Estuarine behaviour of European silver eel (*Anguilla anguilla*) in the Scheldt Estuary: a slippery path

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Estuaries are among the most productive ecosystems in the world and are characterised by high habitat diversity. As transition areas between inland rivers and the open sea, they function as transport zones for diadromous species like the European eel (*Anguilla anguilla*), a catadromous fish species that migrates to the Sargasso Sea for spawning. However, information on the migratory behaviour of eel in estuaries is scarce. Therefore, more insight is needed to efficiently restore and conserve the species. We tracked 40 eels with acoustic telemetry and analysed their behaviour in the estuary of the Scheldt River between July 2012 and September 2013. Eels migrated during late summer and early autumn and used specific migration routes in the estuary to reach the North Sea. The relation between eel behaviour and environmental conditions like tidal currents, flow, water temperature or light intensity were analysed. No retention period was observed, which could indicate that silver eel do not feed while migrating and only use the estuary as a migration path.

The Scheldt Estuary has a lot of anthropogenic activities, including dredging to ensure navigation depth of certain channels. Therefore, our results allow to set up a management plan to optimise anthropogenic activities and guarantee conservation of the eel population.