Template for summary reports in accordance with article 7 of the Protocol on Water and Health adopted by the Meeting of the Parties at its second session (Bucharest, 23-25 November 2010)

Part One
General aspects

1. Were targets and target dates established in your country in accordance with article 6 of the Protocol?

YES x NO ☐ IN PROGRESS ☐

2. Were they published and, if so, how?

In Finland, the targets and target dates in accordance with article 6 of the Protocol on Water and Health have been adopted, published (http://www.stm.fi/hyvinvointi/ymparistoterveys/terveydensuojelu) and sent to the UNECE secretariat (Decision of the Ministry of Social Affairs and Health on the national goals and target dates required by the Protocol on Water and Health to the 1992 Convention of protection and use of transboundary waters and international lakes, 15 Feb 2008). Targets and target dates are based on EU legislation including relevant reporting procedures, national legislation and appropriate national programmes and progresses. Each target and target date have been explained and reasoned.

3. Has your country established national or local arrangements for coordination between competent authorities for setting targets? If so please describe, including information on which public authority(ies) took the leadership and coordinating role, which public authorities were involved and how coordination was ensured.

An expert group was established under the national working group in order to prepare target setting. Target and target dates were discussed and finalised in an expert group meetings consisting representatives from different administration sectors. The Ministry of Social Affairs and Health was the leader of this group. The expert group collected all relevant national material, determined main goals for target setting and had section by section discussions about the article 6 of the Protocol. The expert group wrote a draft document on target and target dates and their reasoning taking into account national and EU legislation and national programs and strategies.

In Finland, the co-operation between health and environment administrations works well and the dialogue between different bodies goes fluently explaining thus the rapid and trouble-free process in target setting.

4. Which existing national and international strategies and legislation were taken into account?

All relevant material including e.g. national and EU legislation, water protection guidelines, a programme for the protection of the Baltic Sea, and other national and international programs and strategies were taken into account when determining targets and target dates. They all have been explained below each target.

5. Was cost-benefit analysis of targets set performed, and if so how?

There was no need for cost-benefit analysis.

6. What has been done in your country to ensure public participation in the process of target setting in accordance with article 6, paragraph 2, and how was the outcome of public participation taken into account in the final targets set?

The draft of the targets and target dates was published on the website of the Ministry of Social Affairs and Health for public hearing. Before finalizing the decision of the targets and target dates the Ministry of Social Affairs and Health organized large (over 40 stakeholders) circulation and hearing process of the draft document. Hearing of different bodies (e.g. administration, industry, agriculture and forestry, research institutes and NGO's) was organised in June 2007. Only few stakeholders contacted the Ministry, but no remarks were raised on the targets and target dates.

7. Provide information on the process by which this report has been prepared, including information on which public authorities had the main responsibilities, which other stakeholders were involved, etc.

National implementation of the targets and target dates has been followed by the national working group mentioned before. This group is also responsible for this report. Information and results presented in the first pilot report on March 2010 has now been updated according to the current circumstances. Likewise the previous report, also this report is based on e.g. recent reports to the European Commission, national reports and programmes and Government resolution on water protection guidelines until 2015.

8. Report any particular circumstances that are relevant for understanding the report, e.g., whether there is a federal and/or decentralized decision-making structure, or whether financial constraints are a significant obstacle to implementation (if applicable).

The competent authorities are the communal health protection and environmental protection authorities.

The ministries responsible for legislation are: Ministry of Social Affairs and Health (drinking water), Ministry of Agriculture and Forestry (water services), Ministry of the Environment (protection of water sources and catchment areas).

The structure of guidance and supervision is the following. National Supervisory Authority for Welfare and Health is responsible for drinking water and health aspects of sewage water, Finnish Environment Institute is responsible for water services, catchment protection and private wells, National Institute for Health and Welfare is responsible for health-related issues, Regional Centres for Economic Development, Transport and the Environment are responsible for water services and catchment protection, and the Regional State Administrative Agencies are responsible for permissions for sewage treatment plans and regulation of municipal health protection authorities.

9. Please describe whether and, if so, how emerging issues relevant to water and health (e.g., climate change) were taken into account in the process of target setting.

Targets and target dates have been drafted and finalised already in 2006-2007 according to the contemporary legislation and circumstances. Emerging issues, such as climate change are, however, taken into account when drafting new or revising existing legislation or guidance. As a good example, a risk based assessment and management approach (WSP, water safety plan) will be included in the drinking water legislation within the next few years in order to improve the production of good quality and safe drinking water.

Part Two
Common indicators[1]

I. Quality of the drinking water supplied

A. Context of the data

Please provide general information related to the context of the data provided under sections B and C below:

1. What is the population coverage (in millions or per cent of total national population) of the water supplies reported under this indicator?

4.26 million consumers in 2011, around 79% of the total population

Data provided under sections B and C is based on the reports submitted to the European Commission. Parametric values are given in parenthesis. According to the directive 98/83/EC member states have to report to the European Commission information on drinking water quality from those water supplies which produce drinking water more than 1,000 m^3 in a day or for more than 5,000 consumers. In Finland, there are around 160 large water supplies falling into this reporting category. These water supplies have 4.26 million consumers considering 79% of the total population.

Drinking water quality of small water supplies (production of drinking water below 1,000 m^3 in a day, or less than 5,000 consumers) is also frequently monitored, but at the moment the results are only available in municipalities. A national environmental healthcare target information system comprising all environmental healthcare sites, including plants supplying drinking water, is currently under construction. This information system will be gradually operational in the years 2014-2015, and after that information also from these small water supplies will be collected into national database.

2. Do the water supply systems reported here supply the urban population only or both the urban and rural populations?

Mainly urban population

3. Specify where the samples/measurements are taken (e.g., treatment plant outlet, distribution system or point of consumption).

Samples are taken from the taps that are normally used for human consumption, i.e. at the point of consumption.

4. In the reports, the standards for compliance assessment signify the national standards. If national standards for reported parameters deviate from the WHO guideline values, provide information on the values (standards) used for calculation.[2]

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[1] In order to allow an analysis of trends for all Parties under the Protocol, please use wherever possible 2005 — the year of entry into force of the Protocol — as the baseline year.

[2] In order to ensure consistency and quality of the data sets resulting from sampling programmes, countries may wish to consider ensuring compliance with appropriate international standards for sampling programmes. Examples of such international standards are the ISO 5667 family of standards, in particular:

- 5667-1:2006 Guidance on the design of sampling programmes and sampling techniques;
- 5667-3:2003 Guidance on the preservation and handling of water samples;
- 5667-5:2006 Guidance on sampling of drinking water from treatment works and piped distribution systems;
- 5667-11:2009 Guidance on sampling of groundwaters.

B. Bacteriological quality

Indicator to be used: WatSan_S2: The percentage of samples that fail to meet the national standard for *E. coli* and the percentage of samples that fail to meet the national standard for *Enterococci.*

WatSan_S2	*Baseline value (please specify the year)* ***Year 2005***	*Current value (please specify the year)* ***Year 2011***
E. coli **(0/100 ml)**	0%	0%
Enterococci **(0/100 ml)**	0.2%	0%

C. Chemical quality

Indicator to be used: WatSan_S3. All countries shall monitor and report on the percentage of samples that fail to meet the national standard for chemical water quality with regard to the following:

- Fluoride;
- Nitrate and nitrite;[3]
- Arsenic;
- Lead;
- Iron.

Parties shall also identify five additional physico-chemical parameters that are of special concern in their national or local situation (e.g., pesticides).

Substance	*Baseline value (please specify the year)* ***Year 2005***	*Current value (please specify the year)* ***Year 2011***
Fluoride **(1.5 mg/l)**	0.9%	1.7%
Nitrate and nitrite **(50 mg/l and 0.50 mg/l)**	0%	0%
Arsenic **(10 µg/l)**	0%	0%
Lead **(10 µg/l)**	0%	0%
Iron **(200 µg/l)**	1.8%	1.1%
Additional physico-chemical[4] parameter 1: **Manganese (50 µg/l)**	0.7%	0.6%
Additional physico-chemical parameter 2: _____		
Additional physico-chemical		

[3] As defined in the WHO Guidelines for drinking-water quality.

[4] It is recommended to take into account new and emerging pressures such as climate change or agriculture practices.

parameter 3: _____		
Additional physico-chemical parameter 4: _____		
Additional physico-chemical parameter 5: _____		

II. Reduction of the scale of outbreaks and incidence of infectious diseases potentially related to water

In filling out the following table, please specify if the numbers reported are related to all exposure routes or only related to water (in which there is epidemiological or microbiological evidence for water to have facilitated infection).[5]

	Incidence ***All exposure routes (numbers of illness cases, ill persons)***		*Number of outbreaks* ***Only waterborne outbreaks***	
	Baseline (specify the year) ***Year 2005***	*Current value (specify the year)* ***Year 2011***	*Baseline (specify the year)* ***Year 2005***	*Current value (specify the year)* ***Year 2011***
Cholera	0	1	0	0
Bacillary dysentery (shigellosis)	125	128	0	0
EHEC[a]	21	27	0	0
Viral hepatitis A	26	14	0	0
Typhoid fever	8	5	0	0

[a] Enterohaemorrhagic E. coli.

Incidence: from all exposure routes.

Ref. Database of the National Infectious Diseases Register, National Institute for Health and Welfare
http://www3.thl.fi/stat/
http://www.thl.fi/en_US/web/infektiotaudit-en

Number of outbreaks: only waterborne outbreaks.

Ref. Data collected by National Institute for Health and Welfare

[5] If possible, please distinguish between autochthonous and imported cases

III. Access to drinking water

Percentage of population with access to drinking water	*Baseline value (specify the year)* ***Year 2007***	*Current value (specify the year)* ***Year 2012***
Total	100%	100%
Urban	100%	100%
Rural	100%	100%

Please specify how access to drinking water is defined and calculated in your country.

The WHO/UNICEF[6] Joint Monitoring Programme (JMP) for Water Supply and Sanitation defines access to water supply in terms of the types of technology and levels of service afforded. Access to water-supply services is defined as the availability of at least 20 litres per person per day from an "improved" source within 1 kilometre of the user's dwelling. An "improved" source is one that is likely to provide "safe" water, such as a household connection, a borehole, a public standpipe or a protected dug well.

If your definition of access to drinking water from which the above percentages are calculated differs from that provided by the JMP, please provide the definition and describe your means of calculation.

IV. Access to sanitation

Percentage of the population with access to improved sanitation, including small decentralized sewerage systems, septic tanks and safe excreta disposal

Percentage of population with access to sanitation	*Baseline value (specify the year)* ***Year 2007***	*Current value (specify the year)* ***Year 2012***
Total	99.8%	99.8%
Urban	100%	100%
Rural	99%	99%

Please specify how access to sanitation is defined and calculated in your country.

Access to sanitation is calculated by assessing the amount of population which have access to public or private sewer network leading to a wastewater treatment plant, or individual on-site wastewater treatment system, such as septic tanks, infiltration fields, filter beds or small scale treatment systems.

[6] United Nations Children's Fund.

V. Effectiveness of management, protection and use of freshwater resources

Water quality

On the basis of national systems of water classification, the percentage of the number of water bodies or the percentage of the volume (preferably) of water[7] falling under each defined class (e.g., in classes I, II, III, etc. for non-EU countries; for EU countries, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwaters/surface waters of good or poor chemical status).

For non-European Union Countries

Status of surface waters

Percentage of surface water falling under class[a]	*Baseline value (specify the year)*	*Current value (specify the year)*
I		
II		
III		
IV		
V		
Total number/volume of water bodies classified		
Total number/volume of water bodies in the country		

[a] Rename and modify the number of rows to reflect the national classification system.

Status of groundwaters

Percentage of groundwaters falling under class[a]	*Baseline value (specify the year)*	*Current value (specify the year)*
I		
II		
III		
IV		
V		
Total number/volume of groundwater bodies classified		
Total number/volume of groundwater bodies in the country		

[a] Rename and modify the number of rows to reflect the national classification system.

[7] Please specify.

For European Union countries

Ecological status of surface water bodies

Percentage of surface water classified as:	*Baseline value (specify the year)* ***Classification is based on samples taken 2000-2007***		*Current value (specify the year)*
	Lakes sqare m^2	**Rivers length km**	
High status	29%	22%	
Good status	59%	34%	
Moderate status	11%	30%	
Poor status	1%	10%	
Bad status	0%	4%	
Total number/volume of water bodies classified	2983		
Total number/volume of water bodies in the country	6153		

Note: Figures given are based on River basin management plans, which were adopted by the Government and published in December 2009 (see: www.ymparisto.fi/vesienhoito). The classification covers lakes larger than 1 km^2, rivers with a catchment area larger than 100 km^2 and 264 coastal water bodies. The total number of water bodies includes 276 coastal water bodies. Currently, the ecological quality status of most of Finland's inland waters is either good or high. However, that of approximately 40% of total river length and 60% of the coastal water areas included within the scope of the plans is moderate, poor or bad. The water quality of Finland's lakes is generally better.

Chemical status of surface water bodies

Percentage of surface water bodies classified as	*Baseline value (specify the year)*		*Current value (specify the year)*
	Lakes sqare m^2	**Rivers length km**	
Good status	100%	93%	
Poor status	0%	3%	
Total number/volume of water bodies classified	3965		
Total number/volume of water bodies in the country	6153		

Note: Figures given are based on River basin management plans, which were adopted by the Government and published in December 2009 (see: www.ymparisto.fi/vesienhoito). Classification covers lakes larger than 5 km^2, rivers with a catchment area larger than 200 km^2 and 264 coastal water bodies. The total number of water bodies includes 276 coastal water bodies.

Status of groundwaters

Percentage of groundwaters classified as	*Baseline value (specify the year)* ***Year 2010***	*Current value (specify the year)*
Good quantitative status	99.95%	
Good chemical status	98%	
Poor quantitative status	0.05%	
Poor chemical status	2%	
Total number/volume of groundwater bodies classified	3603 *	
Total number/volume of groundwater bodies in the country	3804	

* Total number of groundwater bodies where both quantitative and qualitative status has been assessed.

Please provide any needed information that will help put into context and aid understanding of the information provided above (e.g., coverage of information provided if not related to all water resources, how the quality of waters affects human health).

Only 2% of the groundwater resources important to and suitable for water supply purposes are classified as poor, even though approximately 450 groundwater bodies are at significant risk from human activity.

Of the 3,800 or so groundwater bodies classified as important or suitable for water supply and surveyed for the river basin management plans, approximately 250 were designated as areas at risk. The preliminary surveys indicate that human activity that may affect groundwater quality status is carried out in approximately 200 groundwater areas. The status of these areas has not been able to evaluate but in the programmes of measures, further review has been proposed with regard to these groundwater bodies. Status assessment has been carried out for all groundwater bodies designated as areas at risk. The status of 82 groundwater bodies was classified as poor. Two groundwater bodies were found to be of poor quantitative status, and 80 were classified as having poor chemical status.

Water use

Please provide information on the water exploitation index at the national and river basin levels for each sector (agriculture, industry, domestic), i.e., the mean annual abstraction of freshwater by sector divided by the mean annual total renewable freshwater resource at the country level, expressed in percentage terms.

Water exploitation index	*Baseline value (specify the year)*	*Current value (specify the year)*
Agriculture	Maximum 0.1%	
Industry[a]	1.44%	1.36%
Domestic use[b]	0.39%	0.38%

[a] Please specify whether the figure includes both water abstraction for manufacturing industry and for energy cooling.

[b] Please specify whether the figure only refers to public water supply systems or also individual supply systems (e.g., wells).

Note: Figures for industrial uses include only manufacturing industries and are based on VAHTI database. Water used for domestic purposes includes both public water supply and individual water supply and is based mostly on VELVET database. Water used for agriculture has been estimated with the information that irrigation systems are available for altogether 80,000 hectares of fields. The annual renewable freshwater resource is normally 110 km^3.

Part Three
Targets and target dates set and assessment of progress

I. Quality of the drinking water supplied (art. 6, para. 2 (a))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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 were 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.

No target date need to be set in respect of parametric values, as the transitional period concerning the Directive expired already on 25 December 2003.

The target date in respect of passing the proficiency test was on 30 June 2008.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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), Regional State Administrative Agencies 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 Regional State Administrative Agencies to the National Institute for Health and Welfare, which forwards the reports to the European Commission.

National reports on monitoring and quality of drinking water are published in Finnish in the Internet (http://www.valvira.fi/ohjaus_ja_valvonta/terveydensuojelu/talousvesi). 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 gradually operational in the years 2014-2015.

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. The programme and plans will be revised at intervals of about three years.

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.

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.

3. Assess the progress achieved towards the target.

The microbiological and chemical quality of drinking water in Finland is typically very high complying with the health-based quality requirements. There are, however, some areas, especially in the South-East Finland, where the content of fluoride can be remarkably high in groundwater. In these areas, different water purification techniques are applied to achieve the acceptable level of fluoride in drinking water, maximum 1.5 mg/l. In 2011, drinking water from two water supplies exceeded the parametric value set for fluoride because of some temporary problems related to the purification and dilution of water. Immediate remedial actions were taken to decrease the concentration of fluoride below the limit value. The number of consumers of these water supplies was quite low.

The content of soluble iron in groundwater can be high. Despite removal treatments concentration of iron in drinking water can occasionally exceed the indicator value set for this parameter. However, iron concentrations temporarily detected in drinking water do not cause any health problems, merely some technical problems such as discolouration of water fittings.

The microbiological quality of drinking water in Finland is high. Drinking water is produced from surface water, artificial groundwater or groundwater. Surface water and artificial groundwater are disinfected before consumption, but groundwater is not always because of its high microbiological quality. It is known, however, that groundwater sources can be vulnerable for microbiological contamination caused by e.g. heavy rains and floods. Microbiologically contaminated groundwater sources have therefore caused waterborne outbreaks in Finland. Further information on waterborne outbreaks associated with the use of contaminated drinking water is described in the section II.

A risk based assessment and management approach (WSP, water safety plan) is under construction, and will be included in the drinking water legislation within the next few years in order to improve the production of good quality and safe drinking water.

By 2012 more than 20 000 employees (around 13 100 employees in 2009) of drinking water supply plants have accomplished certificates which verify their proficiency in water plant technology and hygiene. After every five years they have to retake the test.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

II. Reduction of the scale of outbreaks and incidents of water-related disease (art. 6, para. 2 (b))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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. The target is national and based on the best knowledge on water-related epidemics and possibilities to restrict the number of them.

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.

The target date is set at 31 December 2015.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 Supervisory Authority for Welfare and Health has drafted 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.

The Government Decree (1365/2011) issued in December 2011 contains more specific provisions concerning measures in the event of epidemics spreading via drinking water, bathing water or pool water. The National Institute for Health and Welfare provides expert assistance in the event of epidemics spreading via water. Information on all water-related epidemics is reported into national electronic database. Water-related epidemics caused by drinking water have been reported into national informing and reporting system since 1998, but nowadays also epidemics caused by bathing water and pool water have been included in this system. Reporting templates for bathing water and pool water epidemics are under construction, and will be in the use before the end of 2013.

In 2010, the Ministry of Social Affairs and Health published a handbook on exceptional situations related to environmental health (Publications 2010:2) 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 and water-related outbreaks. The European guidelines for travel associated Legionnaires' diseases published since in 2001 is now under revision. These guidelines present e.g. methods how to prevent and minimise the growth of *Legionella* bacteria in different water systems and how to investigate and control an outbreak of Legionnaires' disease in a hotel.

Provisions concerning the prevention of health hazards relating to bathing water and pool water 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 bathing water at public bathing areas under item (j).

3. Assess the progress achieved towards the target.

Severe pathogens, such as *Vibrio cholerae, Salmonella typhi, Shigella* spp., EHEC and Hepatitis A virus are not a problem in drinking water service in Finland. The number of waterborne outbreaks varies between 1-10 outbreaks in a year and these outbreaks are mainly caused by noroviruses or campylobacteria. Outbreaks are often associated with private wells and small groundwater supplies serving less than 500 consumers. However, the annual number of illness cases varies a lot depending on an extent of outbreaks. In 2011 and 2010 the numbers of illness cases caused by drinking water were around 70 and 40, respectively, but in 2012 the number is likely to be higher (unconfirmed information). In 2011, there was also one outbreak of Pontiac fever associated with spa pool water containing *Legionella anisa* bacterium. In this outbreak 11 persons fell simultaneously ill for milder Legionella infection. Spa, sauna or showers were not in use until eradication of legionella using high concentrations of chlorine could be confirmed.

The national target is achieved if the number of illness cases at annual level remains below 540, which is 0.01% of the population. It is not feasible to reduce the limit of this national target. In Finland, for example around half a million people get their drinking water from their own private wells. Wells are managed and monitored according to the interest of the owner. Municipal health protection authorities can monitor the quality of a well and give orders and instructions only if the consumption of drinking water poses a threat for human health. Much work has been and will be done as described in the next paragraphs in order to minimise the number of water-related epidemics and number of illness cases related to them.

In Finland, there is a compulsory electronic notification system for suspected waterborne outbreaks. The National Institute for Health and Welfare (THL) helps municipal health protection authorities who are responsible for surveillance of drinking water quality in technical, analytical and epidemiological problems associated with waterborne outbreaks. Immediate electronic reporting of an outbreak accelerates the co-operation between municipal authorities, water companies and THL and enables the design of immediate management and remedial actions to control and restrict the outbreak and to prevent harmful health effects. As presented earlier, nowadays also epidemics caused by bathing water and pool water are included in the national informing and reporting system.

Waterborne outbreaks have been associated with the use of groundwater. During the past years, the use of ultraviolet radiation in ground water supplies had been increased, but today the growth in the use of UV have stabilized. The Ministry of Social Affairs and Health will issue more specific provisions on preparedness to disinfect drinking water if the microbiological quality of drinking water is compromised. The revision will be finalised in 2013. If the legislation on readiness for disinfection is finalised this year, it will undoubtedly increase the safety of drinking water, know-how of water treatment techniques, and co-operation between neighbour water companies.

Legislation on drinking water has improved the informing system related to waterborne outbreaks and also required proficiency tests for personnel taking actions on the quality of drinking water. The employees have to have accomplished certificates which verify their proficiency on plant technology and water hygiene at five years intervals.

Contingency plans have been or are being developed by larger water companies but there are still smaller water companies who have not enough financial or human resources and knowledge to perform the task. Risk assessment and risk management concept including risk based monitoring and surveillance system for all water companies despite the size of the system will be included in the national legislation within next four years. WSP tools for risk assessment and management are under construction.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment.

5. If you have not set a target in this area, please explain why.

Not relevant.

III. Access to drinking water (art. 6, para. 2 (c))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

In 2012, ca. 92% of the population was served by municipal or other collective systems for the supply of drinking water. The increase of the current service rate is expected to be slow, due to the very sparsely settled population. Improvements in the supply of drinking water seek to ensure that the drinking water available is up to standards in terms of quality. Most quality problems are local and caused by the natural quality of soil or bedrock. 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 enhanced in cases where the private drinking water supply is not possible at a reasonable cost.

The target date is set at 31 December 2015.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 Centres for Economic Development, Transport and the Environment 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.

Under the water resources strategy of the Ministry of Agriculture and Forestry (21 September 2011), every effort shall be made to cover all risks concerning water supply services from rare water sources to the treatment of wastewater. 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. 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.

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.

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.

3. Assess the progress achieved towards the target.

Several new pipelines in rural areas have been constructed, usually with sewer pipe placed in the same excavation. Governmental support to local water cooperatives etc. has been targeted to projects taking care of both water supply and sewer networks.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

IV. Access to sanitation (art. 6, para. 2 (d))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

In 2012, approximately 83% of the population was served by collective systems of sanitation, including proper wastewater treatment. Centralized sewerage and wastewater 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 (the target date is set at 15 March 2016) imposed by the Governmental Decree on Onsite Wastewater Systems (209/2011), substituting the previous Decree (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.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Under the Environmental Protection Act (86/2000), wastewater in areas of dispersed settlement shall be treated in such a manner that the wastewater does not pose a risk of environmental pollution. Requirements concerning biological oxygen demand, phosphorus and nitrogen removal have been imposed on wastewater treatment in areas of dispersed settlement by the above mentioned Governmental Decree (209/2011). The requirements became applicable to new buildings immediately. Old properties located in areas of dispersed settlement shall render their wastewater treatment systems compliant with the requirements by the 15th of March 2016 unless connected to community sewerage systems prior to that time. National Program for Sanitation was completed in December 2012. The aim of the program is to state goals for governmental financial support to sanitation until 2016 and to give instructions how to assess the areas where sewer networks are cost-effective

The River Basin Management Plans, adopted by the Council of the State in 2009 include actions to promote the access to sanitation.), 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.

The Governmental Decree 209/2011 requires the owner or possessor of a property to be aware of the method used to treat the property's wastewater 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 wastewater treatment and the environmental load arising from wastewater 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 wastewater 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 at intervals of some ten years.

3. Assess the progress achieved towards the target.

Sewer networks have been constructed to cover also sparsely populated areas situated near densely populated agglomerations. Hence, the share of population served by collective systems increases steadily but slowly. The requirements concerning new buildings in areas where no sewer network exists has been favorably implemented. The target to enhance wastewater treatment by 2016 at all existing properties relying to septic tanks without any further treatment is very difficult to achieve. Awareness

campaigns to the public, education of designers and entrepreneurs as well as many other activities have been introduced. In addition, there are a lot of different new treatment plant types in the market. But in cases where the property owners do not recognize the need to enhance the treatment level in order to protect the environment, they are reluctant to invest in a new plant or to a proper rehabilitation of the old one.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

The Governmental Decree on Onsite Wastewater Systems was reviewed and substituted with a new one in 2011. The treatment requirements were revised more reasonable and sensible environments were taken into account with stricter limits.

5. If you have not set a target in this area, please explain why.

Not relevant

V. Levels of performance of collective systems and other systems for water supply (art. 6, para. 2 (e))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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 in such exceptional situations when their primary water abstraction facility cannot be utilized. 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.

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

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

The classification of water services providers and several handbooks were prepared continuously. State investment support has been given to waterworks for enhancing their capability to serve the population also during exceptional situations.

A project dealing with adaptation to climate change has been completed. Special emphasis will be put in finding out such groundwater abstraction sites that might be in danger during exceptional flooding situations.

3. Assess the progress achieved towards the target.

New pipelines have been constructed to serve such rural areas where local good quality groundwater is not available in needed quantities. Connection pipelines between larger and smaller municipalities have also been constructed to safeguard the availability of water. The safety rating of many water supply plants has been raised to the required level. The overall situation report will be updated before the target date.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

VI. Levels of performance of collective systems and other systems for sanitation (art. 6, para. 2 (e) continued)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

Sanitation and sewerage services of a high standard and meeting the needs of settlements as well as business and leisure activities will remain available at reasonable cost.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

National requirements concerning wastewater collection in urban areas have existed since the early 1960s. All urbanized areas are connected to municipally or regionally managed sewer networks with a wastewater treatment facility. The construction of new sewer pipelines and treatment plants is funded mainly by connection fees from the clients. Some minor state support funds are available. The operation and maintenance costs are covered by wastewater fees based on water consumption. The revision of the present Water Services Act (2001) is currently going on. A National Program for Sanitation prepared in 2012, which gives instructions how to assess the areas where sewer networks are cost-effective.

The loads of waste water overflows are included to environmental permit conditions. The performance of overflows is monitored as a part of the enforcement of the permits.

3. Assess the progress achieved towards the target.

In several municipalities new sewer pipelines have been constructed to serve also rural areas that have earlier relied in onsite systems. Areas of new development are naturally equipped with proper sewerage before the inhabitants move in and wastewaters are discharged usually to a treatment plant. An updating of the requirements in the environmental permit of each treatment plant is done with 7-10 years intervals and best available technology is adopted. The progress of the National Program of Sanitation should be achieved before 15.3.2016.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

VII. Application of recognized good practices to the management of water supply, (art. 6, para. 2 (f))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

The general objectives of water protection have been defined in the Finnish Government decision-in-principle on Water Protection Policy Outlines to 2015, which was adopted by the Government on 23 November 2006. The primary 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 programs of measures and seek to ensure no deterioration in the status of surface waters and groundwater, which should be of at least good status.

The objectives set in the Act on Water Resources Management (1299/2004) states that surface waters and groundwater shall be protected, enhanced and restored so that the water status objectives can be reached by 2015 at the latest.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

The Finnish Government decision-in-principle includes measures also for waters used as a source for drinking water. Key objectives and measures with regard to the protection of drinking water have been defined for wastewater coming from urban areas, from areas of dispersed settlement and from 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 program for the protection of the Baltic Sea on 26 April 2002 while the operational program for the protection of the Baltic Sea and inland waters was adopted on 1 June 2005.

The implementation of the targets is supported by the Act on Water Resources Management (1299/2004), the Government Decree on Water Resources Management Regions (1303/2004), and the Government Decree on Water Resources Management (1040/2006). Another relevant decree issued is the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006). The Directive on the Protection of Groundwater against Pollution and Deterioration (2006/118/EC) has been implemented nationally through amendment of the above-mentioned decrees. The Government approves river basin management plans.

The main instruments in groundwater protection include:

- elaboration and implementation of protection plans to whole aquifers and safeguard zones to groundwater intakes;
- mapping and evaluation of risks;
- remediation of contaminated soil and groundwater;
- groundwater protection through land use planning;
- hydrogeological research into groundwater areas and the mapping of the occurrence and impacts of hazardous and harmful substances;
- developing groundwater monitoring and control measures.

Key legislation governing water issues comprises the Environmental Protection Act (86/2000), the Environmental Protection Decree (169/2000), the Water Act (587/2011) and the Water Decree (282/1962). The objective of the Environmental Protection Act is to prevent the pollution of the environment and to

restore 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 Environmental Protection Act includes general and strict prohibition to pollute groundwater. It states that substance shall not be deposited in or energy conducted to a place or handled in a way that groundwater may become hazardous to health or its quality otherwise materially deteriorate in areas important to water supply or otherwise suitable for such use, groundwater on the property of another may become hazardous to health or otherwise unsuitable for usage, or the said action may otherwise violate the public or private good by affecting the quality of groundwater. A permit cannot be granted if the activity may cause a risk of groundwater pollution. According to the Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006) all direct or indirect inputs to groundwater are prohibited if there is a risk that it may cause groundwater pollution now or in the future as stated in the Environmental Protection Act.

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 wastewater in areas outside sewer networks entered into force in 2004 and its purpose is to reduce emissions of domestic wastewater and environmental pollution with particular regard to the national water protection objectives. In 2011 the degree 542/2003 was revised after considerable public dissatisfaction. The wastewater treatment requirements were lowered and the transition period was postponed by two years until March 2016. The new Degree on Onsite Wastewater systems (209/2011) came into force on 15.3.2011.

The Government Decree on urban wastewater (888/2006) applies to the treatment and conduction of wastewater from urban areas 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 base 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 updating of two Government Decrees in 2007. Under these Directives, 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 (587/2011) and the Environmental Protection Act (86/2000): 1) the prohibition to alter groundwater (Water Act, Chapter 3, section 2), 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 4, section 11). 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 6 of the Water Services Act (119/2001), when required due to the need of a relatively large number of inhabitants or health considerations or environmental protection, 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. To ensure the functioning of water services in all conditions, water supply plants need regional cooperation and partnerships, combined networks and emergency water supplies. The State supports investments in improving the preparedness.

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

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.

3. Assess the progress achieved towards the target.

Groundwater is a very important source of drinking water in Finland where approximately 65% of the people served by waterworks now use groundwater or artificial groundwater. The quality of groundwater has been maintained rather good so that less than 2% of aquifers important or suitable for water supply are deteriorated / has been classified being in poor status. Human activities cause significant risks for groundwater in about 500 groundwater areas.

As a result of the activities identified in River Basin Management Plans it has been estimated that good water quality will be achieved in over 90% of the lakes, about 70% of the rivers under the subject of the planning by 2015. Almost all groundwater bodies will achieve good water quality status by 2015. All sectors have to intensify the water protection measures.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

VIII. Application of recognized good practice to the management of sanitation (art. 6, para. 2 (f) continued)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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 concerning urban wastewaters relate to reducing nutrient inputs causing eutrophication, reducing the risks arising from exceptional situations, development of the permit procedures and management of harmful storm waters.

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.

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.

The Council Directive 91/271/EEC concerning urban waste-water treatment was adopted in 1991. Its objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial and concerns the collection, treatment and discharge of wastewater. Government Decree on Urban Waste Water Treatment (888/2006) was adopted in Finland.

Voluntary agreement to reduce the nutrient loads from the municipal waste waters was signed with the Ministry of the Environment, Association of Finnish Local and Regional Authorities, Association of Finnish Waterworks in 2012. The aim is to develop and take into use cost efficient voluntary measures to reduce wastewater pollution to achieve the environmental objectives to complement the permit system. In the voluntary agreement to reduce the nutrient loads from the municipal waste waters signed with the Ministry of the Environment, Association of Finnish Local and Regional Authorities and Association of Finnish Waterworks have been defined concrete targets and deadlines for nutrient reductions from the municipalities.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

In the water protection guidelines adopted by the Finnish Government, extending until 2015, the protection measures are targeted to fulfill the needs for every type of water use. Water status objectives and water protection measures required for their attainment are defined in these guidelines. Key objectives and measures for wastewater treatment have been defined for both urban and rural areas as well as for industry. Key measures include reducing the amount of nutrients causing eutrophication and the loss of oxygen in the waters. 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.

National requirements concerning wastewater collection in urban areas have existed since the early 1960s. All urbanized areas are connected to municipally or regionally managed sewer networks with a wastewater treatment facility. The construction of new sewer pipelines and treatment plants is funded mainly by connection fees from the clients. Some minor state support funds are available. The operation

and maintenance costs are covered by wastewater fees based on water consumption. The revision of the present Water Services Act (2001) is currently going on.

A National Program of Sanitation was prepared in 2012 in co-operation of Ministry of the Environment and Ministry of Agriculture and Forestry. The programme gives instructions how to assess the areas where sewer networks are cost-effective and gives future guidelines of how state funding will be divided in 2012-2016.

In the river basin management plans the measures and instruments to achieve good water quality by 2015, in some exemptions with extended deadlines, were identified. The key instruments in water resources protection concerning communities, holiday homes, and rural areas include:

- allocating income from waterworks to the renovation and upgrade of water treatment works, and water supply and sewerage networks;
- advancing wastewater transfer projects, along with water supply and sewerage, via public-sector funding and government support to communities and rural areas in line with the available appropriations;
- improving the management and treatment of storm water;
- encouraging the integration of land use, construction, and water supply and sewerage planning;
- updating the municipal development plans for water supply and sewerage;
- improving the preparations for anomalous weather conditions and emergencies in water supply and sewerage;
- encouraging the adoption of good practices in the treatment, use, and disposal of wastewater sludge;
- carrying out nitrogen removal from community wastewater in order to meet the objectives and conform to the national water resources protection programmes;
- enhancing research and development;
- promoting the adoption of dry toilets and other water-free waste management solutions; and
- increasing the provision of guidance on wastewater management in rural areas, while improving the knowledge base and instruments.

3. Assess the progress achieved towards the target.

The Governmental Decree on Onsite Wastewater Systems (542/2003) came into force on 1.1.2004. The Decree sets minimum standards for wastewater treatment and the planning, construction, use and maintenance of treatment systems. One important aim is to connect rural communities into the centralized sewerage networks.

In 2011 the degree 542/2003 was revised after considerable public dissatisfaction. The wastewater treatment requirements were lowered and the transition period was postponed by two years until March 2016. The new Degree on Onsite Wastewater systems (209/2011) came into force on 15.3.2011.

In connection of revising the degree, the Parliament stated that more information and education has to be provided to promote the water protection in rural areas. The Ministry of Environment funded environmental NGO:s information projects in 2011, 2012 and 2013.

The Ministry of the Environment published a guidebook "Wastewaters in sparsely populated areas – Legislation and practice" in 2011 for local authorities and other professionals as a help to interpret the degree.

The implementation of the voluntary agreement to reduce the nutrient loads from the municipal waste waters is monitored and yearly reports are published.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

The transition period of the Degree on Onsite Wastewater systems was postponed until 15.3.2016.

5. If you have not set a target in this area, please explain why.

Not relevant

IX. Occurrence of discharges of untreated wastewater (art. 6, para. 2 (g) (i))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

Untreated wastewater 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.

No target date in respect of wastewater 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.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Under normal conditions, no untreated wastewater is discharged into waters by Finnish urban wastewater treatment plants. Under exceptional circumstances, such as floods and equipment failure, wastewater must nonetheless be diverted directly into waters. Despite any diversions, wastewater 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 wastewater will not cause permit limits to be exceeded.

Separate sewerage systems for wastewater and storm water 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, open drain ditches. Only a small part of storm water becomes mixed with wastewater 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 wastewater 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.

3. Assess the progress achieved towards the target.

Exceptionally heavy rains have occurred frequently also in Finland and together with the climate change such phenomena will become more and more usual. Heavy rains increase the risk of overflows of untreated wastewater from sewers, pumping stations and treatment plants. At present there is no national statistics available indicating the amount of such overflows but the progress in preventing them has been slow so far. The condition of sewer networks has been studied in several municipalities. The need for

enhanced sewer rehabilitation has been highlighted recently at national level by e.g. the Ministry of Agriculture and Forestry and the Association of Finnish Civil Engineers.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

X. Occurrence of discharges of untreated storm water overflows from wastewater collection systems to waters within the scope of the Protocol (art. 6, para. 2 (g) (ii))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

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 conditions.

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 ongoing revision of the water services legislation.

No target date in respect of areas served by combined sewerage systems is required with regard to normal conditions.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 reports, "Run-off water and its management in the built environment (completed in summer 2005)" and "Storm-water guidebook (completed in 2012)". The responsibility of municipalities, water supply plants and property owners for conducting storm water will be clarified in connection with ongoing revision of the water services legislation.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

Not relevant

XI. Quality of discharges of wastewater from wastewater treatment installations to waters within the scope of the Protocol (art. 6, para. 2 (h))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

Wastewater is treated biologically and chemically to remove organic matter and nutrients (phosphorus and nitrogen) causing eutrophication. The treatment efficiency of plants is constantly being improved. Greater efficiency in treatment will be introduced particularly in areas where the harmful effects of wastewater 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 wastewater 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 urban wastewater.

Voluntary agreement to reduce the nutrient loads from the municipal waste waters was signed with the Ministry of the Environment, Association of Finnish Local and Regional Authorities, Association of Finnish Waterworks in 2012. The aim is to develop and take into use cost efficient voluntary measures to reduce wastewater pollution to achieve the environmental objectives to complement the permit system. In the development of wastewater treatment systems the aim of WFD to achieve good water quality by 2015 will be taken into account.

The level required under the Governmental Decree on Onsite Wastewater Systems (209/2011) shall be achieved by March 2016. No target dates need be set in other respects.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Emissions caused by wastewater 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 since 1.1.2010 is the Regional State Administrative Agency. 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 wastewater treatment shall be implemented especially in locations where the water status is not good and waste water impacts on such status.

Wastewater treatment plants shall operate in such a manner that the emission 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 wastewater treatment systems and water systems.

The Decree on Urban wastewater (888/2006) presents the minimum requirements for biological treatment and phosphorus removal in wastewater treatment as well as the grounds on which nitrogen shall be removed from wastewater. 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 wastewater 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, wastewater from areas of dispersed settlement may not cause pollution of the environment. Wastewater treatment shall moreover meet the requirements for

biological oxygen demand, phosphorus and nitrogen removal under the Governmental Decree on Onsite Wastewater Systems (209/2011).

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 urban wastewater treatment plants in respect of at least organic matter (BOD7), phosphorus and nitrogen.

In the voluntary agreement to reduce the nutrient loads from the municipal waste waters signed with the Ministry of the Environment, Association of Finnish Local and Regional Authorities and Association of Finnish Waterworks have been defined concrete targets and deadlines for nutrient reductions from the municipalities.

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 competent 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.

General provisions concerning waste and wastewater are included in the Health Protection Act (763/1994). The requirement of waste and wastewater 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 wastewater and the planning, placement, construction and maintenance of sewers. The National Supervisory Authority for Welfare and Health (Valvira) pursuant to section 25 of the Act may issue instructions for the prevention of health hazards arising from waste and wastewater.

3. Assess the progress achieved towards the target.

Data entered in the VAHTI system shows that in 2010, the treatment efficiency of community waste water treatment plants in the removal of organic matter was 97% on average, in the removal of phosphorus 96% on average and in the removal of nitrogen 56% on average. In the near future, the efficiency of nitrogen removal will increase as total nitrogen removal requirement is imposed on several new 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 wastewater treatment plants are required to increase the efficiency of wastewater treatment especially when the plants impact on surface waters whose status is not good or whose status can be enhanced by more efficient wastewater 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.

The implementation of the voluntary agreement to reduce the nutrient loads from the municipal waste waters is monitored and yearly reports are published.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

XII. Disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations (art. 6, para. 2 (i), first part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

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

Under the Ministry of Agriculture and Forestry Decree 24/11 on Fertilizer Products (as amended by Decree 12/12 and 7/13), sewage sludge shall be treated in the requisite manner before using it in agriculture.

The national waste plan until 2016 sets a target that 100% of sewage sludge is recovered either by using it for soil conditioning or as energy.

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.

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

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 30 a of the Environmental Protection Act, the recovery and use of treated, non-hazardous sludge from waste water or septic tanks as soil improvement material and or fertilizer product in accordance with the Act on Fertilizer Products (539/2006) and Decree of the Ministry of Agriculture and Forestry (11/12) on carrying out activities concerning fertilizer products (allowed only for farmers for their own use on the farm), 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 treatment of wastewater sludge is guided by the national and regional waste plans as well as by the national biowaste strategy.

The national waste plan until 2016 was approved by the government in 2008. . This nationwide strategic plan is aimed at developing the Finnish waste management system and promoting waste prevention. The national waste plan emphasizes the relationship between waste issues and other sectors of environmental policy such as chemical policy, sustainable resource use, climate policy, environmental health, soil protection, and technology policy. The plan sets targets as restriction of landfilling of biodegradable waste. The energy recovery of those wastes which are not suitable for materials recycling should be increased. The aim is that in 2016, some 90% of all sludge generated in rural areas would be treated in wastewater treatment plants and the remaining 10% in biogas plants at farms. Tighter legislation on wastewater emissions in rural areas will probably increase the amount of sludge generated outside built-up areas. The aim is that by 2016, 100% of all municipal sludge will be recovered, either to be used as energy or for soil conditioning. It is estimated that the amount of municipal sludge generated will

remain more or less at present levels. The local measures for the implementation of the national targets are set in five regional waste plans. Also the national biowaste strategy (adopted in 2004) aims at increasing recycling and recovery of wastewater sludge.

The landfilling of municipal sewage sludge has decreased significantly during the last 15 years. In 2007-2010 only 1-3% of the sewage sludge produced was placed into landfills while in the beginning of the decade the amount was 5-7%, and in 1997 39% of the sludge produced. In 2005-2010 97-99% of the municipal waste water sludge produced was used in agriculture and landscaping. However, the use in landscaping dominates, and the share of agricultural use was in 2010 only about 5% of the total amount of sludge produced. The use of waste water sludge in energy production has been low during the whole decade, below 2%, and in 2009-2010 it was not recovered as energy at all, due to its high water content.

The heavy metal contents of the waste water sludge produced in Finland are low. The concentration of Cadmium has been below 1 mg/kg, Mercury below 0.5 mg/kg and Lead below 10 mg/kg.

Due to lack of reliable statistics, it has not been possible to evaluate the achievement of the targets set for the treatment of sludge generated in rural areas.

The Government Decree on Onsite Wastewater Systems (542/2003) entered into force at the beginning of 2004. In 2011 the degree 542/2003 was revised after considerable public dissatisfaction. The wastewater treatment requirements were lowered and the transition period was postponed by two years until March 2016. The new Degree on Onsite Wastewater systems (209/2011) came into force on 15.3.2011.

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.

The prohibition on discharging sludge into water systems appears in the Government Decree on community waste water (888/2006).

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 the Ministry of Agriculture and Forestry Decree 24/11 on Fertilizer Products (as amended by Decrees 12/12 and 7/13). 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 and the characteristics of the acreage where the sludge is spread. Additionally, the Government Decree on Waste (179/0212) sets requirements to the accounts and reporting relating to the activities.

The use of sewage sludge in agriculture is governed by the Fertilizer Products Act (539/2006) and the complementary Decrees of the Ministry of Agriculture and Forestry (24/11 and its amendments 12/12 and 7/13) on fertilizer products and (11/12) 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 (646/2011) concerning corresponding waste (waste transport scheme and waste recovery and disposal) so that the municipality plays a significant role as operator.

3. Assess the progress achieved towards the target.

The amount of municipal sludge was in 2010 about 143 000 t/a dry solids. 93% is applied in landscaping (covering closed landfills, mixing with clay, sand and peat for turfcontracting etc.). 5% is applied in agriculture and 2% was landfilled.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

XIII. Quality of wastewater used for irrigation purposes (art. 6, para. 2 (i), second part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

   Not relevant because wastewater is not used for irrigation purposes in Finland.

XIV. Quality of waters which are used as sources for drinking water (art. 6, para. 2 (j), first part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

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

The target of ground water quality is the same as it is according to the Water Framework Directive and the Directive on the Protection of Groundwater against Pollution and Deterioration (2006/118/EC): good status in the year 2015. All of the ground water bodies used for drinking water meet the requirements of Decree of the Ministry of Social Affairs and Health Relating to the Quality and Monitoring of Water Intended for Human Consumption (461/2000) after treatment.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Most of the water protection measures in Finland are based on legislation. Some additional measures, e.g. educational and steering measures, are also used.

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.

3. Assess the progress achieved towards the target.

Recently the water quality is deteriorated (worse than good) in less than one third of the lakes and in about 40% of rivers that has been subject to planning.

Groundwater is a very important source of drinking water in Finland where approximately 65% of the people served by public waterworks now use groundwater or artificial groundwater. The quality of ground water has been maintained rather good so that less than 2% of ground water areas aquifers important or suitable for water supply are deteriorated. Human activities cause significant risks for ground water in about 250 ground water bodies. In addition approximately 200 ground water bodies need more studies to define if they are at risk and if the status is good or bad. Progress has been made in the quality of the ground water bodies with bad status but as more studies have been done, new areas with bad poor status may arise.

As result of the activities identified in River Basin Management Plans it has been estimated that good water quality will be achieved in over 90% of the lakes, about 70% of the rivers under the subject to the planning by 2015. Almost all ground water bodies will achieve good water quality status by 2015. All sectors have to intensify the water protection measures.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

Some excemptions exists where good status cannot be reached by 2015 because of technical feasibility or natural conditions. In these cases the target date of good status has been set to 2021 or 2027.

5. If you have not set a target in this area, please explain why.

Not relevant

XV. Quality of waters used for bathing (art. 6, para. 2 (j), second part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

Water quality at large public bathing areas meets the requirements of the Decree of the Ministry of Social Affairs and Health (177/2008), which are based on the requirements of the Bathing Water Directive 2006/7/EC. According to these regulations, bathing water quality should be at least sufficient.

Bathing water at small public bathing areas meets the national requirements of the Decree of the Ministry of Social Affairs and Health (354/2008).

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

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 large public bathing areas appeared in Decree (177/2008) of the Ministry of Social Affairs and Health, which are based on 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. The Decree provides for the monitoring and classification of bathing waters, water quality management and dissemination of information about bathing water quality. The said Decree imposes requirements concerning microbiological quality on bathing water and measures to be taken when bathing water quality fails to meet the requirements imposed. 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 Decree (354/2008) of the Ministry of Social Affairs and Health apply to bathing waters in small public bathing areas that are expected to be visited by less than 100 swimmers per day. The said Decree imposes microbiological values for management action. Decree includes regulations on measures to be taken when bathing water quality fails to meet these microbiological values. The Decree also provides regulations on dissemination of information about bathing water quality.

3. Assess the progress achieved towards the target.

In general, the quality of Finnish bathing waters is very good. Occurrence of cyanobacteria in bathing water can, however, pose health hazards. Heavy rains, floods or waste water accidents can temporarily deteriorate the microbiological quality of bathing water. In these occasions, public are informed and the quality of bathing water additionally monitored or visually inspected.

The first classification of large public bathing areas has been done after the bathing season 2011. Most bathing areas were classified as excellent, some as good or sufficient, and only three areas as poor. Reasons to the poor status of bathing water have been investigated, but not always identified. In one bathing area, the quality of bathing water has been improved by taking significant management measures and remedial actions at the bathing area after the bathing season 2011. In the other two bathing areas

classified as poor, the status of bathing water will be followed during the next bathing seasons and possible management actions will be decided according to the results. The results of the bathing season 2012 are still under assessment and will be completed before the bathing season 2013. According to the Bathing Water Directive 2006/7/EC, a bathing area shall be closed permanently, if the quality of bathing water can't be improved through reasonable actions and costs.

Public are informed about the implementation of bathing water legislation and they have possibility to express their opinions about it, e.g. the list of public bathing areas. Bathing water monitoring results and their interpretation, status of classification, bathing water profile which is the description of a bathing area and factors affecting the quality of bathing water, and reasons to the poor water quality are available in the Internet. A lot of information for public is also available at the bathing area.

The monitoring data of small public bathing areas is at the moment in the municipalities. A national environmental healthcare target information system comprising all environmental healthcare sites, including public bathing areas, is currently under construction. From the years 2014-2015 when this information system is fully operational, information also from these small public bathing areas will be collected into national database. Monitoring results and their interpretation, and if needed instructions and guidance for bathers to protect their health are available at the bathing area.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment.

5. If you have not set a target in this area, please explain why.

Not relevant.

XVI. Quality of waters used for aquaculture or for the production or harvesting of shellfish (art. 6, para. 2 (j), third part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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.

General objectives for the status of waters have been set nationally 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.

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.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

As regards the water quality in aquaculture our national Decree of the Ministry of Agriculture and Forestry on Food Hygiene in the Primary Production of Foodstuffs (1368/2011) refers to the Article 2 of and Annex I to Regulation (EC) No 852/2004 of the European Parliament and of the Council on the hygiene of foodstuffs and to Annex III o regulation (EC) No 853/2004 of the European Parliament and of the Council laying down specific hygiene rules for food of animal origin.

3. Assess the progress achieved towards the target.

The Government adopted the River Basin Management Plans of 7 districts covering the whole country. The plans set the environment quality objectives for the surface waters and groundwater. It also identifies the measures and instruments to achieve the environmental objectives.

As a result of the activities identified in the River Basin Management Plans, it has been estimated that good water quality will be achieved by 2015 in over 90 % of the lakes and about 70 % of the rivers subject to planning. All sectors have to intensify the water protection measures.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

XVII. Application of recognized good practice in the management of enclosed waters generally available for bathing (art. 6, para. 2 (k))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the 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 enclosed water hygiene referred to in section 28a of the Health Protection Act (763/1994).

The target date set with respect to enclosed water quality is 2015, and with respect to completion of the proficiency test is 30 June 2008.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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 with respect to microbiological, chemical and physical quality are laid down in the Decree. The basic premise for the quality requirements is to ensure enclosed water does not 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 regulation 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.

Surveillance analyses for the municipal health protection authorities are conducted at laboratories that have been approved by the Finnish Food Safety Authority and have been evaluated according to ISO/IEC 17025 standard. Prerequisites for the approval are laid down by Government Decree (1174/2006).

Enclosed water management, like water management in general in Finland, is subject to generally accepted practices. In addition to the aforementioned Decree (315/2002) issued by the Ministry of Social Affairs and Health, that same 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 cooperation between facilities and municipal health protection authorities and to harmonise 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 Supervisory Authority 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 persons licensed to test the proficiency are registered and supervised by the National Supervisory Authority for Welfare and Health. 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.

3. Assess the progress achieved towards the target.

By the end of the year 2009, a total of 2675 employees taking actions impacting on the quality of enclosed waters at swimming pools and spas have accomplished certificates which verify their proficiency in plant technology and enclosed water hygiene. All these employees are required to have the certificate in order to take actions impacting on the quality of enclosed waters. So far, the licence to test the proficiency has been issued to 45 persons.

In general, the water quality of enclosed waters at swimming pools and spas fulfil the requirements that are laid down by the Decree of the Ministry of Social Affairs and Health (315/2002). At present a national environmental healthcare target information system comprising all environmental healthcare sites is under construction. Through this system the surveillance information gathered and inspected at the municipalities can also be investigated at Regional State Administrative Agencies, the Supervisory Authority for Welfare and Health and the National Institute for Health and Welfare.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

XVIII. Identification and remediation of particularly contaminated sites (art. 6, para. 2 (l))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

The identification and remediation of contaminated sites will be continued in a prioritized manner within the framework of available appropriations under the baton of The Centers for Economic Development, Transport and the Environment.

Sites causing significant environmental and health danger threaten groundwater and other sensitive environmental sectors shall be prioritized in remediation.

Existing legislation and ongoing activities such as land owners plans for land use mainly determine the targets to identification and remediation contaminated sites.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

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. Land Use and Building Act (132/1999), Water Act (587/2011), Forest Act (1093/1996), Nature Conservation Act (1096/1996), Waste Act (646/2011), Chemicals Act (744/1989), Environmental Damage Insurance Act (81/1998) 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.

Soil remediation focus particular on risk management in the classified groundwater areas (groundwater is used or planned to use for household consumption) and areas where the land use is changing.

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 national soil contamination data system (MATTI) has been deployed in 2007. Data has been collected on nearly 24,000 sites. The sites are classified into four categories; sites requiring assessment, sites which must be investigated or remediated as necessary, sites where no remedial action is needed and operative sites. The majority of the sites fall into the category of "sites requiring assessment". 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 not yet to be determined. Some 4,350 of the surveyed sites are located in classified groundwater areas, and some 280 sites at a distance of less than 100 metres from water abstraction facilities.

By the end of 2012, the environmental administration had taken over 4,800 decisions on the remediation of contaminated sites. On average 250 - 300 remediation 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.

The majority of remediation is undertaken with private funding. The estimation of the private proportion is 60%. Remediation through the State Waste Management System had been initiated at nearly

330 sites and through the Environmental Protection Support over 60 sites (discontinue). These funds have been used to relocate several old landfills and shooting ranges 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, a joint undertaking of oil companies and the Ministry of the Environment. By the beginning of 2012, applications had been submitted for the inclusion of nearly 1,400 sites in the programme and remediation had been initiated at nearly 650 sites. Old filling station properties located in groundwater areas have been a particular focus of this programme.

3. Assess the progress achieved towards the target.

Remediation has been initiated at nearly 480 contaminated soil sites during 2011 and 2012 in Finland. Remediation through the State Waste Management System had been completed at 30 sites in the last two years. It has been applied in the sites, when the property owner is not able to pay and there has been significant threat to the environmental or health. In most cases the risk focuses on groundwater quality. At the same time the SOILI programme has begun remediation actions at nearly 60 old filling stations. In recent years this state budget money has been about 3 million euros per year and from The Oil Pollution Compensation Fund 2 million euros per year.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

No need at the moment

5. If you have not set a target in this area, please explain why.

Not relevant

XIX. Effectiveness of systems for the management, development, protection and use of water resources (art. 6, para. 2 (m))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

The targets and target dates have been addressed under different sections of Part three of this report.

Management, development, protection and use of water resources is supported ,based on the EU Water Framework Directive, by the Act on Water Resources Management (1299/2004), the Government Decree on Water Resources Management Regions (1303/2004), and the Government Decree on Water Resources Management (1040/2006). In the spring of 2011, the Act on Water Resources Management was amended by means of a new chapter, on marine environment management. Consequently, the name of the act was changed to 'Act on Water Resources and Marine Environment Management' (272/2011).

Government Decree on Substances Dangerous and Harmful to the Aquatic Environment (1022/2006) was issued in 2006. The Directive on the Protection of Groundwater against Pollution and Deterioration (2006/118/EC) has been implemented nationally through amendment of the above-mentioned decrees. In accordance with Section 17 of the Act on Water Resources Management, the Government approves river basin management plans. The first river basin management plans were approved on 10 December 2009. Based on this legislation River Basin Mangement Plans (RBMP`s) and related Programmes of Measures (PoM`s) have been adopted for seven regions in mainland Finland. These plans and PoM`s will be revised by 2015.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Actions are described under different sections of Part three of this report. In the River Basin Mangement Plans are identified the measures to achieve good water quality status and to prevent the deterioration of the good water quality by 2015, with some exemptions by 2021 or 2027. On 10 December 2009 the Finnish Government approved river basin management plans (RBMPs) for seven river basin districts. A Programme for Implementation of River Basin Management Plans was prepared through broad collaboration. In February 2011, the Finnish Government passed a resolution adopting the Programme for Implementation of River Basin Management Plans for the period 2010–2015. Regional measures are specified based on the national programme for implementation.

The programme deals with the measures and policy instruments in different sectors, including those responsible for implementation. The leading projects that overlap different governmental sectors are also introduced. Through implementing the measures introduced in the RBMPs, a good ecological status will be secured or reached in 90% of lake surface waters and in 70% of river length by 2015. It will take more time to reach the goals in coastal waters and some rivers, but the final target for reaching a good ecological status is set for 2027. For groundwater resources, excluding a few exceptional cases, nearly all are estimated to have reached a good ecological status by 2015.

To reach the environmental goals demands actions in all sectors. The prioritisation of measures varies depending on the characteristics of the river basin districts. The mitigation of agricultural nutrient pollution will require the most measures, but measures are needed in other sectors as well. The RBM plans will be implemented through the actions of many different actors. These include operators, enterprises, households, NGOs, government sectoral authorities, regional State administrative agencies, municipalities, regional councils, research centres, interest groups, associations, and many voluntary actors. Concrete water management measures should be carried out by those who directly impact water quality.

Implementation requires actions at all administrative levels (EU, national, regional, local). At the national level, ministries are responsible for implementing the RBMPs. The main instruments include allocation of the funding for enhancing water protection, development of legislation and policy instruments, and R&D. Many of the projects require common measures and horizontal policy actions and instruments.

The scope of instruments for the management, development, protection and use of water resources including environmental permits, amendments in legislation, different guidance projects, elaboration of strategies, improvement of risk assessments, development of monitoring, elaboration of water safety plans as well research and development projects. Also education and information on good practices plays important role.

3. Assess the progress achieved towards the target.

The progress achieved in different sectors is described in other sections of Part three of this report.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

There are no special target dates set for the overall effectiveness of the management of water resources, all aspect are properly covered in the different sections.

5. If you have not set a target in this area, please explain why.

The targets and target dates have been addressed fully under different sections of the Protocol.

XX. Additional national or local specific targets

In cases where additional targets have been set, for each target:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

Part Four
Overall evaluation of progress achieved in implementing the Protocol

In this part of the summary report, Parties shall provide an analysis and synthesis of the status of implementation of the Protocol. Such an overall evaluation should not only be based on the issues touched upon in the previous parts, but should also include, as far as possible, a succinct overview of implementation of article 9 on public awareness, education, training, research and development and information; article 10 on public information; article 11 on international cooperation; article 12 on joint and coordinated international action; article 13 on cooperation in relation to transboundary waters; and article 14 on international support for national action.

This analysis or synthesis should provide a succinct overview of the status of and the trends and threats with regard to waters within the scope of the Protocol sufficient to inform decision makers, rather than an exhaustive assessment of these issues. It should provide an important basis for planning and decision-making as well as for the revision of the targets set, as needed.

Enhanced cooperation and information on waterborne outbreaks through an electronic reporting system

In Finland, the quality of drinking, pool and bathing waters is very good. However, each year some waterborne outbreaks have occurred in Finland. The electronic reporting system for waterborne outbreaks has been revised at the end of 2011. Today, all suspected waterborne outbreaks caused by drinking, pool or bathing waters are reported through the system. The reporting system accelerates the cooperation between authorities and enables immediate remedial actions to protect public health and to restrict an outbreak. Information on waterborne outbreaks is now more reliable than before the launch of the system. In additional, national and EU funded research projects have produced presentations and publications on water microbiology and increased co-operation between national and international research institutes, authorities and water companies.

Risk assessment and management tools for drinking water production and sanitation

A risk based assessment and management system is under construction. The national supervisory authority will publish a web based tool for risk assessment and management of large supplies and a checklist type of Excel based tool for risk assessment of small supplies. Both are based on WHO water safety plan (WSP) approach. Risk-based monitoring of drinking water will be statutory within the next few years in order to improve the production of good quality and safe drinking water. Finland has also participated actively in collaboration with other EU member states and the Commission, as mandated by the Drinking Water Directive Article 12 Committee, to the work to explore how the current Drinking Water Directive has been developed by some member states to implement a risk based approach for improving the quality and safety of small supplies. The principles outlined in the document (under preparation) may be used to set out a path towards improving the quality of the small supplies in member states that not yet have adopted a risk-based monitoring of drinking water.

Sanitation safety plan (SSP), a management tool for risks posed by wastewater treatment to environment and health, has been developed. SSP is parallel to WSP, and it has been created by applying the principles of WSP by modifying the web-based WSP tool to apply to sanitation.

Guidance for emergency planning

Emergency planning of drinking water treatment plants is statutory. Guidance has been further developed in close association with all competent authorities and stakeholders in order to integrate the emergency plans of drinking water treatment plants to the communal emergency planning in the fields of water supply and environmental health. Guidance include emergency preparedness to microbiological, chemical and radiological contamination of drinking water, deliberate contamination of water (vandalism), cyber threats, power cuts, and crisis communication.

Statutory proficiency testing of employees in water supply plants, swimming pools and spas

Proficiency testing of employees of the drinking water supply plants was regulated by law in 2007. By year 2012 more than 20 000 employees of drinking water supply plants accomplished certificates which verify their proficiency in water plant technology and hygiene. The certificate for the proficiency is valid for five years. The test questions were revised in 2012 when the second period of the testing began. Similar statutory proficiency testing is statutory also for the pool and spa employees.

Information and education projects for water protection

The Governmental Decree on Onsite Wastewater Systems was revised in 2011. In connection of the revision, the Parliament stated that more information and education has to be provided to promote the water protection in rural areas. The Ministry of Environment has funded environmental NGO's information projects in 2011, 2012 and 2013. There have been information lectures, town meetings and on-site advising available in all provincial areas. The NGO's staff took part in supplementary education provided by Finnish Environment Institute to assure consistent and neutral guiding. In 2012 ca. 6,000 households received personal advising on their property.

The Ministry of the Environment published a guidebook "Wastewaters in sparsely populated areas – Legislation and practice" in 2011 for local authorities and other professionals as a help to interpret the degree. In addition two coherent brochures were published. Finnish Environment Institute collects technical information and scientific studies of most commonly available on-site wastewater treatment systems for public and professional use in a treatment database.

Part Five

Information on the person submitting the report

The following report is submitted on behalf of FINLAND [name of the Party or the Signatory] in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report: Jarkko Rapala

E-mail: jarkko.rapala@stm.fi

Telephone number: +358 295 163 315

Name and address of national authority: Ministry of Social Affairs and Health

Signature: 

Date: 11 April 2013

Submission

Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, by **29 April 2013**. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the third session of the Meeting of the Parties.

Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy either on a CD-ROM or by e-mail. Electronic copies should be available in word-processing software, and any graphic elements should be provided in separate files.

Joint Secretariat to the Protocol on Water and Health

United Nations Economic Commission for Europe
Palais des Nations
CH-1211 Geneva 10
Switzerland
E-mail: protocol.water_health@unece.org

and

Regional Office for Europe of the World Health Organization
WHO European Centre for Environment and Health
Hermann-Ehlers-Strasse 10
53113 Bonn – Germany
E-mail: watsan@ecr.euro.who.int