

Title: The chemical pollution status of the Scheldt estuary: challenges and priorities

Research Theme: Water and soil quality risk assessment

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Summary: The Scheldt estuary is an economically and ecologically very important ecosystem that is continuously under anthropogenic pressure. Although the situation has significantly improved over the last decades a number of critical challenges remain. One of these is the observation that the concentrations of several chemical pollutants are still above environmental quality standards and may pose a threat to the health of the ecosystem (e.g. metals, pesticides, halogenated compounds,...). A critical element within this context is the scientific basis on which the environmental quality standards are based and to what extent criteria developed for freshwater systems can be applied to estuarine systems which are characterized by a gradient in salt concentrations. By comparing environmental concentrations along the Scheldt estuary in the water column and biota we will document the presence and bioaccumulation of a number of these substances and compare the results with existing environmental quality standards and other relevant information. Identification of the chemical compounds that are a real threat and those that are of less or no concern for the water quality of the Scheldt estuary. The results are translated in recommendations and strategy to further improve the chemical pollution status of the Scheldt estuary and how this can be implemented within a framework of sustainable environmental management. The work combines field sampling, (bio)chemical analysis and exploration of environmental and ecotoxicological databases to allow an integrated assessment of the ecological risks.

