major shipping channel connecting the Pacific and Atlantic oceans.

Criterion C: Key Life Cycle Activities

Sub-criterion C2: Feeding Areas

Humpback whales from the Southern Hemisphere (*Megaptera novaeangliae australis*) feed mostly in the Antarctic (Donovan 1991). However, a few locations have been identified outside Antarctic waters. These include northern areas of Chilean Patagonia, particularly at the Corcovado Gulf (Acevedo et al., 2013), and the Magellan Strait in southern Patagonia, where whales are regularly observed feeding (Gibbons et al., 2003). The whales mostly occur around Carlos III island in the western portion of the strait, with a peak in their presence there between December and March (Aguayo et al., 2007; Gibbons et al., 2003; Monnahan et al., 2019). The humpback whales feeding in this IMMA belong to what the International Whaling Commission refers to as breeding Stock G (IWC, 1998).

This humpback whale population feeds mostly on krill (*Euphausia lucens*), lobster krill (*Munida gregaria*) and Fuegian sprat (*Sprattus fueguensis*) (Gibbons et al., 2003; Acevedo et al., 2011), with changes in the proportion of a given species being consumed probably linked to variations in availability or abundance of prey (Haro et al., 2016).

Migratory connections with breeding areas from northern Peru to Costa Rica have been identified (Acevedo et al., 2017). Individual humpback whales return to this feeding area at a high rate, with 64.0% of the whales photo-identified in the area being resighted in more than one year (Monnahan et al., 2019). The number of humpback whales using this area was estimated as 72 whales (CI: 67-80) in 2008/2009 and 93 (CI: 86-100) in 2016/2017, the annual population rate of increase has been 2.31% (CI: 2.08%-2.96%).



Figure 2: Blows by a pair of humpback whale (*Megaptera novaeangliae australis*) surfacing in Western Magellan Strait. Photo: Carlos Olavarria



Figure 3: Pectoral slapping of humpback whale (*Megaptera novaeangliae australis*). Photo: Carlos Olavarria



Figure 4: Humpback whale (*Megaptera novaeangliae australis*) lateral surface feeding. Photo: Carlos Olavarria

Supporting Information

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