FINLAND

ANNEX

15 February 2008

PROTOCOL ON WATER AND HEALTH TO THE 1992 CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY WATERCOURSES AND INTERNATIONAL LAKES
done in London, on 17 June 1999

National targets and target dates in respect of the Protocol

Background

The aim of the Protocol on Water and Health is the prevention, control and reduction of water-related disease in Europe. The import of the Protocol is heightened by its role in furthering the development of water management in respect of both drinking water and waste water. The Protocol will play a particularly important role in Eastern European nations as they strive to address water supply issues. Finland signed the Protocol on 17 June 1999 and ratified it on 3 March 2005. The Protocol entered into force on 4 August 2005.

The Protocol requires the Parties thereto each to establish and publish national targets for the standards and levels of performance that need to be achieved or maintained for a high level of protection against water-related disease. The targets mentioned in Article 6(2) of the Protocol shall serve as the basis for the drafting of these targets. The Parties shall publish their national goals and the respective target dates for each by 4 August 2007.

The national targets relating to the Protocol, the target dates imposed for their achievement and the measures necessary to achieve the targets are presented in this Appendix. Direct quotes from the Protocol are printed in ***italics***.

National targets and target dates under Article 6(2) of the Protocol

"1. In order to achieve the objective of this Protocol, the Parties shall pursue the aims of:

(a) Access to drinking water for everyone; and
(b) Provision of sanitation for everyone
within a framework of integrated water-management systems aimed at sustainable use of water resources, ambient water quality which does not endanger human health, and protection of water ecosystems.

2. For these purposes, the Parties shall each establish and publish national and/or local targets for the standards and levels of performance that need to be achieved or maintained for a high level of protection against water-related disease. These targets shall be periodically revised. In doing all this, they shall make appropriate practical and/or other provisions for public participation, within a transparent and fair framework, and shall ensure that due account is taken of the outcome of the public participation. Except where national or local circumstances make them irrelevant for preventing, controlling and reducing water-related disease, the targets shall cover, inter alia:

a) The quality of the drinking water supplied, taking into account the Guidelines for drinking-water quality of the World Health Organization; "

National target

The quality of the drinking water supplied by water supply plants meets the requirements of Decrees (461/2000) and (401/2000) of the Ministry of Social Affairs and Health. The said Decrees are based on Council Directive 98/83/EC (*Drinking Water Directive*). The guidelines of the World Health Organization (WHO) for drinking water are used as a basis for the standards in the Drinking Water Directive.

The employees of plants supplying drinking water who engage in actions impacting on the quality of the water have passed the proficiency test in plant technology and water hygiene referred to in section 20b of the Health Protection Act 763/1994.

Target date

The target date for attainment of the fluoride limit value included in the Drinking Water Directive is set at 31 December 2007. The target date is based on the fixed-term derogations allowed under the Directive. Finland has been allowed temporarily to exceed the fluoride value, which shall be rendered in accordance with the imposed value while the derogation is in effect. No target

date need be set in respect of other parametric values, as the transitional period concerning the Directive expired on 25 December 2003.

The target date in respect of passing the proficiency test is set at 30 June 2008.

Reasoning

The general provisions concerning the quality of drinking water have in Finland been incorporated into the Health Protection Act (763/1994). Section 20 of this Act requires the municipal health protection authority to monitor the quality of drinking water on a regular basis. The municipal health protection authority may order that drinking water shall be processed or issue orders concerning the use of drinking water to prevent health hazards.

More specific provisions on the monitoring and quality of drinking water are incorporated in Decrees (461/2000) and (401/2001) of the Ministry of Social Affairs and Health issued pursuant to section 21 of the Health Protection Act (763/1994). In the said decrees, both health-based standards as well quality recommendations based on the usability of the water are imposed on the quality of drinking water. The requirements laid out in the Decrees are based on the Drinking Water Directive 98/83/EC, in the drafting of which regard was had to the guidelines of the World Health Organization. Under section 6 of Decree (461/2000), State Provincial Offices may grant fixed-term derogations from fulfilling drinking water quality requirements within their region if drinking water cannot be supplied in the said region by any other reasonable means and the derogation poses no hazard to human health.

Under section 16 of Decree (461/2000) of the Ministry of Social Affairs and Health, suppliers of drinking water shall provide adequate information about the quality of the water supplied. Pursuant to the Drinking Water Directive 98/83/EC, reports on the quality of water intended for human consumption shall also be submitted to the European Commission at regular intervals. The duty to report concerns supplies of water exceeding 1,000 m^3 a day as an average or serving more than 5,000 persons. In Finland, the data from the plants subject to reporting is annually compiled via the State Provincial Offices to the National Public Health Institute, which forwards the reports to the European Commission. In addition, a national environmental healthcare target information system comprising all environmental healthcare sites, including plants supplying drinking water, is currently under construction. The system, which will be available to all environmental healthcare authorities and environmental administration authorities, will include basic data on all drinking water supply plants and all statutory surveillance reports thereon. The system will be fully operational by the end of 2008.

Municipalities shall prepare and adopt an environmental healthcare surveillance plan for the purpose of regular monitoring. The plan shall be based on the national environmental healthcare surveillance plan. The purpose of the national and municipal surveillance plans is to enhance the efficiency and quality of surveillance in the field of environmental healthcare (drinking

and bathing water, inter alia) and to harmonize the supervision of municipal surveillance. The amendment to the Health Protection Act (763/1994) concerning the national surveillance programme and municipal surveillance plans entered into force in May 2006. More specific provisions on the drafting and contents of the surveillance programme and surveillance plans are laid down in Government Decrees (664/2006) and (665/2006), which entered into force in August 2006. The first national environmental healthcare surveillance programme has been drafted for the year 2007 and municipalities are required to have surveillance plans in place by the beginning of 2008.

Under Decree of the Ministry of Social Affairs and Health concerning drinking water standards and surveillance (461/2000), municipal health protection authorities are obliged to prepare surveillance programmes for drinking water supply plants together with each plant for the purpose of regular monitoring. The particular characteristics of each plant shall be taken into account in these programmes. The surveillance programme shall be reviewed at intervals of five years and whenever review shall be deemed necessary due to changed circumstances.

Under section 14 of the Water Services Act (119/2001), a water supply plant must ensure that the drinking water supplied by the plant meets the quality requirements set out in the Health Protection Act (763/1994).

A provision concerning the competency requirements of employees responsible for water quality at drinking water supply plants and the demonstration of such competency has been added to the Health Protection Act (763/1994). This amendment, which entered into force in May 2006, applies to plants which supply at least 10 m^3 of drinking water daily or serve at least 50 persons. More specific provisions on the proficiency in plant technology and water hygiene required of the employees of drinking water supply plants and the testing of such proficiency are laid down in Decree (1351/2006) of the Ministry of Social Affairs and Health, which entered into force in January 2007. The employees have until the end of June 2008 to obtain their proficiency certificates, which remain valid for five years at a time.

"(b) The reduction of the scale of outbreaks and incidents of water-related disease;"

National target

The number of persons falling ill in water-related epidemics shall be reduced to an annual level of 0.01% of the population at most.

Target date

The target date is set at 31 December 2015.

Reasoning

The Health Protection Act (763/1994) includes provisions concerning special circumstances and epidemics caused by drinking water. Under section 8 of the Act, municipal health protection authorities together with other authorities shall prepare for readiness and emergency action to prevent, determine and remove any health hazards arising from special circumstances. The National Product Control Agency for Welfare and Health (STTV) shall draft a plan to ensure the quality of drinking water in the event of disasters and similar emergencies. More specific provisions on the content and drafting of emergency readiness plans will be issued by Decree of the Ministry of Social Affairs and Health.

In the event of any epidemic caused by drinking water or suspicion of such epidemic, the drinking water supply plant concerned and the municipal health protection authority are required under section 20a of the Health Protection Act (763/1994) to take immediate action to improve the quality of the drinking water and to prevent the spread of the epidemic. Decree (251/2007) of the Ministry of Social Affairs and Health issued in March 2007 contains more specific provisions concerning measures in the event of epidemics spreading via drinking water. The National Public Health Institute (KTL) provides expert assistance in the event of epidemics spreading via drinking water. In 2000, the Ministry of Social Affairs and Health published an environmental healthcare emergency handbook (Handbooks 2000:4), in which various experts address among others the issue of action in water-related emergencies. In addition, the Ministry of Social Affairs and Health issued in 1997 guidelines (1/021/97) concerning the monitoring and reporting of cases of food poisoning. The Ministry will also issue more specific provisions on preparedness to disinfect drinking water. The Finnish Environment Institute (SYKE) published in early 2007 a handbook for plant managers on the maintenance and monitoring of small groundwater plants. The Ministry of Agriculture and Forestry, the National Emergency Supply Agency and the Finnish Environment Institute (SYKE) published in 2006 a handbook on water supply emergencies and emergency readiness.

As the number of persons contracting water-related diseases varies from year to year, the data for a single year alone does not provide an adequate basis to assess achievement of the above target. The use of epidemiological data spanning several years to calculate the relative share in the entire population of persons contracting water-related epidemic diseases provides a more reliable view of the situation.

Pool water and the swimming water at public bathing areas may also not pose health hazards. Provisions concerning the prevention of health hazards relating to these water environments are laid down in the Health Protection Act (763/1994) and the lower-level statutes issued pursuant to it. Pool water is discussed below under item (k) and the swimming water at public bathing areas under item (j).

Another way to prevent water-related diseases is the proper treatment of waste water, an area in which Finland has a long tradition. Effective treatment

reduces eutrophication and the amount of oxygen-depleting substances as well as the amount of bacteria of human origin contained in waste water. At present, the legislative foundation in this respect consists of the Environmental Protection Act (86/2000). One of the major objectives of the Act is to safeguard a healthy environment. For this purpose, the Act and its supplementary Decrees seek to prevent the effects of activities posing a risk of pollution inter alia by regulating the location of such activities, prohibiting soil and groundwater pollution, imposing permit requirements and providing for an obligation to treat waste water also outside areas with sewerage. Prior to enactment of the Environmental Protection Act, the treatment of community waste water had already been regulated by the Water Act since the early 1960s. The maximum emissions from treatment plants are restricted by permits, which usually require the disinfection of treated waste water as necessary. Permit compliance is monitored by the supervisory authorities as well as through in-house control at treatment plants. The Urban Wastewater Directive 91/271/EEC was implemented by Government decision (365/1994), which has been replaced by Government Decree 888/2006 entering into force in November 2006.

Another statute which addresses local pollution issues and health hazards is Government Decree on treating domestic waste water in areas outside sewer networks (542/2003). Emissions from individual properties and other small waste water systems are regulated by this Decree, issued pursuant to the Environmental Protection Act. Although the Decree contains no specific requirements as to the hygienic quality of the treated waste water, all treatment methods that meet the other requirements laid down in the Decree also prevent hygiene hazards.

Matters relating to the treatment of waste water are addressed in greater detail below under sub-headings (e), (f) and (i).

Another contributor to the prevention of water-related disease is Decree of the Ministry of Agriculture and Forestry on hygiene standards in the primary sector (134/2006), which entered into force in March 2006. This Decree, which was issued pursuant to the Food Act (23/2006) and complements the European Communities' hygiene regulations, contains requirements concerning the quality and quality monitoring of water used in the primary sector inter alia as drinking water for domestic animals, in the watering, cleaning and refrigeration of primary sector products and in cleaning at primary sector locations.

"(c) The area of territory, or the population sizes or proportions, which should be served by collective systems for the supply of drinking water or where the supply of drinking water by other means should be improved;"

National target

In 2006, ca. 90% of the population was served by collective systems for the supply of drinking water. No material rise from the current service rate is

expected. Improvements in the supply of drinking water seek to ensure that the drinking water available is up to standards in terms of quality. Efforts are made to have water supply in less populated areas and villages covered by the water supply network whenever technically and economically feasible. Drinking water procurement opportunities for individual properties are enhances in cases where the property cannot procure appropriate drinking water at a reasonable cost.

Target date

The target date is set at 31 December 2015.

Reasoning

Under section 8 of the Water Services Act (119/2001), the areas of operation for water supply plants are approved by the relevant municipality. When approving an area of operation, the municipality must determine areas to be included in the water main network of the plant as well as areas to be included in the sewage networks of the plant.

Under section 6 of the said Act, a municipality must make sure that appropriate measures are taken to establish a water supply plant to meet the need, to expand the area of operation or to otherwise secure the availability of sufficient water services when required due to the need of a relatively large number of inhabitants or health considerations or environmental protection.

The area of operation must be such that a water supply plant can be considered capable of managing the water supply services under its responsibility in an economical and appropriate manner. A timetable for including the different parts of the area of operation into the networks must be set in connection with the decision on approval.

The goal is for the scope of such networks to meet the needs of settlement as well as business and leisure activities by expansion of the networks to all areas where water services are best provided by connecting the properties to the networks of water supply plants. Other large-scale water users and cattle farms in particular shall be taken into account alongside population in the objectives concerning the number of subscribers.

Under section 5 of the Water Services Act (119/2001), municipalities are responsible for drawing up development plans on water services for their territory in cooperation with the water supply plants and other municipalities and for keeping such plans up-to-date. A target for the number of households to be connected to the water services and sewerage network shall be set in the development plans. Regional Environmental Centres collect data on the need to expand networks from the development plans of municipalities in their region and monitor the relationship between the needs and the decisions to approve areas of operation. A summary of the targets set in municipal development plans was compiled in 2005 to determine the national target level. The goal is to monitor the number of new connections relative to the

network expansion needs observed. The data on new connections to networks is entered annually in the new water supply plant information system VELVET, the deployment of which started in summer 2005.

Properties may be exempted from connection if a property exempted has access to a sufficient amount of household water which meets the requirements, or the collection and treatment of waste water of a property to be exempted from connection to a waste water sewer can be organized so that there is no damage to health or risk of contaminating the environment, or storm water and drainage water from the foundations of a property exempted from connection to a sewer intended for the removal of storm water and drainage water from the foundations can otherwise be removed in an appropriate manner (Water Services Act, section 11).

Other measures to promote connection to public sewerage networks include the water protection operational programme and the programme for the protection of the Baltic Sea (26 April 2002), in which the expansion of sewerage network coverage is presented among the means to achieve the targets for reduction of water pollution from areas of dispersed settlement.

Government Decree on treating domestic waste water in areas outside sewer networks (542/2003) requires the owner or possessor of a property to be aware of the method used to treat the property's waste water and to submit a report thereon to the municipal environmental protection authority if necessary. These reports allow the evaluation at the level of municipality of the standard of property-specific waste water treatment and the environmental load arising from waste water in areas of dispersed settlement. Moreover, they provide grounds for determining the regions where property-specific solutions remain a viable alternative and those where collective waste water treatment solutions should be sought. The environmental administration carries out or commissions a study on the standard of water services in areas outside the networks of water supply plants at intervals of some ten years.

Under the water resources strategy of the Ministry of Agriculture and Forestry (24 February 2005), every effort shall be made to ensure the availability and quality of water supply services under all circumstances. Under section 3 of the Act on Water Services Subsidies (686/2004), regional planning and cooperation as well as preparedness for emergencies by linking networks and providing backup arrangements for water abstraction shall be prioritized. Water services shall be improved especially in rural communities and in areas of dispersed settlement outside the networks of water supply plants. Measures also qualifying for subsidies also include those seeking to prevent contamination of surface or groundwater or to improve the condition of these.

Due to reasons of land use and housing, most settlement in Finland is permanently so dispersed as to render it practically impossible to serve the entire population by collective systems for the supply of drinking water. As groundwater of good quality is widely available, the procurement of appropriate drinking water can usually be arranged individually by each property.

Other measures to promote the expansion of water services networks and to improve their dependability include State subsidies and State water services works. The goal of several subsidized gateway water line projects is to improve the quality and availability of drinking water, while transfer sewer projects seeking to conduct treated waste water to watercourses better able to tolerate the load enhance the efficiency of water protection. Subsidies are governed by the Act on Water Services Subsidies (686/2004), which entered into force in 2005.

Under section 16 of Decree (461/2000) of the Ministry of Social Affairs and Health, the municipal health protection authority shall ensure that the households in the municipality not connected to the water mains of a drinking water plant are provided with adequate information about the quality of the drinking water in their area, any related health hazards and ways of removing such hazards.

The national environmental health programme, which seeks to promote and protect human health and wellbeing in support thereof, to conserve forms of life and species which have a positive impact on human health, and to protect the living environment, was completed in 1997. In respect of drinking water, the goal of the programme is for the population to have access to sufficient and healthful drinking water of good quality under all circumstances. At the local level, efforts towards this goal include the drafting of local environmental health programmes either in individual municipalities or as joint municipal undertakings. Joint programmes also seek to increase cooperation between municipalities and thus ensure that also small municipalities have access to the resources necessary for environmental health work. The provision of clean drinking water is one of the areas coming within the scope of the environmental health programme.

Climate change is expected to markedly alter the water situation in Finland as well. The impacts of climate change on water supply and water management as well as ways to adapt to these have been evaluated in the Ministry of Agriculture and Forestry publication “Finland’s National Strategy for Adaptation to Climate Change” (Ministry publications 1a/2005). Extreme weather conditions such as drought, storms and floods are likely to become more common and may hamper water management. Flooding in water systems due to heavy rains may exceed the capacity of mixed sewerage drains, pumping stations and waste water treatment plants, causing untreated waste water to gain access to water systems and raw water absorption plants. Flood water entering the drinking water system and the failure of the waste water treatment system may at worst result in widespread epidemics. Water management in areas of dispersed settlement is usually more vulnerable to flooding than the water and sewerage systems in densely populated areas. Surface water easily finds its way into individual wells both in spring as snowmelt and during heavy rains. Longer and more frequent dry summers will cause groundwater levels to fall, which may markedly reduce the yield of small groundwater basins in particular.

"(d) The area of territory, or the population sizes or proportions, which should be served by collective systems of sanitation or where sanitation by other means should be improved;"

National target

In 2006, approximately 80% of the population was served by collective systems of sanitation. Centralized sewerage and waste water treatment is the goal wherever technically and economically feasible in terms of water services and environmental protection. Areas meeting these conditions are determined so that centralized sewerage and waste water treatment can be implemented before expiry of the deadline imposed in Government Decree on property-specific waste water treatment requirements (542/2003). Property owners shall render property-specific sanitation systems compliant with requirements in those cases where connecting the property to the collective system of sanitation is not a viable option due to the location of the property.

Target date

The target date is set at 1 January 2014.

Reasoning

Under the Environmental Protection Act (86/2000), waste water in areas of dispersed settlement shall be treated in such a manner that the waste water does not pose a risk of environmental pollution. Requirements concerning biological oxygen demand, phosphorus and nitrogen removal have been imposed on waste water treatment in areas of dispersed settlement by Government Decree (542/2003). The requirements became applicable to new buildings in 2004. Old properties located in areas of dispersed settlement shall render their waste water treatment systems compliant with the requirements by the beginning of 2014 unless connected to community sewerage systems prior to that time.

In other respects, please refer to the reasoning under sub-heading (c).

"(e) The levels of performance to be achieved by such collective systems and by such other means of water supply and sanitation respectively;"

National target

Water supply services of a high standard and meeting the needs of settlement as well as business and leisure activities will remain available at reasonable cost.

When water supply plants serving more than 5,000 residents are examined, slightly under 90% of subscribers currently receive their drinking water from water supply plants with a safety rating of I or II, i.e. plants that are capable of

supplying a minimum of 50 litres of water per resident per day through the distribution network even when their primary water abstraction facility is out of commission. The dependability of drinking water supply will be improved so that all water supply plants serving more than 5,000 residents have a safety rating of either I or II.

Target date

The target date in respect of upgrading the safety rating of water supply plants is set at 31 December 2015.

Reasoning

The objective of the Water Services Act (119/2001) is to ensure water services which provide a sufficient amount of impeccable household water with respect to health and otherwise as well as appropriate sewerage in terms of the protection of health and the environment. Under section 6 of the Act, the responsibility for the provision of water services in keeping with the objective lies with the municipalities. Water services may also be subsidized from State funds in the interest of ensuring the availability and high standard of water supply services under all circumstances, however.

Water services in the area of operation of water supply plants are the responsibility of the water supply plant obliged to manage water services in accordance with section 9 of the Water Services Act (119/2001). Management means the construction and maintenance of the drinking water distribution network and sewerage networks as well as the supply of drinking water and the disposal and treatment of waste water, storm water and drainage water from foundations, and related duties. The meaning of the management obligation is determined on the basis of the provisions of the Water Services Act, the decision approving the area of operation and the general terms and conditions of operation of water services. The Water Services Act also provides for the responsibilities of the water supply plant in the event of disruptions and errors.

The general goals for the organization of community water services are set in the municipal water services development plans required under section 5 of the Water Services Act (119/2001). The summary compiled in 2005 of the first versions of these provides the platform to specify national goals in the programmes of the Ministry of Agriculture and Forestry and the Ministry of the Environment. Each year, the Ministry of Agriculture and Forestry has set targets in the State budget, relating to State subsidy measures, for connecting settlements outside the water services networks to these networks and for other improvements in standard. The purpose of subsidies is to facilitate access to sufficient drinking water of good quality and the provision of appropriate sewerage and waste water treatment for 5,000 households annually.

Another aspect of the proper functioning of water services is to safeguard the water supply of water supply plants. In this respect, the key statute is the Water Act (264/1991), which governs water procurement. The overhaul of the

Water Act will seek to further foster uninterrupted water abstraction serving community water services inter alia by clarifying order of priority in water abstraction and introducing greater flexibility to the permit regulations governing back-up water abstraction facilities.

Promoting emergency preparedness, which is underscored both in the State budget and in the areas of emphasis in the water resources strategy of the Ministry of Agriculture and Forestry (24 February 2005) extending to 2010, also translates into improved standard of service in water services. Under normal conditions, nearly all water supply plants in Finland are capable of supplying their customers around the clock with drinking water of good quality. Uninterrupted sanitation and waste water treatment services are also available. Problems are experienced only at the very smallest plants and in exceptional circumstances. The need to prepare for exceptional circumstances and the means available thereto have been examined in the memorandum (17 June 2005) of the working group on water services emergencies appointed by the Ministry of Agriculture and Forestry, which is further complemented by the handbooks published in 2006 on water services emergencies and emergency preparedness at water supply plants and properties.

Further work is yet required to ensure and intensify the maintenance of plants. The small number of employees at smaller water supply plants, particularly those administered by water cooperatives, renders operations and the safeguarding of water quality unreliable in the event of emergencies. The handbook published in 2007 on the maintenance and surveillance of small groundwater plants serves to assist plant operators in improving their operations, as do the handbooks on chlorination of drinking water and removal of control substances from groundwater published in 2006.

In future, the realization and impacts of these measures in respect of technical details will be monitored with the VELVET water supply plant information system and in respect of the effectiveness of State subsidies with the environmental administration's project information system.

"(f) The application of recognized good practice to the management of water supply and sanitation, including the protection of waters used as sources for drinking water;"

National target

The general objectives of water protection have been defined in the programme of water protection guidelines extending until 2015, which was adopted by the Government on 23 November 2006. The major targets in respect of drinking water quality concern reducing nutrient inputs causing eutrophication, reducing the risks arising from harmful substances and protecting groundwater.

General objectives for the status of waters have been set in the Water Framework Directive 2000/60/EC, which has been implemented nationally

through the Act on the Organization of Water Management (1299/2004). The objectives are determined in connection with water management plans and related operational programmes and seek to ensure no deterioration in the status of surface waters and groundwater, which should be of at least good status.

Target date

The targets included in the Government resolution on water protection guidelines (23 November 2006) extend until 2015. The Act on the Organization of Water Management (1299/2004) requires that surface waters and groundwater are protected, enhanced and restored so that the water status objectives can be reached by 2015 at the latest.

Reasoning

On 23 November 2006, the Government adopted the water protection guidelines extending until 2015 for the protection of waters including waters used as a source for drinking water. Water status objectives and water protection measures required for their attainment are defined in these guidelines. Key objectives and measures with regard to the protection of drinking water have been defined for waste water from communities, areas of dispersed settlement and industry. Key measures include reducing the amount of nutrients causing eutrophication and reducing the risks arising from harmful substances. The Government adopted Finland's indicative programme for the protection of the Baltic Sea on 26 April 2002 while the operational programme for the protection of the Baltic Sea and inland waters was adopted on 1 June 2005.

The Act on the Organization of Water Management (1299/2004), which entered into force in late 2004, requires that water management plans be drafted for five water management districts and two international water management districts by the end of 2009. The Government Decrees to be issued pursuant to the said Act will define the grounds for the ecological classification of surface waters and thus provide the criteria for good surface water status. The ecological classification will be adopted in late 2008. The plans referred to above shall be revised at intervals of six years. Operational programmes examining cost-effective measures to achieve the water status targets shall be prepared as part of the water management plans. Relevant health and environmental protection legislation shall be taken into account in the planning of the measures. Åland shall prepare its own water management plan and implement the Water Framework Directive 2000/60/EC in its own legislation. The objective of water management is to ensure no deterioration in the status of surface waters and groundwater, which shall be of at least good status by 2015. Surface waters shall be protected, enhanced and restored in order to achieve good ecological and chemical status. In the event that environmental objectives can only be reached in stages, the water management plans may state that the opportunity afforded in the Act to extend the deadlines for achievement of the objectives should be taken. In extreme circumstances, the environmental targets may be moderated.

Key legislation governing water issues comprises the Environmental Protection Act (86/2000), the Environmental Protection Decree (169/2000), the Water Act (264/1961) and the Water Decree (282/1962). The objective of the Environmental Protection Act is to prevent the pollution of the environment and to repair and reduce damage caused by pollution, and to safeguard a healthy environment. Activities posing a risk of pollution are subject to a permit in accordance with the Environmental Protection Act. The activities not resulting in harm to health or other significant environmental pollution or risk thereof is a precondition to the granting of a permit.

The Government Decree to protect waters from contamination by nitrates originating in agriculture (931/2000) entered into force in November 2000. Government Decree (542/2003) on treating domestic waste water in areas outside sewer networks entered into force in 2004 and its purpose is to reduce emissions of domestic waste water and environmental pollution with particular regard to the national water protection objectives. The Government Decree on community waste water (888/2006) applies to the treatment and conduction of community waste water subject to an environmental permit under the Environmental Protection Act. The Government Decree on substances dangerous and harmful to the water environment (1022/2006) entered into force in December 2006.

The Water Framework Directive 2000/60/EC and the related Directive 2006/118/EC on the protection of groundwater against pollution and deterioration provide the guidelines for groundwater protection and related research. The latter directive, which seeks to foster the sustainable use of groundwater, prevent groundwater pollution and reduce existing pollution, was implemented by a Government Decree in 2007. Under the Directive, good groundwater status in respect of volume and quality should be achieved by the end of 2015.

The key national provisions concerning groundwater protection are incorporated into the Water Act (264/1961) and the Environmental Protection Act (86/2000): 1) the prohibition to alter groundwater (Water Act, Chapter 1, section 18), 2) the groundwater pollution prohibition (Environmental Protection Act, section 8), and 3) the exclusion areas of water abstraction plants under water rights (Water Act, Chapter 9, section 20). Provisions concerning groundwater protection also appear in the Land Extraction Act (555/1981) and certain other Acts and Decrees. Groundwater protection is governed by the Government resolution on water protection guidelines until 2015 (23 November 2006).

Under section 18 of the Health Protection Act (763/1994), a plant supplying drinking water shall obtain approval from the municipal health protection authority prior to starting to supply drinking water. Approval shall also be sought in the event of substantial expansion or modification of water abstraction or water processing or changes substantial with regard to water quality in the quality or distribution of water. In its decision, the municipal health protection authority may impose drinking water surveillance obligations

or obligations concerning the treatment of water. Information provided by regional environmental centres on local water resources and raw water quality in surface and groundwaters may be utilised in decision-making. The amended Act entered into force in March 2006.

Openness, transparency and good practices are the watchwords of water services in Finland despite no specific requirements concerning these being included in legislation. Together with its member utilities, the authorities and research institutes, the Finnish Water and Waste Water Works Association, the nationwide joint organization of water and wastewater works, provides its membership with information and training relating to research in service of utilities and to administrative and technical regulations. The Association and the Association of Finnish Local and Regional Authorities together with the various interested parties have prepared inter alia a practical handbook on the application Decree (461/2000) of the Ministry of Social Affairs and Health concerning the quality and surveillance of drinking water.

"(g) The occurrence of discharges of:

i. Untreated waste water; and

ii. Untreated storm water overflows

from waste-water collection systems to waters within the scope of this Protocol"

National target

i. untreated waste water

Untreated waste water from communities or industry is not discharged into waters under normal circumstances. Preventative measures are taken to preclude disruptions and adequate action taken to prepare for accidents. The pollution arising from occasional discharges is taken into account in each treatment plant's environmental permit and the proportion of such discharges is examined as part of surveillance when assessing compliance with permit regulations.

ii. untreated storm water overflows from waste water collection systems

Under normal conditions, all waste waters in combined sewerage systems are conducted to treatment plants. Preventative action is taken to prepare for overflows caused by exceptional rainfalls. The pollution arising from occasional discharges is taken into account in each treatment plant's environmental permit and the proportion of such discharges is examined as part of surveillance when assessing compliance with permit regulations.

Systematic measures to reduce the nutrient load of storm water (such as prevention of storm water formation, withholding, delay or treatment of storm water) will be implemented in areas where storm water accounts for a substantial part of the environmental load on surface waters and water status needs to be improved.

The responsibility of municipalities, water supply plants and property owners for conducting storm water will be clarified in connection with revision of the Water Services Act, which will commence in 2007.

Target date

i. untreated waste water

No target date in respect of waste water from communities and industry is required to manage normal conditions. Appropriate management of emergency conditions will be included by 2015 in those permit regulations yet lacking it.

ii. untreated storm water overflows from waste-water collection systems

No target date in respect of areas served by combined sewerage systems is required with regard to normal conditions. The target date for separate storm water drains is 2015.

The target date in respect of clarifying responsibilities concerning the conduction of storm water is set at 31 December 2009.

Reasoning

Under normal conditions, no untreated waste water is discharged into waters by Finnish community waste water treatment plants. Under exceptional circumstances, such as floods and equipment failure, waste water must nonetheless be diverted directly into waters. Despite any diversions, waste water treatment plants must meet the emissions requirements laid down in permit regulations, which depending on plant size are expressed as quarterly, six-month or full-year averages. If this is to be achieved, the normal operation of the plant must be somewhat more efficient than required under the permit regulations so that temporary diversions of untreated or only partly treated waste water will not cause permit limits to be exceeded.

Separate sewerage systems are in place in Finland except in limited city centre areas. Any rainfall and snow melt water accumulated on paved surfaces is conducted directly to surface waters via separate storm water networks consisting of drains and, to a certain extent, drain ditches. Only a small part of storm water becomes mixed with waste water and ends up at treatment plants for processing. This outcome was a conscious choice in its time, when it was deemed that storm water contained a very small amount of contaminants relative to other water pollution. It should also be noted that large amounts of usually cold storm water gaining access to a treatment plant hamper the function of the treatment process and reduce its efficiency. As the treatment of waste water has gained in efficiency and other measures have further contributed to reduced water pollution, attention has come to focus also on the pollution caused by storm water and means of reducing such pollution. The harmful impacts of storm water can be reduced by taking hydrological factors into account at the town planning stage. Several methods exist for the treatment of separately collected and conducted storm water. These methods

can be used to reduce the flow into waters of the most contaminated waters in particular. Under certain circumstances, storm water also needs to be conducted to waste water treatment plants for treatment; even in such cases, however, the requirements appearing in the plants' permit regulations concerning treatment efficiency and discharge volume apply.

Factors impacting on the arising of storm water, the level of contamination of these, treatment methods and administrative and legal issues are addressed in the report completed in summer 2005, "Run-off water and its management in the built environment". The responsibility of municipalities, water supply plants and property owners for conducting storm water will be clarified in connection with revision of the Water Services Act (119/2001).

"(h) The quality of discharges of waste water from waste-water treatment installations to waters within the scope of this Protocol;"

National target

Waste water is treated biologically to remove organic matter and nutrients causing eutrophication – phosphorus and nitrogen – are removed. The treatment efficiency of plants is constantly being improved. Greater efficiency in treatment will be introduced particularly in areas where the harmful effects of waste water threaten surface waters whose status is not good or whose status is at risk of deteriorating and where the status of the water system could be enhanced by intensifying community waste water treatment. Limit values and environmental quality standards shall not be exceeded with regard to harmful substances. Methods and means shall be developed to reduce the hygienic risks of community waste water.

Target date

The target date for the intensification of the operations of treatment plants, required for good water status, and for reduction of hygienic risks and disruptions in operation is 2015. These targets will be pursued through mutual agreement with operators in the field.

The level required under Decree in the treatment of waste water in areas of dispersed settlement shall be achieved by 2014. No target dates need be set in other respects.

Reasoning

Emissions caused by waste water are governed by the Environmental Protection Act (86/2000) and the Decrees and other statutes supplementary to it. A permit is required for all treatment plants serving more than 100 inhabitants or treating an equivalent volume of waste water. The permit authority up to a person-equivalent figure of 4,000 is the regional environmental centre. Permits for treatment plants larger than this are decided by environmental permit agencies. Corresponding principles apply to the treatment of industrial waste water. Under the Act on the Organization of

Water Management (1299/2004), measures to increase the efficiency of waste water treatment shall be implemented especially in locations where the water status is not good and waste water impacts on such status.

Waste water treatment plants shall operate in such a manner that the emissions norms imposed on substances dangerous and harmful to the water environment and the norms for their concentrations in the water environment as laid out in Decree (1022/2006) are not exceeded. The Decree contains a list of substances dangerous and harmful to the water environment. More knowledge will be accumulated on the harmful substances in community waste water and their sources. Harmful substances that do not disintegrate during treatment will be prevented from entering community waste water treatment systems and water systems.

The Decree on community waste water (888/2006) presents the minimum requirements for biological treatment and phosphorus removal in waste water treatment as well as the grounds on which nitrogen shall be removed from waste water. The required nitrogen removal shall satisfy the minimum requirements under the Decree.

The Government resolution taken on 23 November 2006 on water protection guidelines requires that hygienic risks caused by waste water shall be reduced through the development and introduction of new means and procedures in cooperation with operators in the water services sector.

Under the Environmental Protection Act, waste water from areas of dispersed settlement may not cause pollution of the environment. Waste water treatment shall moreover meet the requirements for biological oxygen demand, phosphorus and nitrogen removal under the Decree on treating domestic waste water in areas outside sewer networks (542/2003).

The maximum permissible amount of emissions is always determined in treatment plant permits, usually both quantitatively and as an efficiency percentage. Requirements are normally imposed on domestic waste water treatment plants in respect of at least organic matter (BOD_7), phosphorus and nitrogen.

The surveillance of treatment plant operations is based on the analysis of samples taken by the plants and on so-called obligatory surveillance, which plants usually commission from a regional water protection association or a consultant. The authorities verify the findings and perform spot checks as necessary. The findings of obligatory surveillance are recorded in the environmental administration's VAHTI information system, which also allows the compilation of regional and national summaries.

Data entered in the VAHTI system shows that in 2005, the treatment efficiency of community waste water treatment plants in the removal of organic matter was 96.7% on average, in the removal of phosphorus 95.2% on average and in the removal of nitrogen 53.6% on average. In the near future, the efficiency of nitrogen removal in particular will increase markedly as a

total nitrogen removal requirement is imposed on growing numbers of plants in revised permit regulations. The removal efficiency of organic matter and phosphorus will also improve somewhat from current figures.

Under the Government resolution on water protection guidelines until 2015 (23 November 2006), community waste water treatment plants are required to increase the efficiency of waste water treatment especially when the plants impact on surface waters whose status is not good or whose status can be enhanced by more efficient waste water treatment. Nutrient removal will be intensified and the operating conditions of treatment plants improved by using the best available technology and in keeping with Finland's programme for the protection of the Baltic Sea (26 April 2002) and the operational programme to protect the Baltic Sea and inland waters (1 June 2005). Attention is paid in the resolution to the prevention of emergency situations and the proper care of sewerage systems and treatment plants. Voluntary agreement-based measures will be developed to complement the permit procedure in order to ensure that measures to reduce waste water pollution are carried out as cost-effectively as possible.

General provisions concerning waste and waste water are included in the Health Protection Act (763/1994). The requirement of waste and waste water not causing a health hazard appears in section 22 of the Act. The provision concerns the storage, collection, transportation, processing and recovery of waste, the conducting and treatment of waste water and the planning, placement, construction and maintenance of sewers. The National Product Control Agency (STTV) pursuant to section 25 of the Act may issue instructions for the prevention of health hazards arising from waste and waste water.

"(i) The disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations and the quality of waste water used for irrigation purposes, taking into account the Guidelines for the safe use of waste water and excreta in agriculture and aquaculture of the World Health Organization and the United Nations Environment Programme;"

National target

The Decree on community waste water (888/2006) prohibits the discharge of sewage sludge into waters.

Under the Decree on fertilizer products (12/07) and the Government decision on the use of sewage sludge in agriculture (282/1994), sewage sludge shall be treated in the requisite manner before placement elsewhere than in landfills.

The national waste plan until 2005 required the reuse of a minimum of 90% of sewage sludge. The new national waste plan will be submitted to the Government for adoption during 2007.

Under the Government resolution on water protection guidelines until 2015 (23 November 2006), the different operators shall work together to improve the conditions for the safe and environmentally sustainable recovery and placement of sewage sludge.

Target date

Realization of the targets provided for consists of enforcement of existing legislation. Increasing the efficiency of sludge treatment is an ongoing effort.

Reasoning

The professional or institutional treatment of sewage sludge is subject to an environmental permit pursuant to the Environmental Protection Act (86/2000). Based on the application, regulations shall be imposed in the permit on a case by case basis so as to minimize the adverse environmental impacts of the activity. Under Section 4(1)(4) of the Environmental Protection Decree (169/2000), the recovery of treated, non-hazardous sludge from waste water or septic tanks as soil improvement material or fertilizer is not deemed to require an environmental permit. Such recovery may not however result in a violation of the soil pollution prohibition provided for in section 7 of the Environmental Protection Act of the groundwater pollution prohibition provided for in section 8 of that Act.

Under Government Decree (888/2006), neither treated nor untreated sewage sludge accumulating from community waste water treatment plants may be discharged into water systems.

The intensification of sewage sludge treatment is examined in the Ministry of the Environment's operational programme on the protection of the Baltic Sea and inland waters (1 June 2005).

The intensification of sewage sludge treatment is also included in the national waste plan, which was reviewed in 2003. The national biowaste strategy was adopted in 2004. The treatment of sewage sludge will be intensified in accordance with national and regional waste plans and the national biowaste strategy. The target of 90% recovery of sewage sludge by 2005 was set in the national waste plan. Achievement of this target is hampered by uncertainty as to the ultimate recovery of sewage sludge stored or composted at landfills. In earlier statistics, sewage sludge of this kind was also deemed to have been recovered, and according to these statistics, sewage sludge recovery increased in the 1990s from 58% to 91%. In 2003, composted sewage sludge whose ultimate recovery could not be ascertained was entered in the statistics under "other treatment", decreasing the recovery rate in 2003 to only 65%. Most of this composted sewage sludge was used in the landscaping of landfills and other sites and as a soil improvement agent in agriculture. The prohibition on discharging sludge into water systems appears in the Government Decree on community waste water (888/2006).

The new national waste plan will be submitted to the Government for adoption in 2007. In its proposal submitted to the Ministry of the Environment in January 2007, the working group on the new plan set promotion of the use of waste-based fertilizer products through inter alia advisory services, dissemination of information and testing as one of the goals of waste management services. In addition, the working group proposed that the safety of waste-based fertilizer be ensured by intensifying the in-house control and market control of the manufacture and technical handling of such fertilizer products and, in respect of organic fertilizer products, through a plant approval procedure.

The Government Decree on treating domestic waste water in areas outside sewer networks (542/2003) entered into force at the beginning of 2004. The environmental administration together with the Ministry of Agriculture and Forestry, municipalities and water supply and sewerage plants will develop the general planning of water and waste management so that the treatment of sewage sludge in areas of dispersed settlement and the further processing of sewage sludge in urban areas will be addressed and reconciled in the plans.

Water supply plants will study options to increase the recovery of sewage sludge. Wastewater treatment plants will increase their cooperation with inter alia the manufacturers of fertilizers and substrates, organizations responsible for tending municipal green areas, farmers and agricultural machinery manufacturers. The goal of such cooperation is to develop sewage sludge processing so that the properties as well as transport and spreading systems of sludge products meet the requirements of users.

The minimum requirements for the recovery of sewage sludge in agriculture are laid down in Government decision (282/1994) on the use of sewage sludge in agriculture. The use of sewage sludge in agriculture is regulated under the decision so as to seek to prevent the adverse environmental and health impacts of sewage sludge while promoting its appropriate use. Requirements are imposed on the harmful substances in the sludge, its hygienization, the amounts of sludge to be spread, the characteristics of the acreage where the sludge is spread, and the accounts and reporting relating to the activities.

The Ministry of Agriculture and Forestry handbook “Supplementary terms/Farming method and environmental terms” states the following in respect of sewage sludge, “In the event that a farmer takes delivery of sewage sludge, such sludge shall have been treated with an approved method and shall meet the hygiene requirements imposed.” In a letter dated 17 June 2005, the same Ministry has defined the supplementary terms for the use of treated sewage sludge in agriculture. The Ministry’s Department of Food and Health and the Finnish Food Safety Authority have defined the sewage sludge treatment methods currently accepted in Finland and clarified the supplementary terms in their instructions.

The use of sewage sludge in agriculture is governed by the new Fertilizer Products Act (539/2006) and the complementary Decrees of the Ministry of Agriculture and Forestry, (12/07) on fertilizer products and (13/07) on

carrying out activities concerning fertilizer products, in which the conditions for the utilization of sewage sludge as a fertilizer product are imposed.

The sewage sludge arising from property-specific treatment in areas of dispersed settlement are considered waste generated in settlements, which is governed in accordance with the provisions of the Waste Act (1072/1993) concerning corresponding waste (waste transport scheme and waste recovery and disposal) so that the municipality plays a significant role as operator.

"(j) The quality of waters which are used as sources for drinking water, which are generally used for bathing or which are used for aquaculture or for the production or harvesting of shellfish;"

National target

The quality of surface water used as a source for drinking water meets the requirements of Government decision (366/1994).

Water quality at large public bathing areas meets the requirements of the Decree of the Ministry of Social Affairs and Health to be issued in early 2008, which are based on the requirements of the Bathing Water Directive 2006/7/EC. Bathing water quality is at least sufficient. Bathing water at small public bathing areas meets the national requirements imposed by the Ministry of Social Affairs and Health.

The general quality requirements concerning waters used for aquaculture are laid down in the Decree of the Ministry of Agriculture and Forestry on the requirements imposed on the primary sector to ensure food safety (134/2006).

Target date

The target date in respect of bathing water quality is set at 31 August 2015.

The target date in respect of water systems used for aquaculture is set at 2015.

Reasoning

The general provisions governing water quality at public bathing areas are included in the Health Protection Act (763/1994). Under section 13 of the said Act, the municipal health protection authority shall be notified of the establishment or entry into use of a public bathing area, swimming pool or spa. The authority may in its decision impose regulations or prohibitions necessary to prevent health hazards. The more specific provisions concerning the monitoring of water quality at public bathing areas appear for the time being in decisions (292/1996) and (41/1999) of the Ministry of Social Affairs and Health, which are based on Bathing Water Quality Directive 76/160/EEC. The said decisions impose requirements concerning microbiological, physical and chemical and sensory quality on bathing water. Decision (292/1999) also includes regulations on measures to be taken when bathing water quality fails

to meet the requirements imposed. The decision also provides regulations on communicating examination findings and reporting these to the European Commission.

The provisions concerning the quality and monitoring of bathing water will change, as Directive 2006/7/EC of the European Parliament and of the Council concerning the management of bathing water quality and repealing Directive 76/160/EEC entered into force in March 2006. The new Bathing Water Directive provides for the monitoring and classification of bathing waters, water quality management and dissemination of information about bathing water quality. The Directive, which complements the Water Framework Directive 2000/60/EC, will be implemented in national legislation by Decree of the Ministry of Social Affairs and Health in early 2008. This Decree shall apply to large public bathing areas that are expected to be visited by at least 100 swimmers per day. Under the Decree, bathing waters will be classified into four categories based on microbiological parameters: excellent, good, sufficient or poor. Bathing water shall qualify as at least sufficient by the end of the bathing season 2015.

Bathing water quality at small public bathing areas is monitored pursuant to section 29 of the Health Protection Act (763/1994). The quality requirements laid out in decision (292/1996) of the Ministry of Social Affairs and Health apply for the time being to bathing waters in these bathing areas. The requirements applicable to the quality and monitoring of bathing water at small public bathing areas will be revised during 2008–2009.

The Government may, pursuant to the Water Services Act (119/2001), issue by Decree more specific provisions on quality requirements for raw water, the implementation of surveillance obligations and the supply of surveillance data. The surveillance frequencies for surface water used as a source of drinking water are provided for in Government Decree (1022/2006) on substances dangerous and harmful to the water environment. The earlier Government decision on the quality requirements and surveillance of surface water used for drinking water (366/1994) also remains in force.

The quality of surface waters used as raw water by water supply plants is quite good in Finland in general. Reporting in 2002 relating to the Drinking Water Abstraction Directive (75/440/EEC) stated that there were four water supply plants in Finland at the time where raw water quality was rated in the lowest acceptable category of A3, at least for part of the year. The low quality rating was due to natural factors, i.e. excessive degree of coloration and iron content. Two of the four plants already had in place concrete plans for abstracting raw water of better quality by switching over to the use of artificial groundwater.

The general quality requirements for water used in aquaculture are laid down in Under Decree (134/2006) of the Ministry of Agriculture and Forestry, the water used in the primary sector for aquaculture shall be pure and may not contain foreign odours or flavours or micro-organisms, parasites or foreign substances to such a degree that the water might compromise the safety of primary sector produce and the foods obtained therefrom.

"(k) The application of recognized good practice to the management of enclosed waters generally available for bathing;"

National target

The quality and monitoring of enclosed waters intended for public use shall meet the requirements of Decree (315/2002) of the Ministry of Social Affairs and Health. Employees taking actions impacting on the quality of enclosed waters at swimming pools and spas shall have passed the proficiency test on plant technology and water hygiene referred to in section 28a of the Health Protection Act (763/1994).

Target date

The target date in respect of enclosed water quality is set at 2015 and in respect of passage of the proficiency test at 30 June 2008.

Reasoning

Provisions on the quality and monitoring of enclosed waters at public pools are laid down in the Decree of the Ministry of Social Affairs and Health on the quality requirements and surveillance of enclosed waters at swimming pools and spas (315/2002). Requirements in respect of microbiological, chemical and physical quality are laid down in the Decree. The basic premise for the quality requirements is for enclosed water not to pose a health hazard to swimmers. This is ensured by adequate chlorine disinfection relative to usage and the appropriate conditions for chlorine disinfection to function effectively. The Decree also provides for the monitoring frequency of enclosed waters. The basic principle is that the more persons use the waters on average, the more frequently water samples shall be taken. Ultimately, responsibility for monitoring enclosed water quality rests with the municipal health protection authority. The responsibility for communicating water quality rests with the administrator of the facility.

Enclosed water management, like water management in general in Finland, is subject to generally accepted practices. In addition to the aforementioned Decree (315/2002) of the Ministry of Social Affairs and Health, that Ministry together with the Ministry of Education and the Finnish Association for Swimming Instruction and Life Saving has prepared a practical handbook on the quality and monitoring of enclosed water, containing inter alia instructions for the preparation of a surveillance programme and monitoring during use. Another objective of the handbook is to intensify the cooperation between facilities and the municipal health protection authorities and to harmonize practices.

Section 28a of the Health Protection Act (763/1994) requires all employees at public swimming pools, spas and similar facilities who take actions impacting on water quality to hold a certificate issued by the National Product Control

Agency for Welfare and Health verifying their proficiency in plant technology and enclosed water hygiene. More specific provisions on the proficiency in plant technology and enclosed water hygiene required of employees at the above facilities and the testing of such proficiency are laid down in Decree (1350/2006) of the Ministry of Social Affairs and Health. The Decree inter alia provides for the parties entitled to test the aforementioned employees as well as the areas of expertise which employees shall master in order to pass the test. The objective of legislation is to increase the overall competence of public swimming pool and spa employees in matters of enclosed water hygiene and plant technology. The aim is to ensure appropriate enclosed water quality under all circumstances and particularly in special circumstances.

Other measures taken to safeguard the quality of enclosed water include good practices and recommendations relating to the purification of enclosed water. Instructions on building the treatment system for enclosed water are provided in Building Information Group's HEVAC Building Services Information File LVI 22-10386. The file provides detailed instructions on the proper construction of enclosed water treatment systems in various circumstances so that the health requirements for enclosed water are met at all times. The product file is used as a construction recommendation at all sites where public swimming pools are built.

"(l) The identification and remediation of particularly contaminated sites which adversely affect waters within the scope of this Protocol or are likely to do so and which thus threaten to give rise to water-related disease;"

National target

The identification and remediation of contaminated sites will be continued in a prioritized manner within the framework of available appropriations.

Sites that threaten groundwater and other sites causing significant environmental and health hazards shall be prioritized in remediation.

Target date

Realization of the targets consists of enforcement of existing legislation and ongoing activities.

Reasoning

The key statute in respect of contaminated soil and groundwater is the Environmental Protection Act (86/2000). Soil protection is addressed either directly or indirectly in several other statutes as well (e.g. Forest Act (1093/1996), Nature Conservation Act (1096/1996), Waste Act (1072/1993), Chemicals Act (744/1989), Environmental Damage Insurance Act (81/1998), Act on Combating Oil Pollution on Land (378/1974) and Act on the Oil Pollution Compensation Fund (1406/2004)). The Government Decree

concerning the assessment of soil contamination and need for decontamination (214/2007) entered into force in June 2007.

Areas of contaminated soil and soil extraction shall be areas of particular focus in groundwater risk management. The harmful substances in contaminated sediments and their impacts will be studied as necessary and any harm prevented by attending to necessary water protection measures in connection with dredging, etc.

Provisions on the key issues in respect of soil contamination have been laid down in the Environmental Protection Act (86/2000). Information on contaminated sites has been collected since the early 1990s. The SAMASE project on the study and remediation of contaminated sites was completed in 1994, after which the data has been reviewed and updated during 1998 and 1999. A new national soil contamination information system is in test use at present and will be deployed during 2007. Site data will be reviewed in connection with deployment. All in all, data has been collected on nearly 21,000 sites. The sites are classified as in need of study, evaluation or decontamination or as areas not in need of decontamination. The majority of the sites fall into the category of “in need of study”. These consist of sites where activities using substances harmful to the environment are or have been pursued and where such substances may have found their way into the soil but the possible contamination of the site is yet to be determined. Some 4,000 of the surveyed sites are located in groundwater areas, slightly under 3,200 sites at a distance of less than 100 metres from watercourses and some 250 sites at a distance of less than 250 metres from water abstraction facilities.

By the end of 2006, the environmental administration had taken some 3,000 decisions on the remediation of contaminated sites. Some 300 decontamination projects are initiated annually. Most remediation is related to changes in land use in urban areas or property transactions. In ground water areas, remediation seeks to prevent any deterioration in the quality of the groundwater. Very few attempts have been made to date to decontaminate groundwater sites that have already been contaminated, largely due to the uncertain results, high costs and long duration of such undertakings. The risk of groundwater contamination has been taken into account when determining soil remediation objectives in groundwater areas and the objectives have therefore often been stricter than in other areas.

The majority of remediation is undertaken with private funding. Remediation through the State waste management system had been initiated at nearly 380 sites by the beginning of 2007. These funds have been used to relocate several old landfills located in groundwater areas and to remediate sawmills and wood impregnation plants on the shores of watercourses. The remediation of old filling stations has been coordinated through the SOILI programme, a joint undertaking of oil companies and the Ministry of the Environment. By the beginning of 2007, applications had been submitted for the inclusion of nearly 1,400 sites in the programme and remediation had been initiated at nearly 380 sites. Old filling station properties located in groundwater areas have been a particular focus of this programme.

Of the 330 cases of groundwater contamination discovered between 1976 and 2000, 104 had to do with soil contamination as a result of use as landfill or shooting range, or business activities. The only factor causing more groundwater contamination was traffic.

"(m) The effectiveness of systems for the management, development, protection and use of water resources, including the application of recognized good practice to the control of pollution from sources of all kinds;"

The targets and target dates have been addressed under sections (f) – (i).

The implementation of the targets is supported by the Act on the Organization of Water Management (1299/2004), under which water system management plants and related operational programmes shall be prepared on the basis of river basins.

"(n) The frequency of the publication of information on the quality of the drinking water supplied and of other waters relevant to the targets in this paragraph in the intervals between the publication of information under article 7, paragraph 2."

According to a decision taken by the first Meeting of the Parties to the Protocol on Water and Health, the information and evaluations referred to in Article 7(2) of the Protocol should be published at least every three years, i.e. in 2010 for the first time. Existing data collection systems (inter alia the reporting required by the EU and WHO) will be utilized in the collection and reporting of data required under the Protocol.