

Knock knock, who's there?

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Passive acoustic monitoring is a powerful tool to learn about the relationship of species with their environment. Especially species using echolocation for navigation and foraging within their habitat, are of interest. The Belgian LifeWatch observatory (as part of the European Strategy Forum on Research Infrastructure (ESFRI)) includes a set of hydrophones spatially distributed across the Belgian part of the North Sea, using acoustic release bottom mooring frames and a set of microphones along the Belgian coast. In that way, echolocation of harbour porpoises (*Phocoena phocoena*) and bats are recorded. Echolocation can be species-specific and used during specific activities, consequently species and behaviour could be derived. Harbour porpoises produce echolocation clicks in a certain sequence within the small frequency range (120 – 145 kHz), reflecting their behaviour. Their seasonal and spatial presence can be derived from these recordings.

Along the Belgian coast, bats are migrating during spring and autumn. Bats can produce sound in the frequency range of 5 up to 150 kHz, depending on its morphology, physiology and behaviour (*i.e.* transit calls, foraging calls and social calls). Two abundant species, the common pipistrelle (*Pipistrellus pipistrellus*) and Nathusius' pipistrelle (*Pipistrellus pipistrellus*) are recorded along the Belgian coast. Less frequently recorded are the Nyctaloid and Myotis species groups.

Echolocation calls are mostly produced in the ultrasound frequency range and therefore inaudible for the human ear. During the VLIZ Marine Science Day, bat calls can be listened to, using a ten-time delayed mode. In addition, the bat calls are visualised to help identifying the behaviour of the animal.

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