



Monitoring water quality (Task 3.2)

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SUMMARY

As part of task 3.2 of the AGWAPLAN project monitoring programmes were planned and carried out. Monitoring requirements of hydromorphological, physical-chemical and biological parameters in the WFD (annex 5, operational monitoring) have been taken into account when planning the programmes in Norsminde Fjord (pilot area 1) and Lake Ravn (pilot area 2). The standard is higher than the minimum requirements in WFD annex 5. First priority of the monitoring programme has been to run a system for data collection, analysis and presentation of results for use in the project and facilitate implementation of the WFD.

In Norsminde fjord and in streams leading to the Fjord, water quality has been monitored regularly for a long period as part the National monitoring programme. This programme ended in 2006, and the monitoring programme has therefore been a part of the AGWAPLAN-project in 2007 in order to obtain data for the modelling activities. In addition, intensive monitoring of surface water in the main stream feeding into Norsminde Fjord, has been in operation from January 2006-May 2007. The main purpose of this monitoring method has been to qualify the estimation of Phosphorous transport to the Fjord.

In Lake Ravn and in the stream leading to the lake, water quality has also been monitored regularly as part of the national monitoring programme, which is still running in this area. Data were used for estimating nutrient transport to the lake, which was required to set up the model. In addition, water samples from drainage systems, pumping stations and water basins along highways have been analyzed for nitrogen and phosphorus, and results were sent to farmers in the pilot areas, who were very interested in contributions and sources of pollution with nitrogen and phosphorus on a very local scale.

In the groundwater water catchment in Hinnerup, a number of activities were carried out as part of the preparation of a drinking water action plan prior to the AGWAPLAN project. The purpose of these activities was to establish location and magnitude of the groundwater aquifers in the area, and to monitor the water quality of these. The data from these investigations have been used in the AGWAPLAN project. In addition, the preparation of the water action plan documented a need for systematic monitoring of the groundwater quality.

Based on the experiences of using monitoring data in AGWAPLAN project, guidelines for designing monitoring programmes are described and discussed in the report, with focus on the different requirements a monitoring programme must or can fulfil in order to establish environmental status, calculate reduction targets and document effects of actions taken.

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