ENVIRONMENTAL VARIABLES DETERMINING MATURING EUROPEAN EEL (*ANGUILLA ANGUILLA* L.) MIGRATION BEHAVIOUR IN A DYNAMIC ESTUARY

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BACKGROUND

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Background

Animal movement is an ubiquitous process throughout the entire animal kingdom with the most extensive movements related to migration, a persistent and unidirectional movement, characterized by the temporary inhibition of station keeping responses such as foraging, territorial behaviour and commuting. During the last century, many migrating animals have disappeared or declined substantially due habitat destruction, migration barriers, exotic species, pollution, overexploitation and climate change.

One such species of particular interest, is the European eel (*Anguilla anguilla* L.). Eels need a continuum between freshwater and marine environments to complete their lifecycle. Persisting knowledge gaps prevent cost efficient management to aid population recovery of this critically endangered species. The spawning migration of adult eels in the Schelde Estuary occurs in autumn and is monitored by means of acoustic telemetry: acoustic tags are abdominally implanted and can be detected by a network of

Scope of the thesis

The goal of the thesis is to deduce what factors determine downstream eel migration by linking the spatio-temporal telemetry data with environmental data of the Scheldt Estuary. Statistical models can reveal relationships of what factors play a significant role in eel migration behaviour. The output of this thesis is of substantial importance to improve our knowledge on eel migration and in this way leads to the development of management tools and a more efficient management of eel populations.