

Estimating the flux of nutrients into the western North Sea.

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The impact of anthropogenically enhanced nutrient loadings on coastal waters is a cause for concern. In the case of the North Sea, that concern was acted on by the North Sea Conference of 1987 which declared an intention to reduce the input of nutrients (N and P) by 50%, based on 1985 levels, to areas which are, or may become, at risk of eutrophication.

Before any effective management decisions can be made the current level of nutrient input must be assessed. In the UK, the input of nutrients from rivers to the heads of estuaries measured by a Harmonized Monitoring Programme has been taken to represent the input of nutrients to the North Sea. No account was taken of the biogeochemical processing of nutrients in the estuaries.

The JoNuS (JOint NUtrient Study) project is an integrated study of the processes which affect nutrients in estuaries with the aim of measuring the fluxes of nutrients into the western North Sea. The integrated research is necessary to develop an adequate understanding of the interaction of processes in each estuary - for while the key estuarine processes are known their relative importance in a given estuary is not.

This paper will give an overview of the project and outline how it is providing the scientific basis on which to make decisions about the management of nutrient inputs to the coastal North Sea.