

IMPACT OF CONTAMINATION ON THE DEVELOPMENT OF CONTROLLED INUNDATION AREAS ALONG THE SCHELDT ESTUARY

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One of the objectives of the SIGMA-plan of the River Scheldt is the construction of a controlled inundation area in Kruibeke-Bazel-Rupelmonde. However this area is contaminated with heavy metals due to aerial deposition. On the other hand, as an inundation area, it will be flooded with contaminated water from the Scheldt. Therefore it is necessary to estimate the impact of contamination on the potential nature development in these areas.

A case study was carried out last two years in a VLINA-project at a tidal marsh along the River Scheldt. The distribution of the contaminants over the different compartments was investigated during two years. The compartments were the soil and pore water, but also the vegetation and the dominant group of macrobenthos. Beside this an estimation was made of the input of contaminants due to the sedimentation of particles during flooding. Other processes that were studied are the sorption and desorption processes, which affect the bioavailability, and the effect on the uptake of contaminants and the bioaccumulation in reed (*Phragmites australis*) and *Oligochaeta* are studied in detail. The above- and belowground biomass of reed (*Phragmites australis*) was measured.