P20.

Exposure patterns of perfluorooctane sulfonate in aquatic organisms from the Western Scheldt estuary

K. Van de Vijver.[1], P. Hoff[1], W. Van Dongen[2], E. Esmans[2], R. Blust [1]and W.M. De Coen[1]
[1] *Department of Biology, Laboratory for Ecophysiology, Biochemistry and Toxicology, University of Antwerp*
[2] *Department of Chemistry, Nucleoside research and mass spectrometry unit, University of Antwerp*

Estuarine and coastline ecosystems are of major economic importance, but due to large industrial and domestic waste water discharges, the structure and functions of these habitats are often disturbed. Like other estuarine areas, the Western Scheldt estuary, situated in the southwest of the Netherlands and the north of Belgium, is a highly polluted ecosystem. Until now attention was primarly focused on organochlorines, pesticides and heavy metals because of their persistent character and ability to accumulate in aquatic organisms. Research investigating another group of important pollutants, the fluorinated organic compounds (FOCs), has received much less attention. As recent studies have indicated that FOCs occur worldwide in the environment, show high persistence and little or no biodegradation, it becomes more and more important to characterize the distribution patterns and effects of fluorinated organochemicals. An important representative of these fluorinated chemicals is perfluorooctane sulfonic acid (PFOS). In the present study, we determined, for the first time, the PFOS-exposure levels in vertebrate and invertebrate biota from the Western Scheldt estuary. We sampled various organisms during several field campaigns. All tissue samples were extracted in methanol and concentrations of PFOS were determined using high performance liquid chromatography tandem mass spectrometry (HPLC/MS/MS). The concentration of PFOS in crab (*Carcinus maenas*), shrimp (*Crangon crangon*), bib (*Trisopterus luscus*) and plaice (*Pleuronectes platessa*) provide a basic set of data for estimating fluoro-organic chemical contamination levels in the estuarine environment and for further studies concerning the distribution patterns in estuarine ecosystems.