

**TU026 Ecological relevance of the Biota Quality Standards** L. Teunen, University of Antwerp; C. Belpaire, Research Institute for Nature and Forest INBO; R. Blust, L. Bervoets, University of Antwerp / Department of Biology (SPHERE Research Group). Biota Quality Standards were set by the European Commission with the goal to protect top predators and humans from secondary poisoning by chemical accumulation in the food chain. In reality, a vast exceedance of these standards for a number of components is observed, without an eminent decrease in the ecological water quality. In the present study, the relationship between accumulated concentrations in muscle tissue of European eel (*Anguilla anguilla*) and European perch (*Perca fluviatilis*) and the ecological water quality was investigated. Fish were collected from 33 different sampling locations throughout Flanders (Belgium). Accumulated concentrations of HCB, Hg, PBDEs, HBCD, PFOS, heptachlorepoxyde, dioxins and PCBs were measured. Additionally, 2 PAHs were measured in translocated quagga mussels (*Dreissena bugensis*). Ecological water quality was assessed using the Index of Biological Integrity (IBI), applying fish community, and the Multimetric Macroinvertebrate index Flanders (MMIF). The main goal of the study was to define a threshold value for which accumulated concentrations reflect a decrease in ecological water quality. These results could have an important impact on the revision and fine-tuning of current Biota Quality Standards.