

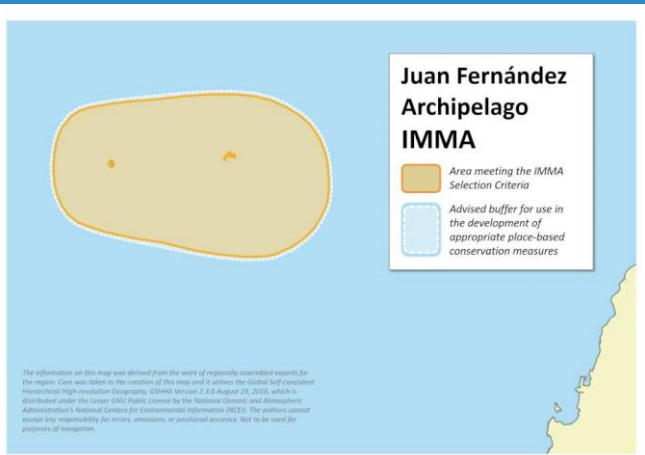
Juan Fernández Archipelago IMMA

Summary, continued.

generate high primary production. Juan Fernández fur seals are recovering from intense hunting in the 19th century and have passed a severe genetic bottleneck. Both reproductive processes and the feeding activities of this species occur within this IMMA. The species is categorised as Least Concern (LC) on the IUCN Red List of Threatened Species, with recent exponential growth following the cessation of hunting. The area also hosts a number of other marine mammal species, including both pinnipeds and cetaceans.

Description:

The Juan Fernández Archipelago (Islands: Robinson Crusoe- 48 km², Alejandro Selkirk- 50 km² and Santa Clara- 2.2 km²) are 600 km offshore from the Chilean mainland. The surrounding marine environment is characterised by the presence of seamounts and volcanoes (Castilla & Oliva, 1997) which strongly influence the oceanographic patterns. The interaction between the seamount's topography and physical forcing like wind and currents produce the formation of meso- and submesoscale eddies. Injection of macro- and micronutrients into the euphotic zone generates high biological productivity and subsequent increases in Chlorophyll a concentrations (Fernández & Hormazábal, 2014). These nutrient rich conditions support zooplankton and fish communities that in turn support species in higher trophic levels including seabirds and mammals (Thiel et al., 2007).



Area Size

83 409 km²

Qualifying Species and Criteria

Juan Fernández fur seal – *Arctocephalus philippii*

Criterion B (2), C (1, 2)

Marine Mammal Diversity

Mirounga leonina, *Arctocephalus tropicalis*,
Balaenoptera physalus, *Balaenoptera musculus*,
Balaenoptera acutorostrata, *Balaenoptera borealis*, *Balaenoptera edeni*, *Megaptera novaeangliae*, *Physeter macrocephalus*, *Delphinus delphis*, *Orcinus orca*, *Tursiops truncatus*

Summary

The Juan Fernández Archipelago includes the islands of Robinson Crusoe (48 km²), Alejandro Selkirk (50 km²), and Santa Clara (2.2 km²). The archipelago is situated 600 km offshore from the Chilean mainland. The surrounding marine environment is characterised by the presence of seamounts and volcanoes, which strongly influence the oceanographic patterns in the area. The Juan Fernández fur seal (*Arctocephalus philippii*) is an endemic species of pinniped with a restricted area of distribution, associated to environments characterised by seamount topography and the presence of eddies which

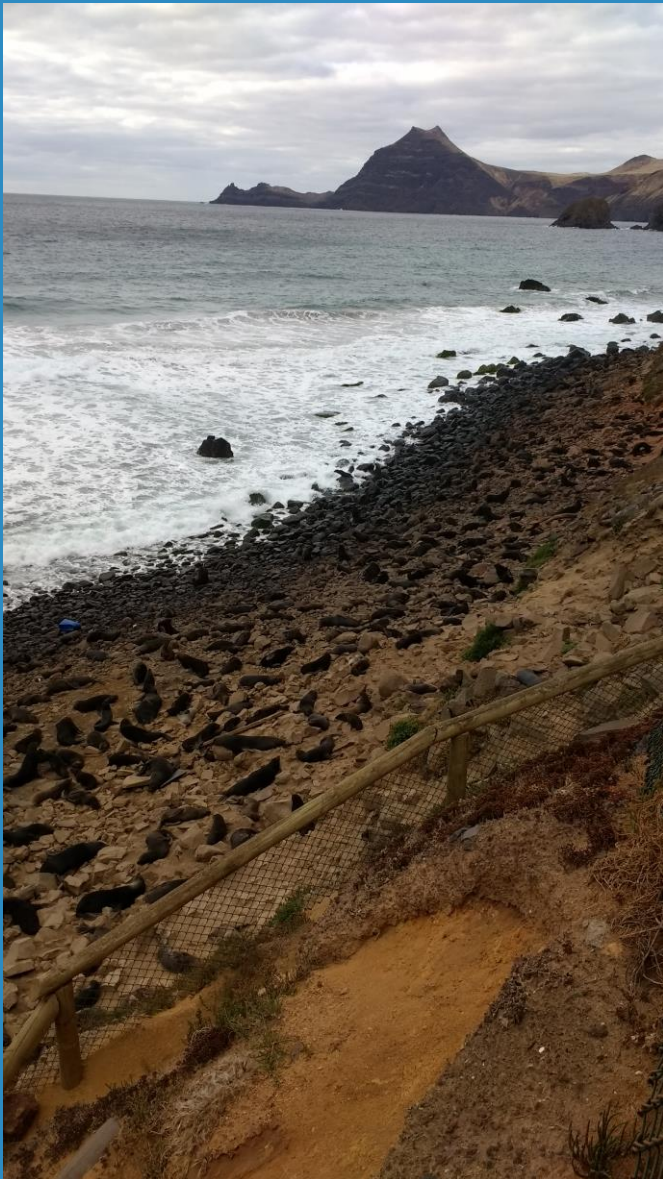


Figure 1: Juan Fernández fur seal colony in Robinson Crusoe Island. Photo credit: Guillermo Araya.

Criterion B: Distribution and Abundance

Sub-criterion B2: Aggregations

The Juan Fernández fur seal (*Arctocephalus philippii*) is an endemic species to Chile with a limited distribution between Desventuradas Island and the Juan Fernández Archipelago. The population is recovering after intense hunting during the nineteenth century. The Juan Fernández Archipelago currently hosts a total of 63 colonies: 47 in Robinson Crusoe, and 8 each in Santa Clara and Alejandro Selkirk Islands (Alvarez, 2019). Between 1965 and 2018, the Juan Fernández fur seal population has been growing exponentially in the three islands of the

Archipelago (Durán et al., 2019). The estimated population for the year 2018 was around 220,000 individuals (Durán et al., 2019), making it the most abundant otariid species in the south east Pacific. During the 1980s and 1990s the species was declared as Vulnerable (VU) on the IUCN Red List of Threatened Species, changing to Least Concern (LC) in 2015 (Aurióles-Gamboa, 2015). However, the limited distribution of the species, the restricted habitat for which it shows preference, the limited breeding space available and the genetic bottleneck through which it passed, are factors that make the Juan Fernández fur seal a species vulnerable to natural disturbances or of anthropic origin (Aurióles-Gamboa, 2015).



Figure 2: Juan Fernández fur seal colony in Robinson Crusoe Island. Photo credit: Guillermo Araya.



Figure 3: Juan Fernández fur seal colony in Robinson Crusoe Island. Photo credit: Guillermo Araya.

Criterion C: Key Life Cycle Activities

Sub-criterion C1: Reproductive Areas

Juan Fernández fur seal reproduction has not been documented anywhere outside of the Juan Fernández Archipelago IMMA (Torres, 1987). In 2018, 19 rookeries were registered in Robinson Crusoe and 6 in Santa Clara Island. The newborn pups comprised 25% of the total population (Durán et al., 2019).

Sub-criterion C2: Feeding Areas

Juan Fernández fur seals have an oceanic diet associated with the Humboldt Current. The diet consists mainly of cephalopods and myctophids (Ochoa & Francis, 1995; Diaz, 2007). The Humboldt squid (*Dosidicus gigas*) represents the most frequent

prey item for females (Diaz, 2007). On the other hand, the myctophid *Symbolophorus barnardi* and the squid *Onychoteuthis banksi* have also been identified in the Juan Fernández fur seals diet (Ochoa & Francis, 1995). The presence of this myctophid, which is distributed between 100 and 800 m in the water column, in Juan Fernández fur seal scat contents suggests that the seals are foraging in deep waters within the IMMA. Instrumented animals were documented diving to depths between 88.5 and 169.5 m. For three instrumented females, the mean duration of the foraging trips was 18 days and the mean travel distance was 336 km (Osman, 2007).

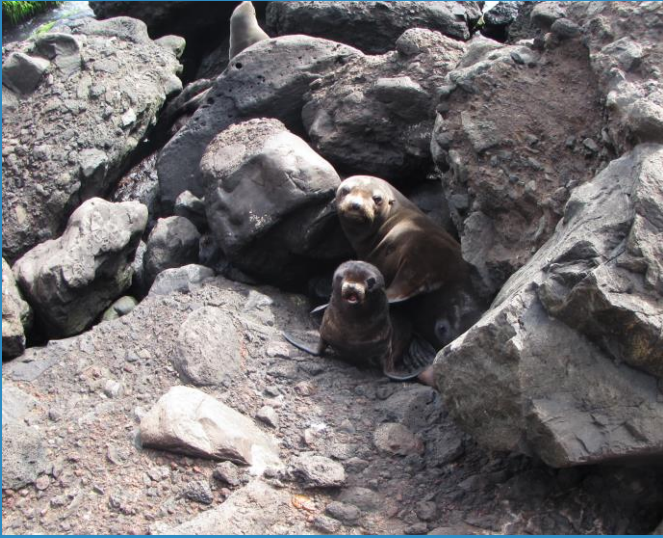


Figure 4: Mother and pup of Juan Fernández fur seal.
Photo credit: Guillermo Araya.

Supporting Information

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The image displays a collection of logos for organizations and initiatives related to marine mammal conservation. At the top left is the logo for the Marine Mammal Protected Areas Task Force, featuring a stylized whale. To its right is the IMMA logo, which includes a grid pattern and a red whale silhouette. Below these are logos for IUCN, SSC (Species Survival Commission), and WCPA (World Conservation Union). In the middle row, there is the GOBI logo, the TETHYS logo (with 'since 1986'), and the WHALE AND DOLPHIN CONSERVATION logo. The bottom row features the MAR VIVA logo, the logo of the German Federal Government (Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit), and the WDC logo.

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PDF made available for download at <https://www.marinemammalhabitat.org/portfolio-item/juan-fernandez-archipelago-imma/>