Abstract #3

Monitoring and Assessment of Non-Point Source Pollution in Norway

Johannes Deelstra[1], Stine Vandsemb[1], Hans Olav Eggestad[1], Marianne Bechmann[1] and Nils Vagstad[2]

[1] Centre for Soil and Environmental Research - Jordforsk, Frederik A. Dahlsvei 20, N - 1432 Ås
[2] Norwegian Institute for Water Research (NIVA), P.O. Box 173, N-0411 Oslo

Biographical sketches of authors

Johannes Deelstra is an agro-hydrologist. Before working in Norway he obtained extensive experience with agriculture and water related issues in Kenya and Egypt. At present his main activities are related to agriculture and environment. He has been working with the Agricultural Environmental Monitoring Programme in Norway (JOVA) since 1992 and is since 1993 also involved with agriculture and environmental issues in the Baltic countries.

Stine Marie Vandsemb is an environmental scientist with experience in water and soil pollution. Since 2000 she has been working with the Agricultural Environmental Monitoring Programme in Norway (JOVA). In addition the last three years she has been working as a project manager in an EU project (MANTRA-East) dealing with management issues of transboundary waters and the implementation of the EU Water Framework directive.

Marianne Bechmann is an environmental scientist. Since 1989 her main field of work has been nutrient dynamics and monitoring nutrient losses at catchment scale, e.g. as co-ordinator of the nutrient part of the Agricultural Environmental Monitoring Program in Norway. Now she is a Ph. D student working on risk assessment of phosphorus losses. Bechmann have several international publications in this field

Hans Olav Eggestad is an environmental scientist. His main tasks are related to the Agricultural Environmental Monitoring Programme in Norway (JOVA) in which he is responsible for the development of software and database management. In addition, he is working with statistical modeling in relation to data reporting both at national and international level.

Nils Vagstad has long experience within agro-hydrology, agronomy, environmental issues in agriculture, land resources and watershed management. He has an extended network within agriculture/environment including monitoring in the Baltic Sea Region and in Northern Europe and is participating in various working groups and task forces under e.g. HELCOM, Baltic 21, OSPAR.

Abstract

The Agricultural Environmental Monitoring Programme (JOVA) in Norway monitors and assesses nutrient losses and erosion from 10 small agricultural catchments under different agricultural systems and climatological, topographical and geo-hydrological conditions. The core of the monitoring activities consists of discharge measurement and water sampling, providing data for nutrient load calculation. Routines have been developed for automatic downloading of recorded data on a daily basis, control of runoff data and water analysis results in addition to load calculations. Relevant information regarding farming practices is collected yearly at the level of the individual farmer field and entered into a database while reporting routines concerning farming practices have been developed. The monitoring program is integrated into existing national networks and provides on a yearly basis relevant data to comply with both national and international obligations. The JOVA programme includes components dealing with modelling nutrient loads and erosion and when necessary additional measurements are carried out to support these activities. To enhance the sustainability of the monitoring programme, the design and implementation is such that it is suitable and attractive for research and educational purposes while the applied measuring methods and procedures are sufficiently advanced to comply with international scientific standards.