Area Size

4 779 km²

Qualifying Species and Criteria

Sei whale – *Balaenoptera borealis*

[Southern – *B. b. schlegelii*]

Criterion A; C (2)

Peale's dolphin – *Lagenorhynchus australis*

Criterion B (1)

Marine Mammal Diversity

Orcinus orca, Megaptera novaeangliae, Cephalorhynchus eutropia, Phocoena spinipinnis

Summary

The Strait of Magellan is a unique sub-Antarctic ecosystem located at the southernmost tip of South America extending for about 500 km, connecting Pacific and Atlantic Oceans. Sei whales (*Balaenoptera borealis*) have been reported regularly in the Strait's central portion in recent years, and have been observed lunge feeding on Fueguian sprat (*Sprattus fuegensis*). Sei whales are currently listed as Endangered (soon to be down-listed to Vulnerable) on the IUCN Red List, and as Critically Endangered nationally by the Chilean government. Peale's dolphins (*Lagenorhynchus australis*) appear to be resident year-round in nearshore areas of the

Central Magellan Strait IMMA

Summary, continued.

Central Magellan Strait, with higher numbers in summer than in winter. Peale's dolphins have also been observed feeding in and around the kelp forests in the area.

Description:

The Strait of Magellan is a unique sub-Antarctic ecosystem with complex climatic features (Endlicher & Santana, 1988). It is located at the southernmost tip of South America, between 52°S and 54°S, extending for about 500 km, and it functions as a confluence of water masses from the Pacific and Atlantic Oceans (Iriarte et al., 2001). The Strait of Magellan IMMA is influenced strongly by large volumes of freshwater runoff from rivers and precipitation, is light-limited (normally cloud-covered for 6-8 months), and is particularly affected by strong winds during the spring and summer seasons (Endlicher & Santana, 1988). The central zone of the Magellan Strait has a maximum depth of 550 m. The tides are predominantly semidiurnal with average amplitudes of 1.1 m. In this system, waters of Atlantic and Pacific origin converge and an anticyclonic circulation system acts in the subsurface layer. It receives contributions from the Fuegian canal system through the Magdalena, Pedro and Bárbara Channels and Santa Inés Island Glaciers.

Figure 1: Hooked dorsal fin of a sei whale (*Balaenoptera borealis*) in the Central Magellan Strait IMMA. Photo: Carlos Olavarria.

Criterion A: Species or Population Vulnerability

The sei whale (*Balaenoptera borealis*) is classified as Endangered (EN) on the IUCN Red List status although the most recent species assessment indicates that in 2023 (following a required holding period) it can be down-listed to VU (Cooke, 2018). The species is designated as 'Critically Endangered' under law by the Chilean government (clasificacionespecies.mma.gob.cl). Sei whales were extensively exploited in the Southern Hemisphere (Aguayo-Lobo et al., 1998). The largest catches were made by Antarctic pelagic fleets, which hunted over 110,000 sei whales between 1960 and 1970 (Horwood, 2002). In Chilean waters, sei whales were the third highest whaling target between 1929 and 1979 (Aguayo-Lobo et al., 1998). In Chile, the conservation category was designated considering the IUCN A1 criterion, taking into account a reduction in population size of 84% in the southern hemisphere populations during the last three generations (considering a generation time of ~23 years) (Christiansen, 2006).

Criterion B: Distribution and Abundance Sub-criterion B1: Small and Resident Populations

Studies of Peale's dolphins (*Lagenorhynchus australis*) within the Strait of Magellan in Chile indicate that populations remain year-round in specific areas close to shore (Viddi & Lescrauwaet, 2005). Land-based surveys on the west coast of the Strait of Magellan reported higher numbers of Peale's dolphins near shore in summer than in winter. Higher concentrations of Peale's dolphins have been observed during spring in the southern part of the Strait of Magellan, which is thought to be the preferred calving area of this population. Data from

Hucke-Gaete et al. (2022) show a high number of sightings in the area. The population of Peale's dolphins in the entire Magellan region in southern Chile is estimated to comprise around 2400 individuals (Gibbons et al., 2002). Observations of feeding combined with evidence of mating and calving indicate that a population of Peale's dolphins is fulfilling all of its key life cycles within the IMMA. Behaviour associated with mating mostly occurred in late summer (February-March). During summer months, fission-fusion dynamics occurred, with small groups joining to other small groups to form larger groups in order to mate. The calving season seems to be concentrated during the spring, occurring mainly between November and December, but with calves observed as early as October (Lescrauwaet, 1997). Based on 191 hours of survey effort, Viddi and Lescrauwaet (2005) reported that Peale's dolphins were concentrated in a small part of their study area, which was strongly associated with kelp beds. Feeding was the most frequent behaviour observed, followed by traveling. The former behavioural state was observed principally inside and on the border of kelp beds, while traveling was observed mainly outside the beds. Kelp forests appear to be a fundamental element of preferred habitat for Peale's dolphins in coastal ecosystems. Data of Peale's dolphins feeding upon schools of Fuegian sprat (*Sprattus fuegensis*) and pejerrey (*Austromenidia nigricans*; *Notothenia magellanica*) were recorded between 1989 and 1995 by Lescrauwaet (1997).

Figure 2: Peale's dolphin (*Lagenorhynchus australis*) leaping out of the water in the Central Magellan Strait IMMA.
Photo: Carlos Olavarria.

Criterion C: Key Life Cycle Activities Sub-criterion C2: Feeding Areas

Sei whale sightings and behaviour data collected in the IMMA area between 2004 and 2015 and a compilation of data from different sources, revealed a continuous presence of the species in the area (Acevedo et al., 2017; Hucke-Gaete et al., 2022). Observed behaviour included milling, traveling, and feeding. Milling (67.4%) and traveling (23.3%) behaviours were the most commonly seen behaviours. During milling behaviour, the whales made random movements, with dives of 5 to 7 min followed by four or five blows at the surface in-between dives and sometimes defecation, suggesting foraging. In addition, during nine encounters classified as 'milling', feeding by seabirds (e.g., seagulls *Laridae*, black-browed albatrosses *Thalassarche melanophris*, and giant petrels *Macronectes giganteus*) was observed in the area where the whales were sighted. Lunge-feeding behaviour at the surface was observed on four occasions, and the prey observed on two occasions was Fuegian sprat (*Sprattus fueguensis*) (Acevedo et al., 2017).

Supporting Information

Acevedo, J., Aguayo-Lobo, A., González, A., Haro, D., Olave, C., Quezada, F. and Cáceres, B. 2017. Occurrence of sei whales (*Balaenoptera borealis*) in the Magellan Strait from 2004–2015, Chile. Aquatic Mammals, 43, 63–72.

Aguayo-Lobo, A., Torres, D. and Acevedo, J. 1998. Los mamíferos marinos de Chile: I. Cetacea [Marine mammals of Chile: I. Cetaceans]. Serie Científica INACH, 48, 19-159.

Cooke, J.G. 2018. *Balaenoptera borealis*. The IUCN Red List of Threatened Species 2018:

e.T2475A130482064.

Christensen, L.B. 2006. "Marine Mammal Populations: Reconstructing Historical Abundances at the Global Scale." Faculty Research and Publications. Fisheries Centre. University of British Columbia. doi:10.14288/1.0074757.

Endlicher, W. and Santana, A. 1988. 'El clima del sur de la Patagonia y sus aspectos ecológicos. Un siglo de mediciones climatológicas en Punta Arenas'. Anales del Instituto de la Patagonia Serie Ciencias Naturales, 18, 57-86.

Gibbons, J., Venegas, C., Guzmán, L., Pizarro, G., Boré, D. and Galvéz, P, 2002. Programa de monitoreo de pequeños cetáceos en áreas selectas de la XII región. 2002. Available: http://www.fip.cl/FIP/Archivos/pdf/informes/inffinal%2099-28.pdf

Horwood, J.W. 2002. Sei whale *Balaenoptera borealis*. In W.F. Perrin, B. Würsig, & J.G.M. Thewissen (Eds.), Encyclopedia of marine mammals (pp. 1069-1070). San Diego: Academic Press.

Hucke-Gaete, R., Bedriñana-Romano, L., Acevedo, J., Viddi, F., Buchan, S., Sielfeld, W., Aguayo-Lobo, A., Zárate, P., Cari, I., Zerbini, A. and Redfern, J. 2022. Diseño para la estimación poblacional de cetáceos en aguas jurisdiccionales de Chile, FIPA 2021-18. Pre-Informe final. Fondo de Investigación Pesquera y de Acuicultura, Subsecretaría de Pesca y de Acuicultura. Unpublished report. 229 pp.

Iriarte, J.L, Kusch, A., Osses, J. and Ruiz, M. 2001. Phytoplankton biomass in the sub-Antarctic area of the Straits of Magellan (53° S), Chile during spring-summer 1997/1998. Polar Biology, 24, 154-162.

Lescrauwaet, A.C. 1997. Notes on the behavior and ecology of the Peale's dolphin, *Lagenorhynchus australis*, in the Strait of Magellan, Chile. Reports of the International Whaling Commission, 47 (Special Issue), 747-755.

Viddi, F.A. and Lescrauwaet, A.K. 2005. Insights on habitat selection and behavioural patterns of Peale's dolphins (*Lagenorhynchus australis*) in the Strait of Magellan, Southern Chile. Aquatic Mammals, 31(2), 176.

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