

## – Water Quality Management and Research



The capacity of NERI to carry out international projects on environmental management of rivers, lakes, coastal waters and the open sea is based on the experience gathered mainly through its obligations to provide research, environmental monitoring and consultancy services for the Danish National and Regional Authorities, and the involvement of NERI in international research projects and international consultancy activities. During recent years much of this research and consultancy has been related to the implementation of the Water Framework Directive (WFD).

### **Environmental monitoring in rivers, lakes and marine waters**

NERI is responsible for the Danish National Monitoring Programme for the Aquatic Environment established in 1988 and for providing guidance for the regional monitoring in Denmark.

NERI is therefore capable of providing consultancy on the establishment of monitoring programmes that comply with the requirements of the Water Framework Directive, and to elaborate monitoring procedures for all physical, chemical and biological elements and to provide guidance on the assessments and reporting of the monitoring results. Monitoring programmes should also be tailored to meet national and local needs.

### **Training programmes**

NERI can provide training of staff within authorities, institutions and companies in all aspects of water quality monitoring and processing, storage and use of the monitoring results in water quality management both at the national, local and watershed level, including international co-operation within international catchments. A key element of WFD implementation is the focus on monitoring and assessment of biological quality elements, an area in which NERI is greatly experienced.



## Water Framework Directive implementation

The implementation of WFD requires the Member States to undertake very specific tasks with regard to identification and classification of water bodies, assessment of reference conditions, pollution impacts and the establishment of water quality criteria for each type of water body. NERI is involved in the preparation of EU and national Danish guidelines on the implementation of these aspects of WFD, and also in the research programmes providing the scientific background for these guidelines. NERI is consequently highly qualified at providing assistance with the implementation of WFD.

## Lake, river and wetland restoration

The environmental quality of waterbodies polluted or damaged by physical modifications will not always improve sufficiently when the environmental pressure is reduced. The reasons could be, for example, accumulation of pollutants in the sediment, or that the waterbody has been physically damaged to such a degree that restoration will not be possible with the existing physical conditions. NERI is a key partner of the European Centre for River Restoration and has been actively involved in many projects on lake, river and wetland restoration, both with regard to the planning of the restoration activities needed and the monitoring and follow-up on the environmental benefits of the restoration.



This experience has given NERI a solid basis for evaluating whether restoration is feasible and to evaluate which kind of restoration activities that are beneficial and relevant.

## Research programmes

Specialised research-based consultancy may be necessary for the assessment of specific pollution problems in rivers, lakes and marine waters. The capacity of NERI is based on long-term research experience on eutrophication and its causes and consequences, impacts from physical modification of rivers and restoration possibilities, effects of pesticides and other xenobiotics, and water quality modelling.

## Further Information

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