

The Distribution of Phytoplankton and Nutrients in the North Irish Sea During 2002

Summary E1-049/TS6

Under the auspices of the OSPAR strategy to combat eutrophication “maritime areas, for which actions are needed, will be identified by a common procedure for the Identification of the eutrophic status of all maritime areas”. In June 2002 several UK maritime areas were identified as problem or potentially problem regions with regard to eutrophication, one of which (the Eastern Irish Sea) is the subject of this report.

This report summarises the findings of an Environment Agency/University of Liverpool collaborative project investigating the seasonality and distribution of nutrient salts and phytoplankton in the northern Irish Sea during 2002.

The results obtained from the seasonal analysis of nutrient salts show that highest concentrations were recorded during February 2002.

The winter concentrations of dissolved inorganic nitrogen and phosphorus recorded from Liverpool and Morecambe Bays show that levels exceeded the recommendations of the CSTT (1997) and the OSPAR commission (2002). In addition, recorded summer chlorophyll concentrations were in excess of these recommendations on at least one-month during the summer of 2001. Under these recommendations both Liverpool Bay (the Mersey and Dee Estuaries in particular) and Morecambe Bay could be classed as hypernutrified and possibly prone to future eutrophication.

Nuisance and potentially toxic phytoplankton species were recorded on several occasions along the 54°N surveys and exceeded Environment Agency guidelines between May and September 2002. The presence of potentially toxic *Alexandrium* sp. recorded from the Solway Firth and Morecambe Bay throughout the summer months also raises some cause for concern

The information within this document is for EA staff and others involved in research and management of coastal waters with respect to hypernutrification and eutrophication.

This Summary relates to information from Science project E1-049 reported in detail in the following output:-

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This project was funded by our Science Group, which provides scientific knowledge, tools and techniques to enable us to protect and manage the environment as effectively as possible.

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