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## Biological Characteristics of an Estuarine Growing Eel Population (Sèvre Niortaise Estuary, France)

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This study aims at determining the main components of time and space variation in abundance of the growing eel population, within an estuary. For one year, benthic and pelagic sampling (Beam trawl, glass eel net and plankton net) was done on a seasonal basis, lengthways within the estuary of the River Sèvre Niortaise.

From time and space variations of elver and yellow eel catches, five points can be emphasized:

1 – A settlement of elvers (7 to 9 cm long) occurs from spring to autumn; it corresponds to the glass eel run, which entered the estuary the winter before.

2 – The catchability decreases during autumn and winter both in benthic and pelagic compartments. The pelagic decline could be due to hydrodynamics. Indeed, during the flood season, ebb tide currents are so strong that only elvers showing an upstream migration behaviour can resist them, and stay within this estuarine compartment.

3 – The apparent abundance of growing eels seems to be strongly correlated with trophic resources abundance. The winter and autumn decrease of catchability occurs as the pelagic fauna decreases. A reduced trophic activity seems to exist as well. In the same way, trophic resources in upper parts of the estuary shorten during summertime. Then, growing eel catches are higher downstream than upstream.

4 – When they reach 16 cm long by spring and summer, the young eels show a benthic behaviour. Then, the biggest animals are no longer observed in pelagic samples; they appear in benthic ones.

5 – During the annual flood season, an upstream migration can be observed which involves a fraction of the population (elvers and yellow eels). Pelagic elvers are only present in upper parts of the estuary. Whilst benthic animals gather at a small freshwater outlet.