Area Size

54 706 km²

Qualifying Species and Criteria

Humpback whale – *Megaptera novaeangliae*

Criterion A; C (1)

Marine Mammal Diversity

Criterion D (2)

Balaenoptera edeni, Balaenoptera musculus, Stenella attenuata, Stenella longirostris, Stenella coeruleoalba, Tursiops truncatus, Steno bredanensis, Delphinus delphis, Pseudorca crassidens, Orcinus orca, Ziphius cavirostris, Mesoplodon peruvianus, Physeter macrocephalus

Summary

The Revillagigedo Archipelago IMMA is an island chain of volcanic origin 465 km south of the Baja California Peninsula, and 575 km west of mainland Mexico. The archipelago serves as a breeding ground for humpback whales (*Megaptera novaeangliae*) belonging to the offshore population unit from Mexico. The population's migratory destinations are to temperate and subarctic feeding grounds in the North Pacific, from Russia to British Columbia. The population size (estimated to be between 780 to 1978 individuals) is similar to the Central

Revillagigedo Archipelago IMMA

Summary, continued.

America population, which is considered 'Endangered' under the US Endangered Species Act. The residency times and inter-annual site fidelity in this area are the highest of the studied population units in Mexico. The Revillagigedo Archipelago IMMA is also regularly used by 14 species of cetaceans.

Description:

The Revillagigedo Archipelago is in the eastern Pacific Ocean, 386 km southwest of the southern tip of the Baja California Peninsula and 720 to 970 km west of the Mexican mainland. The Archipelago comprises four remote islands and their surrounding waters: Isla San Benedicto, Isla Socorro, Isla Roca Partida and Isla Clarión. Due to their volcanic origin, depths around the islands increase dramatically at distances between 10-12 km from the island shorelines. The Archipelago is part of a submarine mountain range, with the four islands representing the peaks of volcanoes emerging above sea level. Apart from two small naval bases, the islands are uninhabited.

The area represents an exceptional convergence of two marine biogeographic regions: the Northeastern Pacific and Eastern Pacific. More particularly, the area lies along the junction where the California and Equatorial currents mix, generating a complex and highly productive transition zone. The islands and surrounding waters are rich in marine life and recognized as important stepping-stones and stopovers for wide-ranging species. The property hosts abundant populations of sharks, rays, large

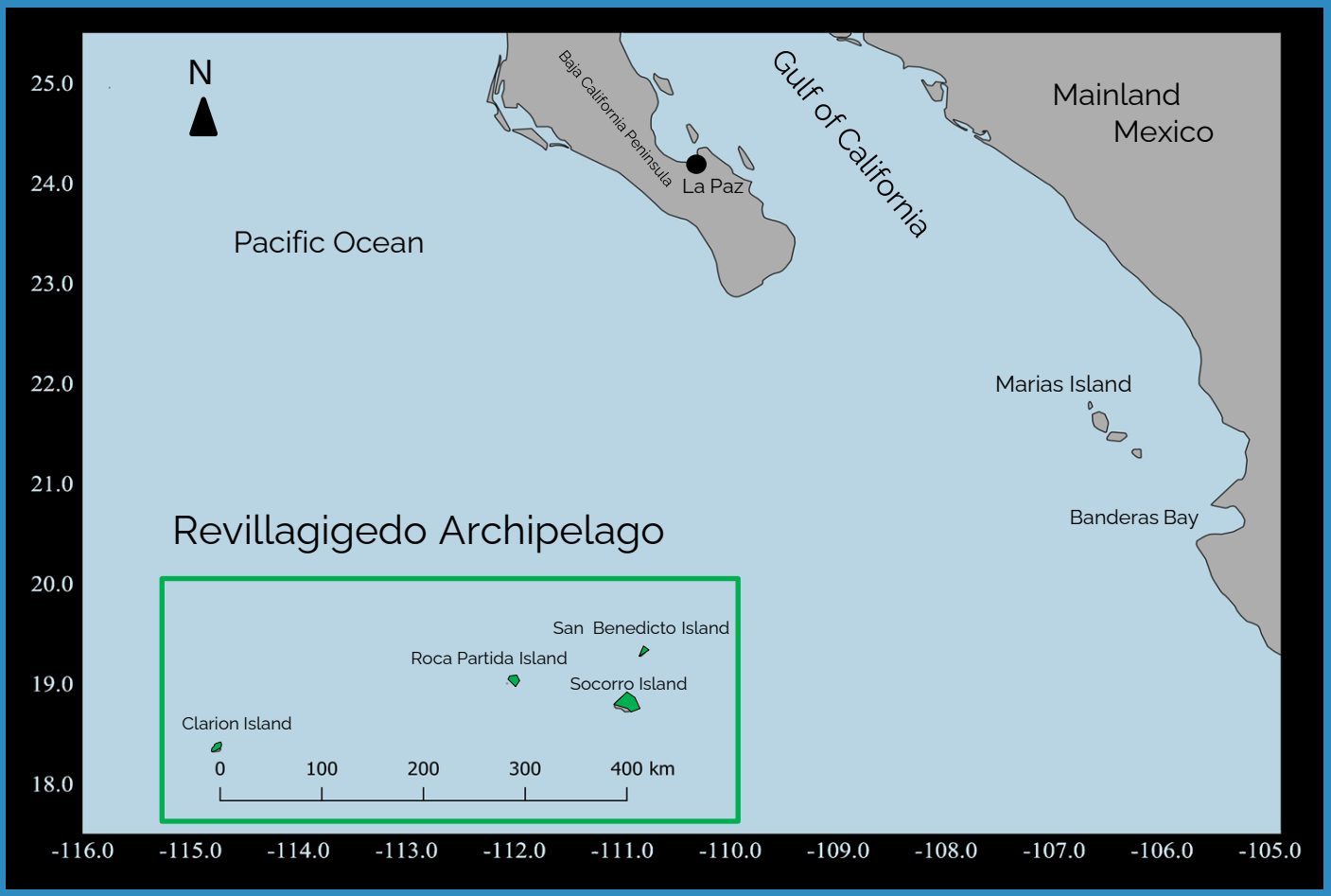

Figure 1: Revillagigedo Archipelago. Reproduced from: Islas Revillagigedo (MX) 2 – Socorro Volcano (2017).

pelagic fish, humpback whales, turtles and manta rays; a concentration of wildlife that attracts recreational divers worldwide (UNESCO https://whc.unesco.org/en/list/1510).

Criterion A: Species or Population Vulnerability

The Revillagigedo Archipelago IMMA serves as an important habitat and breeding ground for humpback whales (*Megaptera novaeangliae*). This species is considered Least Concern (LC) globally on the IUCN Red List. However, the National Marine Fisheries Service (NMFS) includes the humpback whales from the Revillagigedo Archipelago as part of the Mexico distinct population segment (DPS) with a 'Threatened' status (Bettridge et al., 2015). The humpback whales from the Revillagigedo Archipelago population were recognized by González-Peral (2011) as the Mexican offshore population unit and recently by Martien et al. (2021) as the 'Mex-NPac demographic independent population'. The population size was calculated by Wade et al. (2022) to be between 788 and 1978 individuals based on photographic and genetic mark-recaptures documented between 2004 and 2006 under the auspices of project SPLASH. This is similar in size to the Central America distinct population segment considered 'Endangered' under the US Endangered Species Act (Bettridge et al., 2015). These whales migrate from the IMMA to temperate and sub-Arctic feeding grounds from Russia to British Columbia (Urbán et al., 2000; Calambokidis et al., 2008; González-Peral, 2011; Titova et al., 2018, 2019).

Figure 2: Humpback whale close to Socorro Island, Revillagigedo Archipelago. Photo credit: Pamela Martínez-Loustalot PRIMMA-UABCS.

Criterion C: Key Life Cycle Activities Sub-criterion C1: Reproductive Areas

Humpback whales aggregate in the Revillagigedo Archipelago for reproductive behaviours including mating and calving (Jacobsen et al., 2002). According to González-Peral (2011), the male:female ratio within the islands is 2.38 :1. The whales have an average residency of 14.2 days (16.9 d for males; 14.2 d for females; and 17.2 d for mothers with calves). The residency time and the inter-annual site fidelity in the area are higher than in other population units studied in Mexico. According to Martínez-Aguilar (2008), the greatest concentration of whales is found around the northwest and southwest sides of Socorro Island. Mother-calf pairs have been observed to prefer the south and southwest of the island.

Criterion D: Special Attributes Sub-criterion D2: Diversity

The convergence of the California and Equatorial currents around the egenerate high levels of productivity, which allow the islands to support a rich biodiversity of marine life ranging from plankton, and small prey species, through to the largest top predators (Fiedler & Lavín, 2017; Hubbs & Roden, 2021). The Revillagigedo Archipelago IMMA is utilised regularly by 14 species of cetacean. Three species of Balanopteridae are regular visitors to this IMMA, the blue whale, the humpback whale and the Bryde´s whale. One Physeteridae specie, the sperm whale; two Zhipiidae species, the Cuvier´s beaked whale and the pygmy beaked whale; and seven Delphinidae species, the offshore pantropical spotted

dolphin (*Stenella attenuata attenuata*), the eastern spinner dolphin (*Stenella longirostris orientalis*), the striped dolphin (*Stenella coeruleoalba)*, the bottlenose dolphin (*Tursiops truncatus*), the rough toothed dolphin (*Steno bredanensis*), the false killer whale (*Pseudorca crassidens*) and the killer whale (*Orcinus orca*) (Wade & Gerrodette, 1993; Gerrodette et al., 2008; SEMARNAT, 2019; Hoyt, 2012; Trejo-Albarrán et al., 2017; Urbán & Viloria-Gómora, 2023); and a resident population of 370 (328-396) bottlenose dolphins (*Tursiops truncatus*) (Martínez-Aguilar et al., 2009).

Figure 3: Bottlenose dolphin nearby Socorro Island, Revillagigedo Archipelago. Photo credit: Sergio Martínez-Aguilar PRIMMA-UABCS.

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