The EU Water Framework Directive – Implications for the Wadden Sea

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Introduction

The EU Water Framework Directive (WFD) aims at an integrated water management based on river basins on a European level. The implementation will have consequences for monitoring and management in the Wadden Sea. Already in 1982, the three Wadden Sea states agreed in the Joint Declaration to coordinate their policy and management on the protection of the Wadden Sea. At the Trilateral Governmental Conference in Esbjerg 2001, the "importance of a close cooperation with regard to the Wadden Sea Area when implementing the Water Framework Directive" (ED §49) was underlined.

This article describes the results of a workshop in Hamburg, January 2004, at which the implications of the WFD for the Wadden Sea area were analyzed and recommendations for a closer cooperation were developed.

Another article in this newsletter (on page 21) reports about the WFD conference organized by the Dutch Wadden Sea Council in Leeuwarden on 13 and 14 May 2004.

The Water Framework Directive

The WFD aims at coordination of all other water-related measures on a European level (see box). The central point in the WFD assessment is the "ecological status" defined as being an expression of the quality of the structure and functioning of aquatic ecosystems associated with surface waters (Annex V, WFD Art. 2.21). The ecological status is determined by biological, chemical, physico-chemical and hydro-morphological quality elements. A "good ecological status" should be reached in which biological quality elements show only a slight deviation from the type-specific reference condition, and physico-chemical elements are at levels capable of supporting the functioning of the type-specific ecosystem.

The WFD requires a characterization of surface water types, definition of type-specific reference conditions for biological quality elements, a classification using Ecological Quality Ratios, and an intercalibration of the Member State's biological monitoring results.

Characterization of surface water types

Within each river basins, a characterization of water body types should be made according to defined methods and criteria (WFD Annex II).

Type-specific reference conditions for biological quality elements

The reference condition is defined as a condition in which a water body has suffered no, or only very minor anthropogenic impacts. It can be in the past or the present, or derived from observations, historical data or modeling, or where necessary expert judgment.

Classification using Ecological Quality Ratios

The class boundary setting (high, good, moderate, poor, bad) will be done in the period 2004 – 2009. In a first characterization and risk assessment in 2004 (WFD Annex II), type specific reference conditions will be defined as will water bodies at risk. By 2006, the class boundaries will be defined in an intercalibration process (WFD Annex 4, Art. 1.4.1) and made operational in a monitoring program after 2006 (Annex V). In 2009, the first River Basin Management Plan (Annex VII) has to classify the ecological status of all surface water bodies.

Intercalibration of the Member State's biological monitoring results

The EU wide intercalibration (by 2006) will provide a common interpretation of "good ecological status" which will allow to set targets for restoration and protection. It ensures that class boundaries are consistent and comparable among Member States and that a harmonized classification based on Ecological Quality Ratios (EQR) can be done on the EU level. Thus, there will be a manda-

Key elements of the Water Framework Directive

- ¥ the protection of all waters, surface and ground waters in a holistic way,
- ¥ to achieve good quality ('good status') by 2015,
- ¥ an integrated water management based on river basins,
- ¥ a combined approach of emission controls and water quality standards, plus phasing out of particularly hazardous substances,
- ¥ economic instruments: economic analysis, and getting the prices right - to promote prudent use of water,
- ¥ involvement of citizens and stakeholders (public participation).

Time Table of WFD Implementation:

2003 - Transposition into national legislation;
2003 - Identification of River Basin District;
2004 - Analysis of pressures, impacts, use;
2006 - Monitoring programs operational;
2006 - Start Consultation with public;;
2009 - River Basin Management Plan;
2010 - Pricing policies;
2012 - Program of measures operational;
2015 - Environmental objectives.

tory ecological classification scheme provided, which is comparable throughout Europe.

The implementation of the WFD is a major scientific and administrative challenge in particular regarding the time table (see box). Within the so-called Common Implementation Strategy (CIS), by now, 13 guidance documents and four technical reports have been finalized, a network of pilot river basins has been set up (15 pilots in 18 countries) and an extensive expert network has been established. Currently, the member states are preparing the first report to the EU (Report 2004). For some river basins, draft reports with a characterization and a first risk assessment have already been made available.

The WFD–TMAP workshop in Hamburg (Photo: V. de Jonge)

Implications for the Wadden Sea – The Hamburg Workshop

The River Basin Districts (RBD) are the main management units of the WFD and include all types of surface (lakes, rivers, transitional and coastal water) and ground water. The Wadden Sea has been assigned to six different RBDs: Rhine, Ems, Weser, Elbe, Eider and Danish RBD (Fig. 1).

For each RBD, an organizational structure has been established acknowledging the different legal and administrational situation in the member states, but providing cooperation across national or regional administrative borders.

In order to discuss the implications for the Wadden Sea, a joined WFD-TMAP expert workshop was organized in Hamburg on 27 – 28 January 2004 (CWSS 2004). The workshop mainly discussed the common grounds and differences between the WFD and the Wadden Sea Cooperation and developed ideas how to deal with these in future in order to avoid double work and to support mutual benefits and synergism. Three main topics were discussed, viz. typology, reference values and monitoring.

a. Designation of water bodies and typology

In Germany, four water body types were defined in the Wadden Sea whereas in Denmark and the Netherlands, two water body types are proposed. The discussion on the characterization of water body types and designation of heavily modified water bodies has not yet been concluded in the different RBDs in the Wadden Sea. There was concern that these differences may result in different monitoring and management strategies within the Wadden Sea. It is not yet clear how discrepancies in the typology between the countries will be handled on the regional and EU level and what the consequences for the existing Trilateral Monitoring and Assessment Program (TMAP) may be. For the Wadden Sea, the workshop did not foresee severe problems.

b. Reference values and classification of the ecological status

The process of defining reference values for coastal waters is seriously hampered by several factors, such as high variability in space and time, lacking of data and models, and discrepancies in expert judgments. Not only species should be used as indicators, but also structural elements (e.g. eelgrass stands). Also, more precise definition of eutrophication criteria was advocated. Within the TMAP, process related criteria have been developed which are more suitable to describe the Wadden Sea eutrophication status than static winter nutrient concentrations (van Beusekom et al. 2001).

Integration of the WFD approach and the trilateral targets of the Wadden Sea Plan may lead to problems. The current Wadden Sea targets have a nature conservation background and are describing merely the direction management should take. Consequently, the targets are formulated in a rather qualitative manner but at the same time leave room for a regional specific assessment and participation. In contrast, the WFD is based on the freshwater approach and aims at quantifying the goals for monitoring and management. The latter approach will inevitably face the various problems related to high variability in space and time.

c. Monitoring

A main question is how to integrate running monitoring activities like the TMAP into the WFD process and how to tune them with other monitoring requirements on the national and international

level (e.g. EU Bird and Habitat Directive). This concerns the fine tuning of the monitoring programs with regard to sampling sites, frequencies and methods but also data handling, assessment procedure and reporting, all with the objective to safeguard an integrated Wadden Sea approach.

The development of monitoring strategies for the WFD is currently under way in all three Wadden Sea states, and must be operational by the end of 2006. The WFD guidance document on monitoring proposes an overall methodological approach, which needs to be tailored to regional and national circumstances. With regard to the Wadden Sea, several details of the existing monitoring strategies still require to be thoroughly tuned.

Conclusions and Recommendations

The workshop prepared a number of recommendations on a closer coordination of monitoring and management activities in the Wadden Sea with regard to the WFD. These recommendations were made to the Trilateral Wadden Sea Cooperation (TWG and TMAG) and to the RBD organizations, because the implementation of the WFD in the Wadden Sea requires an intensive cooperation of all authorities concerned, at the national as well as at the trilateral level.

It was also obvious that the Trilateral Cooperation already covers, to a large extent, the work required for the WFD with regard to targets, monitoring and management. The experiences of the Trilateral Cooperation (Wadden Sea Plan, Targets, TMAP) could provide a basis for a joint implementation of the WFD and Natura 2000 (Bird and Habitat Directive) in the Wadden Sea. Furthermore, a close coordination between the WFD and other management and monitoring activities in the Wadden Sea is indispensable for safeguarding coherence of EU Directives on Habitats and Birds, trilateral Wadden Sea policy, further international conventions and integrated coastal zone management.

It was concluded that the information exchange and coordination of management and monitoring regarding the Wadden Sea could be optimized. Further, it was recommended that the definition of specific management aims, monitoring strategies and quality objectives for the WFD and Natura 2000 in the Wadden Sea should be coordinated on the trilateral level.

In its meeting on 31 March 2004, the Trilateral Working Group (TWG) agreed to continue the collaboration on the coordination of monitoring and management with regard to the implementation of the WFD directive in the Wadden Sea. The TWG endorsed to implement the recommendations from the workshop as part of the preparation of the next Governmental Wadden Sea Conference in November 2005. As a first step, a joint expert workshop on reference values should be organized by the TMAG in autumn 2004. A detailed listing of workshop recommendations can be found in the workshop report (CWSS, 2004).

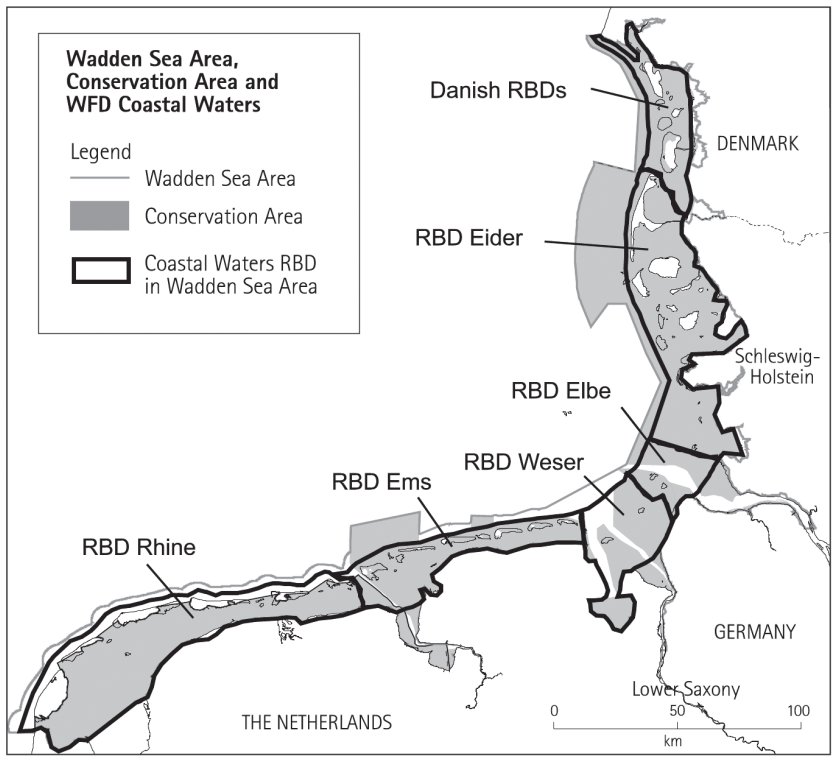

Figure 1: Coastal waters of River Basin Districts (RBS) in the Wadden Sea Area (transitional waters and inland areas have not been included).

References

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The workshop report, the workshop presentations and further information about the Water Framework Directive can be found on the CWSS website: www.waddensea-secretariat.org

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