Resting and Activity Allocation of Humpback Whales in their Icelandic Feeding Ground

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BACKGROUND

Humpback whales (*Megaptera novaeangliae*) are migratory marine mammals and **Iceland** is one of their **feeding grounds** in the North Atlantic between spring and autumn.

The aim of the study was to determine the amount of **time allocated** to **active** and **resting behaviours**, and to identify possible patterns or influence of diel variations.

Suction cup tag



METHODS

Humpback whales (n = 2) were tagged in Iceland (Eyjafjörður and Skjálfandi Bay) using **suction cup tags**.

Data on **dive depth**, **duration**, number of **lunge feeding** event, **fluke stroke rate**, post-dive surface time were extracted from the tag. Four **dive types** were defined from those data: **resting**, **feeding**, **shallow active** and **transit** dives.



Lunge feeding

RESULTS

The two individuals (HW1 and HW2) displayed **distinct dive profiles**, significantly differing in duration (*Fig. 1*), dive type occurrences, depth, fluke stroke rate and post-dive surface time. HW1 displayed **resting behaviours** for **29.4%** of its total time, compared to **52.3%** for HW2.

Diel variations were only assessed for HW1 due to the **absence of night** when HW2 was tagged. **More resting** dives occurred at **night**, and **more feeding** dives during the **day**. **Nighttime** feeding dives were **shallower**.



Suction cup tags offer valuable insights into humpback whale behaviour in Icelandic feeding grounds. Expanding research to include more individuals could help confirm behavioural patterns and better understand their activity budget and habitat use.

Fig. 1 50. 48.9 45 44.1 Percentage Duration 21.3 17.6 17 10. 4.1 Resting **Shallow Active** Feeding Transit Dive Type Individual HW1 HW2

DISCUSSION

Variations in dive profiles and in resting and activity allocation could be attributed to:

- Prey availability and quality
- The different tagging
 locations and periods of
 the feeding season

Predominant daytime feeding **contrasted with previous studies**, where humpback whales exhibited **more nocturnal activity**.

Shallower feeding dives at night likely followed **prey's vertical migration**.

