New approaches to determine the ecological functionality of polluted aquatic ecosystems, fresh vs. brackish

The ecological approach to water quality is essential for management of surface water and the protection of aquatic ecosystems. Current biological monitoring of aquatic ecosystems within Europe is based almost entirely on measures of community structure, whereas functional aspects of the ecosystems are not directly studied. The Water Framework Directive however states that in 2002 the functional status of surface waters has to be assessed. Complementary tools to measure the functional status have yet to be developed and validated.

Ecosystem functioning depend on energy availability and processing. The major energy source in waters is detritus and the consumers of this energy, the invertebrates, e.g. *Gammarus* sp. The functional processes that are being studied in this project are decomposition and *Gammarus* feeding.

**Research**
Bio assays for feeding and decomposition are will/be deployed in mesocosm studies. Several types of compounds are/ will be added to get various responses within ecosystem function. Besides mesocosm studies field studies will be performed at reference sites and impacted sites. Several *Gammarus* species will be used to compare fresh and brackish waters

**Duration:**
2000-2004

**Participants:**
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