

PREPARATION FOR IMPLEMENTING THE PROPOSED EC WATER FRAMEWORK DIRECTIVE IN FINLAND

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Introduction

Finland reorganised its environmental administration in 1995, when thirteen Regional Environment Centres (RECs) and one national agency called the Finnish Environment Institute (FEI) were created. The former are the licensing and supervisory authorities, whilst the FEI is responsible for monitoring, research and development on a national level. The RECs and the FEI have also been entrusted with functions related to water resources management.

The regional centres and the FEI are administratively subordinate to the Ministry of the Environment in a general sense, but perform their water resources management functions under the guidance of the Ministry of Agriculture and Forestry.

Organisation of implementation-related studies at national level

Steering group

To lay the groundwork for implementation of the WFD in Finland, a steering group comprising representatives of the Ministry of the Environment, the Ministry of Agriculture and Forestry, the RECs and the FEI has been appointed. It is producing proposals concerning the administrative and legislative measures that will be needed, determination of the status and classification of waterbodies, together with guidelines to be followed in preparing the Programmes of Measures and drafting River Basin Management Plans.

The steering group's work programme for the year 2000 includes the following theme categories: classification of surface waters, monitoring of surface waterbodies, research needs, river basin planning, pilot areas, groundwater issues, priority substances, administrative arrangements, public consultation and providing information.

Expert group on ecological classification

On the recommendation of the steering group, a separate expert group has been appointed to plan and coordinate research projects that will facilitate implementation of the WFD, to develop a system for classifying waterbodies according to their ecological status and to make proposals concerning the development of systems for monitoring and inspecting the status of surface and groundwater resources. The WFD will require considerable changes in existing programmes for monitoring and overseeing compliance with obligations. The reasons for this include a greater emphasis on biological methods and the more frequent observations and reports that the WFD calls for.

Expert group on coastal waters

An expert group responsible for dealing with coastal issues has likewise been appointed. Its duties will include classifying coastal waters by type and carrying out subsequent classification and development of monitoring.

Expert group on groundwaters

The expert group on groundwater issues makes proposals concerning classification of groundwater bodies by status, definition of the characteristic features of groundwater areas, and organising monitoring. We shall have to make our monitoring of groundwater quality more effective.

Steering group on water resources management research projects

A steering group with responsibility for co-ordinating and guiding research projects, supporting implementation of the WFD's provisions concerning regulated and artificial waterbodies, has also been appointed.

Committees to revise the Water Act and the Environmental Protection Act

The WFD will require amendment of existing Finnish legislation regulating the use and protection of water resources, principally the Water Act and the Environmental Protection Act. Committees to revise these two acts have been launched recently. Their terms of reference include also the amendments required for the transposition and implementation of the WFD. Legislation concerning the structure of the environmental administration will likewise have to be revised. A proposal for a new Water Services Act also takes into account the requirements of the WFD.

Future expert groups

In the near future, expert groups on priority substances and statutory monitoring (i.e. local pollution control based on the 'polluter-pays' principle) will be founded.

Organisation of implementation-related studies at regional level

To ascertain the practical effects of the WFD's implementation, Finland has designated *pilot areas*, where the practical arrangement of plans, programmes and monitoring will be tested. These areas are the Vuoksi river system, representing a lake district, and the province of Western Finland, representing a region of rivers. There are five regional water authorities in the Vuoksi area and four in Western Finland. The organisation of administration in the pilot areas will also be handled.

Each of the pilot areas has an administrative group, a planning group and a monitoring group to prepare for implementation of the directive. The main goals in the pilot projects are to address the following questions: what kind of measures does the implementation require; how should the implementation be organised; how much and what kind of resources are needed?

The main idea of the pilot projects is to go through the various alternatives of the implementation process. Among the most important aspects are the ambition levels in defining water quality targets in planning, monitoring and reporting, and cost effects related to them. The work programmes include drafting guidelines for future work and evaluating the significance of a pilot area's size.

Major **ongoing** issues

Division into River Basin Districts

The main goal of the WFD is to achieve a good status of surface and groundwater resources throughout the EU. It requires each member state to assign the river basins lying within its territory to individual River Basin Districts (RBDs) in order to ensure the administrative arrangements necessary for effective application of the WFD. Where a river basin extends beyond its territory, the member state concerned must endeavour to assign the whole river basin to an international RBD.

Both natural and human geography must be taken into account in the demarcation of individual RBDs. The two main watersheds in Finland, Maanselkä and Suomenselkä, divide the country into three catchments, which drain into the Arctic Ocean, the Gulf of Bothnia and the Gulf of

Finland, respectively. Within these areas, the most important - albeit inadequate - basis for division into RBDs is the location of the borders between the main regional authorities concerned. These authorities are Regional Environment Centres, Regional Councils and Employment, and Economic Development Centres.

Two main alternative proposals have been tentatively introduced according to which the country would be divided into either eight or ten RBDs based on consideration of both natural and human geography. In both alternatives, Finland and Sweden should create an international RBD around the River Tornionjoki. Finland and Sweden have started to examine jointly how the requirements of the WFD should be implemented in the River Basin District and what the implications are to the Border River Agreement between the two countries. Finland should also create at least one Agreement with Norway (for the Rivers Tenojoki, Näätamänjoki, Uutuanjoki and Paatsjoki) and possibly with Russia (e.g. the Rivers Paatsjoki and Neva).

Characterisation of surface waters

The WFD requires surface water formations to be classed as types on the basis of their physical, geographical and chemical properties. These types, in turn, will serve as a foundation for the ecological classification of surface waterbodies, to be used in setting the goal, i.e. a good status, to be aspired to, and in monitoring progress towards it. Reference conditions, which must correspond to a natural state, must be stipulated for each type. The lake types to be distinguished must be significant, especially in the biological sense, but practical implementation must also be taken into account.

There are three regions to be distinguished on the basis of natural geography as the WFD requires: The Baltic Sea, the Fennoscandian Shield and the Northern Uplands. Most of Finland (and Sweden) lies in the Fennoscandian Shield region. The WFD applies to lakes larger than 0.5 km², of which there are around 4500 in Finland. Their combined area is about 33,350 km², or roughly 85% of the total lake area. The 47 biggest lakes, each with a surface area exceeding 100 km², account for about half of the total area to which the WFD applies. The average depth of our lakes is known for only about 800. In the light of the data available, our lakes are fairly evenly divided between shallow (less than 3 m) and medium depths (3 to 15 m). The most important ecological fluctuations relate to nutrient levels and humus content.

Research activities

For implementation of the WPD, numerous questions arise and extensive research is needed. The following research projects have been started and they will last for at least 2 to 3 years.

- The control mechanisms required by the WFD and its Finnish implementation.
- The regulating system for the cost recovery principle.
- Ecological basis for the discrimination, classification and monitoring of Finnish lakes.
- The basis for typology and classification of the regulated lakes and reservoirs.
- Typology and restoration of the lakes of lowered water level.
- Typology, ecological classification and monitoring of Finnish rivers.
- The assessment of monitoring data to define the ecological status and developing biological monitoring of coastal waters.
- The implementation of the monitoring programmes required by the WFD.
- The analysis of fish community structure as a basis for the development of ecological classification and monitoring of surface waters.
- Macrophytes in littoral monitoring; developing the optimal methodology.
- Applicability of periphyton methods for biomonitoring and classifying ecological status in the Vuoksi watercourse, in the littoral and pelagic zones.
- The biodiversity, ecological management and restoration methods for northern water systems.
- Ecological status of streams in the Vuoksi River Basin District.

- Impact of forestry practices on the ecological status of headwaters in the Vuoksi River Basin District.
- The application of the WFD in heavily modified waterbodies in Europe - The Lake Kemijärvi case study.

In addition to these ongoing projects, several new ones concentrating on coastal waters, groundwaters, priority substances and statutory monitoring have been started or will begin in the near future.

Concluding remarks

It would be advisable for Finland and Sweden to co-operate to ensure that the Nordic view finds clear expression. Problems associated with the use and quality of waterbodies in the lake-rich Nordic countries are markedly different from those experienced further south in Europe. The starting point for the European Community's efforts to protect water resources is that classification of the quality of waterbodies in Europe must be clearly and unambiguously commensurable.

The requirements set for the Tornionjoki River Basin District should be compatible with the other districts, both in Finland and in Sweden. This requires a certain level of harmonisation in implementation.

There is also a need for common thinking on, for example, the following questions.

- On what spatial scale should surface waterbodies be classified by type and monitored? What does economical analysis mean in practice?
- What should we do in order to get a reliable and comparable classification system for European surface waters?
- What should we do at an international level when implementing the WFD?