

# Gough Island and Adjacent Waters IMMA



## Criterion B: Distribution and Abundance

### ***Sub-criterion Bii: Aggregations***

Gough Island hosts the world's largest population of Subantarctic fur seals, *Arctocephalus tropicalis* (Bester 1987). Globally, the total population was estimated to be greater than 400,000 animals in the early 2000s (SCAR-EGS 2008). Subantarctic fur seals breed at numerous sites at eight island groups, although numerically almost all (99%) breed at three of these sites (Gough Island, Prince Edward Islands and Amsterdam Island). About 63% of global pup production takes place at Gough Island (Bester et al. 2006), 25% at the Prince Edward Islands

(SCAR-EGS 2008; Bester et al. 2009; Wege et al. 2016) and a further 11% at Amsterdam Island (Guinet et al. 1994). Pup weaning masses here are significantly lower than those at the second largest population globally, at the Prince Edward Islands, suggesting some density dependence in their demography (Oosthuizen et al. 2016). The pup production for the species at the Prince Edward Islands seems to be declining (Wege et al. 2016) despite the heavier weaning masses there.

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

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

Gough Island is an important breeding (pupping and lactation) site for Subantarctic fur seals, with more than 63% of global pup production at this island (Bester 1987, Bester et al. 2006). Although Gough Island supports the largest population of Subantarctic fur seals globally (Bester 1990), a complete assessment of this population has never been accomplished (Bester 1987) due to the rough and inaccessible nature of the island coastline. Estimating changes in the population at this site must therefore be inferred by comparisons of a time-series of counts at specific accessible beaches (Bester et al. 2006). Globally, the total population was estimated to be greater than 400,000 animals in the early 2000s and indications are that it has been steadily growing since that time (SCAR-EGS 2008) although recent evidence suggests stabilisation or decline in at least some large populations, such as at the Prince Edward Islands (Wege et al. 2016). Comparison of pup weights with those at the Prince Edward Islands show significantly lower weaning masses for Gough Island pups (Oosthuizen et al. 2016).

Southern elephant seals are distributed in the Southern Ocean between around 35oS and 70oS (Laws 1994). They haul-out onto Subantarctic islands and some mainland sites on the coasts of Argentina and Antarctica to breed, moult and over-winter (Laws 1994; McMahon et al. 2005). Ninety-eight percent of the global stock of southern elephant

seals, breed at South Georgia, the Heard and Kerguelen islands populations, Macquarie Island and Peninsula Valdés (McMahon et al. 2005). The remaining 2% occur on islands throughout the Subantarctic and adjoining regions (Laws 1994), including the smallest breeding population at the most northerly limit of the species distribution at Gough Island (Bester 1990). Safeguarding and understanding the demography and ability for persistence of small, peripheral populations is becoming increasingly important in the face of environmental change that may exert greatest adaptive strain on such groups, or conversely allow for range extension depending on the direction of change.

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

Recent preliminary data from lactating Subantarctic fur seal females tracked from Gough and Tristan da Cunha Islands, demonstrate the importance of the Subtropical front for summer foraging (~October to February) (Mammal Research Institute/Tristan da Cunha Government unpublished data). The region between Gough and Tristan da Cunha Islands (~350 km separation) seems to be an important foraging and migratory zone for these fur seals, and also for adult male southern elephant seals (tracked during the post-breeding foraging phase – Mammal Research Institute, unpublished data).