

Citizen Science Contributions to Cetacean Research: Insights from the OMMAG Humpback Whale Photo-ID Catalogue

Contribuciones de la ciencia ciudadana a la investigación de cetáceos: perspectivas del catálogo de identificación fotográfica de ballenas jorobadas OMMAG

Contributions de la science citoyenne à la recherche sur les cétacés : aperçus du catalogue de photo-identification des baleines à bosse de l'OMMAG

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ABSTRACT

The Observatory of Marine Mammals of the Guadeloupe Archipelago (OMMAG) is an NGO established in 2011, relying on a citizen science network of sea stakeholders to share observations. OMMAG collects, categorizes, and analyses marine mammal sightings for scientific purposes, supporting the Agoa sanctuary and promoting animal respect. This study utilizes OMMAG's humpback whale (*Megaptera novaeangliae*) photo-identification (photo-ID) catalogue.

Through collaborations with over 20 private and public institutions, including scientific surveys and whale-watchers, the program has engaged 50 volunteers, encompassing 126 contributing photographers. The catalogue comprises 920 photo-IDs from 2006 to 2024 across the French West Indies (FWI): Guadeloupe, Martinique, Saint-Martin and Saint-Barthélemy, identifying 796 individuals. Out of 732 individuals (excluding calves, partial flukes, and poor-quality images) only 95 (13%) were resighted at least once in the FWI indicating very low site fidelity. Despite two whales being recaptured five and four times, respectively, during this period, or a 16-year gap inter-season resighting, 34% of recaptures occurred within the same year at 2 days median periodicity (138% CV).

Migration patterns revealed 177 matches to 15 countries, primarily to North-East Atlantic feeding grounds such as Iceland, Norway and Russia. Noteworthy findings include a 9000 km longest migration distance, a maximum migration time of 80 days between Guadeloupe and the Barents Sea and a time span of over 45 years.

Using a POPAN model, the superpopulation size in this mainly transit area was estimated at 5136.9 individuals (10.8% CV), highlight the significance of citizen science initiatives in advancing cetacean conservation and research.

KEYWORDS: citizen science, community engagement, photo-identification, site fidelity, migration patterns, abundance, FWI humpback whale catalogue.

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