

Winter variations in the presence of surfacing marine megafauna on the shelf of the Bay of Biscay

Laran S., Authier M., Blanchard A., Doremus G., Genu M., Sanchez T. Van Canneyt O., Spitz J.

Observatoire PELAGIS, UAR 3462 La Rochelle Université/CNRS, La Rochelle, France

Contact: sophie.laran@univ-lr.fr

The winter distribution of surfacing marine megafauna on the continental shelf of the Bay of Biscay has been characterised through the CAPECET surveys carried out as part of the Delmoges programme. Recurrent aerial surveys were carried out four to six times from January to March in 2020, 2023 and 2024. The surveys monitored marine megafauna, including marine mammals, seabirds, turtles, elasmobranchs, and other large fish, using a standardised protocol along linear transects. A total of 20,250 km were surveyed over an area of 35,000km² and densities were estimated using distance sampling over these three winters. The common dolphin (*Delphinus delphis*) is the most abundant marine mammal species in the area, and is subject to high level of by-catch mortality from fishing. Changes in their density over the winter display a recurring seasonal pattern in the area, with fluctuations in the timing of the peak. The little gull (*Hydrocoloeus minutus*) follows a comparable pattern. Other species such as the harbour porpoise (*Phocoena phocoena*), alcids (*Alca* sp. and *Uria* sp.), great skua (*Stercorarius skua*) and kittiwake gull (*Rissa tridactyla*) display marked inter-annual variations. This fine-scale monitoring has also enabled the observation of unusual phenomena, such as a significant increase of the density of harbour porpoises in the Marine Park area in January 2023 and a decrease in Northern gannet density end of winter 2024 synchronized with the partial closure of fisheries. The study provides a unique insight into this marine megafauna hotspot which gathers in the central part of the shelf of the Bay of Biscay in winter. Knowledge of their winter occurrence and inter-annual variability can inform management decisions to mitigate and reduce by-catch mortality of all these species.