

# Arabian Sea humpback whale population may have been isolated for about 70,000 years

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Humpback whale. Credit: NOAA.

A population of humpback whales that resides in the Arabian Sea may have been isolated for ~70,000 years, according to a study published December 3, 2014 in the open-access journal *PLOS ONE* by Cristina Pomilla, Ana Rita Amaral, Howard Rosenbaum, and Tim Collins of the Wildlife Conservation Society, the American Museum of Natural History, and their colleagues.

The small, non-migratory population of Arabian Sea humpback whales is currently classified as "Endangered" on the IUCN Red List of Threatened Species. Scientists have limited data on the difficult-to-study population, including its relationship to other [humpback whale](#) populations. The authors of this study analyzed both mitochondrial and

nuclear DNA extracted from nearly 70 Arabian Sea humpback whale tissue samples and compared them to datasets from populations in the Southern Hemisphere and North Pacific.

The results show that the Arabian Sea humpback whale population is highly distinct from Southern Hemisphere and North Pacific populations. Gene flow and divergence estimates suggest the population originated from the Southern Indian Ocean, but indicate that it has been isolated for approximately 70,000 years, which is unusual for a species that is typically highly migratory. Genetic diversity values are significantly lower than those obtained for Southern Hemisphere populations, and the authors' findings provide strong indication that this is the world's most isolated humpback whale population.

The authors conclude that the low genetic diversity and population abundance estimates, combined with anthropogenic threats, may raise concern for the populations' survival and suggests that a reassessment of their conservation status and management strategies is merited.

**More information:** Pomilla C, Amaral AR, Collins T, Minton G, Findlay K, et al. (2014) The World's Most Isolated and Distinct Whale Population? Humpback Whales of the Arabian Sea. *PLoS ONE* 9(12): e114162. [DOI: 10.1371/journal.pone.0114162](https://doi.org/10.1371/journal.pone.0114162)

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