

IMPLEMENTATION OF THE EUROPEAN WATER FRAMEWORK DIRECTIVE IN THE BALTIC SEA ECOREGION: DYNAMICS AND FUNCTION OF COASTAL TYPES

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This project address the first step in the implementation of the European Water Framework Directive (WFD) in the Baltic Sea Ecoregion. The project intends to develop, test and validate a methodological approach to characterize type areas of the Baltic Sea coastal zone. The work include development of functional relationships and empirical models between biotic and abiotic quality parameters across large regional scales. A number of ecological indices, designed to detect changes in the ecosystem functioning due to external perturbations are defined. Relationships between anthropogenic pressures and a given quality element, e.g. effect of nutrient loading on eelgrass depth distribution, is developed on a local scale. The analyses are extended to encompass all regions in the Baltic ecoregion. Examples are presented to reach a complete and universal understanding of the regulation of phytoplankton, macrophytes and zoobenthos distribution and abundance by performing data analyses at both local and regional scales. A first set of typologies are presented together with examples of data to provide reference conditions for selected parameters. Furthermore, the project provides tools to implement the administrative procedures involved in the implementation of the WFD in a scientifically sound manner, including formulations of ecological relevant reference conditions and a set of guidelines for future monitoring in the Baltic ecoregion.