



Area Size

4 014 498 km²

Qualifying Species and Criteria

Humpback Whale – *Megaptera novaeangliae*

Criterion C (3)

Summary

The southwest Atlantic humpback whale migratory corridor IMMA represents the main migratory route used by humpback whales (*Megaptera novaeangliae australis*) travelling between breeding and feeding grounds in the western South Atlantic. The IMMA extends from the main breeding habitat of this species in the Abrolhos Bank, Brazil (~18oS), to their primary foraging areas north of the Scotia Sea (~50-55oS). This IMMA includes different habitats that the whales pass through during their migration, including shallow waters of the continental shelf off Brazil and deeper waters of the Argentine Basin. It also includes notable physiographic features such as the Rio Grande rise, which may provide foraging opportunities for these migratory animals.

Southwest Atlantic Humpback Migratory Corridor IMMA

Description:

The humpback whale migratory corridor between low latitude breeding areas along the coast of Brazil and high latitude feeding areas in sub-Antarctic and Antarctic waters includes a variety of different habitats (Zerbini et al., 2006, 2011; Bedriñana-Romano et al., 2022). Humpback whales in the south-west Atlantic migrate primarily through two migratory streams (Zerbini et al., 2006): one over shelf waters along the coast of Brazil between Abrolhos Bank (18oS) (the main breeding habitat of this population [Martins et al., 2001], see another IMMA for this region) and Cabo Frio, and the other departing from the southeast corner of Abrolhos Bank across open ocean towards sub-Antarctic areas. Once they leave the Brazilian coast at the end of the wintering season, whales migrate in a south-southwest direction through the South Atlantic basin, crossing deep water habitats, including areas with important bathymetric features such as sea mounts and underwater plateaus. Certain individuals show changes in migratory behaviour at some of these features, including the Rio Grande Rise, where upwelling may provide limited feeding opportunities during the long migration south (Bedriñana-Romano et al., 2022). The migration ends at about 50-55oS when whales reach their sub-Antarctic summer and autumn feeding grounds south of the Polar Front (Bedriñana-Romano et al., 2022).



Figure 1: Large group of humpback whales (*Megaptera novaeangliae*) sighted in southwest Atlantic humpback whale migratory corridor IMMA. Photo credit: Lucas Oliveira / Instituto Aqualie, Brasil

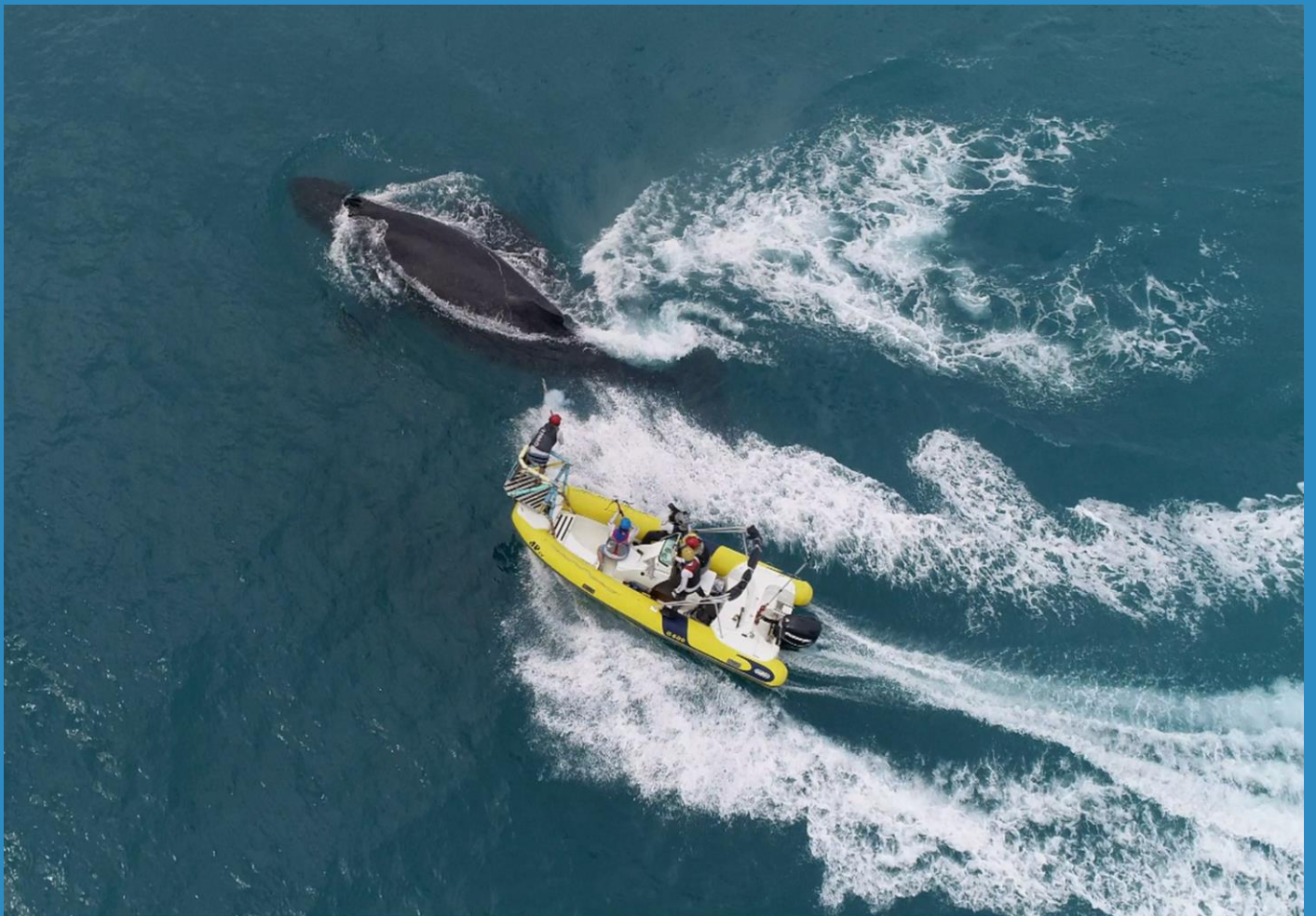


Figure 2: Humpback whale (*Megaptera novaeangliae*) being tagged by researchers in this IMMA. Photo credit: Lucas Oliveira / Instituto Aqualie, Brasil

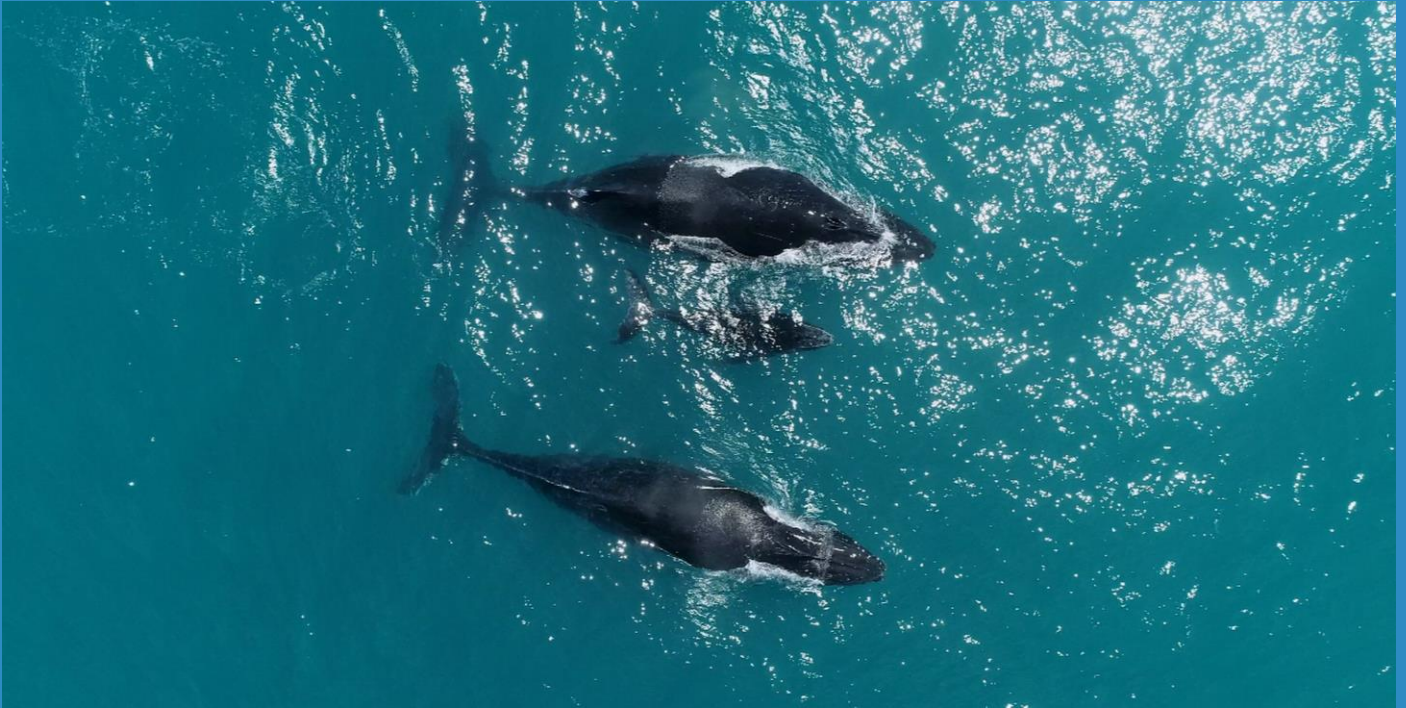


Figure 3: Humpback whales (*Megaptera novaeangliae*) mother and calf sighted in this IMMA.
Photo credit: Lucas Oliveira / Instituto Aqualie, Brasil

Criterion C: Key Life Cycle Activities

Sub-Criterion C3: Migration Routes

The IMMA encompasses the main migratory corridor of the western South Atlantic humpback whale population as determined by satellite tracking data (Zerbini et al., 2006, 2011; Bedriñana-Romano et al., 2022). The data are based on 22 adult (judged by their relatively large size) humpback whales of both sexes that were tagged on the main breeding ground in Abrolhos Bank and tracked between 2003 and 2019 for 40-275 days (Bedriñana-Romano et al., 2022). Migration speed of both males and females was around 5 km/h on average (versus 2-3 km/h in feeding areas) and migration from breeding grounds in Brazil to sub-Antarctic feeding grounds lasted 38 days on average. The IMMA boundaries encompass the satellite tracks of 20 out of 22 individuals that were tagged and tracked during their entire southbound migration.

The northbound migration is less studied but at least two individuals satellite tracked on their return from

the feeding grounds to Abrolhos Bank migrated from the Scotia Arc through the IMMA (Jackson et al., unpublished data, Zerbini et al., unpublished). However, it is possible that whales are using a habitat not included in this IMMA for their northbound migration, given the increasing frequency of early breeding season observations of humpback whales in nearshore areas southeast of Cabo Frio (hundreds of kilometers south of the main documented breeding grounds in Abrolhos Bank, Siciliano et al., 2019; Morete et al., 2022). Further data are needed to assess this hypothesis and to determine the possible alternative northbound migration routes.

This IMMA connects another IMMA in Abrolhos Bank, Brazil which is a major known breeding area for this species, to the Scotia Arc IMMA which represents the main feeding grounds of western South Atlantic humpback whales (Zerbini et al., 2006; Engel & Martin, 2009; Reisinger et al., 2020; Bedriñana et al., 2022).

Supporting Information

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Zerbini, A.N., Andriolo, A., Heide-Jørgensen, M.P., Moreira, S.C., Pizzorno, J.L., Maia, Y.G., Bethlem, C., VanBlaricom, G.R. and DeMaster, D.P. 2011. Migration and summer destinations of humpback whales (*Megaptera novaeangliae*) in the western South Atlantic Ocean. *J. Cetacean Res. Manage.* (special issue 3), 113-18.

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MARINE MAMMAL
PROTECTED AREAS
TASK FORCE



WHALE AND
DOLPHIN
CONSERVATION



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