

## What moves European sea bass?

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The poor state of the data-deficient European seabass (*Dicentrarchus labrax*) in the southern North Sea calls for an informed fisheries management to protect the intertwined ecological and socio-economic stakes at risk. The highly mobile seabass is known to move from shallow, inshore feeding grounds in summer to deeper waters offshore in search of warmer temperatures in winter for spawning. Knowledge on these spatiotemporal changes in movement behaviour and distribution is critically limited for seabass in the southern North Sea.

The cutting-edge technology of the acoustic data storage tag (ADST) enables the observation of fish movements in the wild. The transmitted acoustic signal of ADSTs can be detected by receiving hydrophones, whenever the tagged fish roams within its detection range. Tag recovery allows to access the data-storage part and reconstruct individual depth and temperature records stored on the tag itself. From 2018 to 2020, 100 sea bass, caught by hand-line fishing in the Belgian Part of the North Sea, will be tagged with ADSTs (so far 40 have been tagged).

This PhD project aims to better understand seabass spatial dynamics in Belgian waters and the southern North Sea. Therefore, habitat use and seasonal migrations will be investigated and related to patterns in sea bass exploitation. As a final objective, the observed spatiotemporal dynamics will be translated into fisheries management recommendations. Here, the first results from sea bass detections on the LifeWatch acoustic receiver network will be discussed.

Keywords: *Dicentrarchus labrax*; European sea bass; Movement ecology; Electronic tagging; Acoustic telemetry