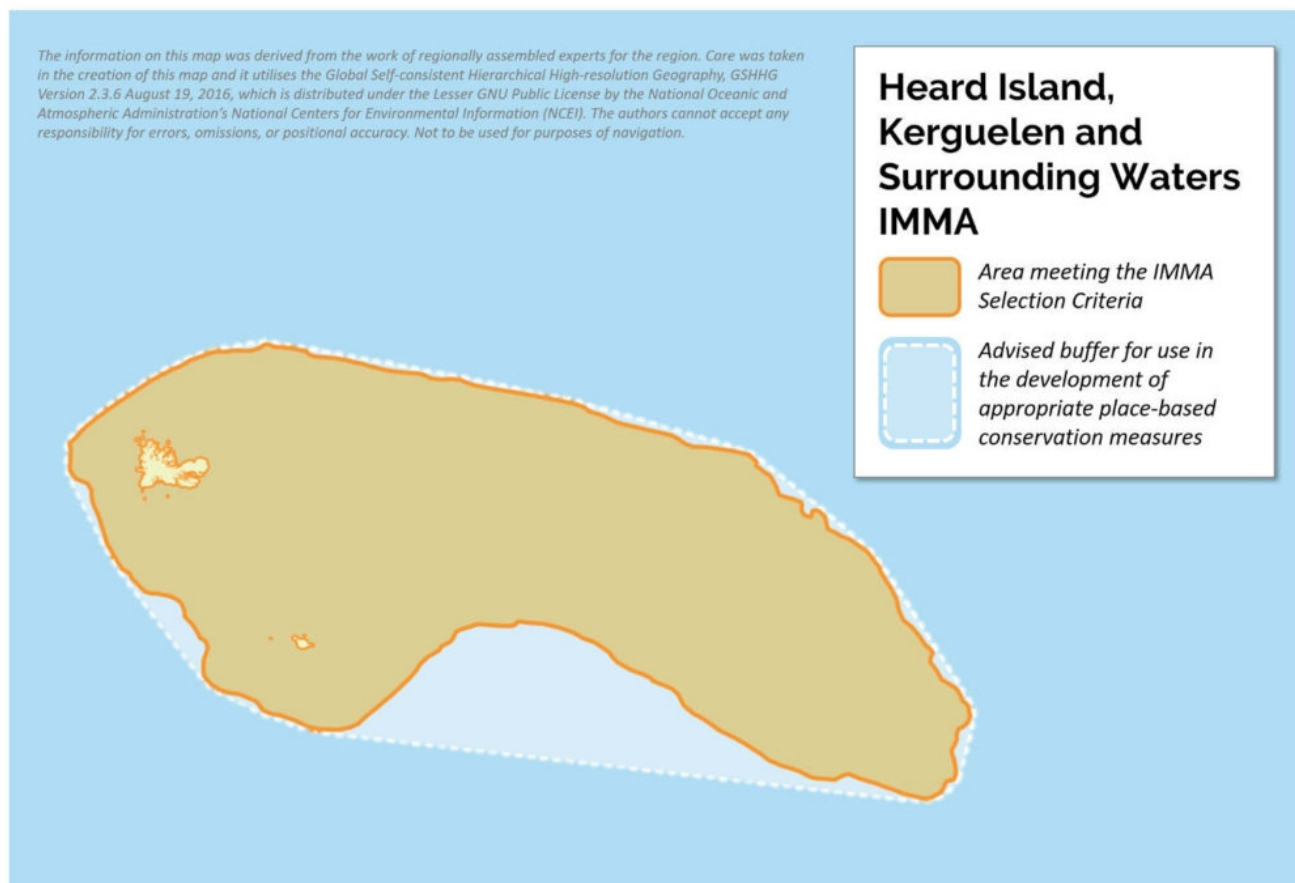


# Heard Island, Kerguelen and Surrounding Waters IMMA



## Criterion B: Distribution and Abundance

### ***Sub-criterion Bi: Small and Resident Populations***

A small population of Commerson’s dolphin, widely separated from the South American main population, inhabits the coastal waters of the Kerguelen Islands (Crespo et al. 2017). Robineau et al. (2007) classify this population as a sub-species of *Cephalorhynchus commersonii* (*C. commersonii kerguelenensis*) based on several characteristics including geographic isolation, and morphological and genetic differences. The candidate area includes the entire known range of this subspecies, and are currently red-listed as Least Concern. However, the state of

knowledge on some populations are data deficient so that it is difficult to assess the population status. This is particularly the case for cetaceans, and especially for the subspecies Commerson's dolphin of Kerguelen. The global species assessment from the IUCN Red List states "The Kerguelen subspecies is restricted in range and is therefore probably very small in number and relatively vulnerable to any anthropogenic threats" (Crespo et al., 2017)

## **Criterion C: Key Life Cycle Activities**

### ***Sub-criterion Ci: Reproductive Areas***

The islands themselves provide terrestrial breeding and moulting sites for Antarctic fur seals (*Arctocephalus gazella*), and southern elephant seals (*Mirounga leonina*), with a glacier preventing easy access to the western part of the island. Some islands around Kerguelen have restricted access, such as Iles Leygues, Iles nuageuses or Iles Clugny. Several zones on the main island are open to scientific investigations (non exhaustively, the islands of Baie du Morbihan, some part of the Peninsula Rallier du Baty, etc.). Annual counts of Pinnipeds are conducted on the Courbet Peninsula by the scientists of the polar program 109 (CNRS CEBC UMR7372, France), logistically supported by the French Polar Institute and the Natural Reserve.

### ***Sub-criterion Cii: Feeding Areas***

The at-sea movements of pinniped species have been studied using tracking devices of various types since the 1990s. Elephant seal and Antarctic fur seal data were collated by the Retrospective Analysis of Antarctic Tracking Data project (Ropert-Coudert et al. in press). Please also refer to the at-sea sighting data compiled in the Biogeographic Atlas of the Southern Ocean (Ropert-Coudert et al. 2014). Southern elephant seals exhibit two foraging strategies. Males mostly feed on the plateau, an important foraging ground for a community of top predators (Hindell

et al. 2011), while females adopt a pelagic strategy (Bailleul et al. 2007). The latter are located in the “vicinity” of Kerguelen during their post-breeding trips (October – December) in an area corresponding to the spring bloom plume located on the Plateau and extending eastward. They perform longer trips during the extended post-moulting period (January-August), but still favour the region east of the Kerguelen Plateau (Fig S1) where they use long-lived mesoscale eddies and cold water filaments that aggregate their fish prey (Cotte et al 2015, Della Penna et al. 2017). Juvenile male elephant seals are benthic foragers that feed on the Kerguelen Plateau and along the shelf edge (O’Toole et al. 2014). This species is capable of diving up to 1500 m (McIntyre et al 2010), but regularly dive between 300 – 500 m in benthic and pelagic environments (Guinet et al 2014).

Antarctic fur seals perform relatively short trips during their breeding season (Jan-Feb). Animals from Kerguelen forage on the Kerguelen Plateau, as well as to the east of the Kerguelen Plateau along the shelf edge, while seals from Heard are distributed along the shelf edge, east of the Kerguelen Plateau or in the Fawn Trough (Fig S1). Fur seals from Kerguelen and Heard Island perform most foraging dives around dawn and dusk (Lea et al 2002, Goldsworthy et al 2010), diving up to 150 m to access their fish prey (Lea and Dubroca 2003). The IMMA encompasses the plateau and the recirculation gyre east of the Plateau, which covers an important part of the feeding activity of both seal species, and extends east to include the broader area where elephant seals forage during winter.

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