



Texte 30/00

Nitrogen and Phosphorus Discharges/Losses into Surface Waters

**A Workshop of the German Federal Environmental Agency
29 and 30 November 1999, Abacus Tierpark, Berlin**

Summary

In view of the eutrophication of surface waters including the North and Baltic Seas due to excessive inputs of nutrients, a reduction of nutrient inputs of the order of 50% between 1985 and 1995 was agreed upon at ministerial level for both maritime areas in the framework of the International Conferences on the Protection of the North Sea and the Helsinki Convention. As this political goal - notably with regard to nitrogen - has not been achieved, the Ministers of the North Sea and Baltic Sea riparian States have renewed their commitment for a corresponding reduction by the year 2000.

Such a comprehensive reduction can only be obtained through reduction measures targeted at all sources. However, in order to present information on the reduction of nutrient inputs from diffuse and point sources, we must be able to quantify this reduction as precisely as possible. This presupposes knowledge not only of the sources, but also of the amounts and pathways of input of these nutrients into the aquatic environment. A key role is played in this context by discharges from point sources (municipal wastewater treatment plants, industrial sources discharging directly) and by inputs via diffuse pathways (groundwater, erosion, drainage, runoff from urban areas and atmospheric deposition), and there is also the need to take into account the associated retention, storage and transformation processes.

This workshop was to serve as a forum for the presentation of results obtained in this field both nationally and internationally. What occasioned us to organise it was the completion, this summer, of a national research project. On the first day, the current version of the German methodology for the quantification of inputs from diffuse sources into river catchments were presented. This approach is one of the five methods included in the OSPAR HARP-NUT Guidelines and that it agrees with the approaches used in Switzerland and by the International Commission for the Protection of the River Rhine. The aim of this national project was to quantify nitrogen and phosphorus inputs into Germany's surface waters from both point and diffuse sources for the period 1985 to 1995 according to a standard



methodology, in order to fulfil international reporting obligations. A computer programme was developed for this purpose, which incorporates drainage and quality data for the relevant river basins as well as a geographical information system (GIS) containing digital maps and comprehensive statistical information. Using this programme, nutrient emissions from point and diffuse sources have been quantified for a total of 300 German river catchments for the periods 1985 and 1995. The second day was mainly devoted to the presentation of modelling approaches from neighbouring European countries concerned with the quantification of nutrient inputs into both very small river catchments and large, transboundary river systems.