

## WATER QUESTIONNAIRE

### Water Framework Directive

#### *Legal reference*

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327 22.12.2000 p. 1 EUR-Lex hyperlink [html](#) [pdf](#)

#### **A. Which parts of the provisions of the Directive have been transposed?**

Main water legislation in Turkey are as follows:

- The By-law on Control of Pollution by Dangerous Substances in Water and its Environment (Official Gazette: 26 November 2005, no. 26005)
- The By-law on Water Pollution Control (Official Gazette: 31 December 2004, No. 25687),
- The Law on Fisheries No.1380 (Official Gazette: 4 April 1971, No.13799),
- The By-law on Fisheries (Official Gazette: 10 March 1995, No. 22223),
- The By-law on the Quality of Surface Water Intended for the Abstraction of Drinking Water (Official Gazette: 25730, No. 17 February 2005),
- The Law on Groundwater No.167 (Official Gazette: 10688, 23 December 1960),
- The By-law on Protection of Waters Against Nitrate Pollution from Agricultural Sources (Official Gazette: 18 February 2004, No. 25377)
- The By-law on Urban Wastewater Treatment (Official Gazette: 8 January 2006, No.26047).
- The Law on the Organization and Duties of the General Directorate of State Hydraulic Works No.6200 (Official Gazette: 25 December 1953, No.8592)
- The Law on Potable, Utility and Industrial Water Supply in Ankara, Istanbul and Cities with a Population Over One Hundred Thousand No. 1053 (Official Gazette: 16 July 1968, No. 12951)
- The By-law on Aquaculture (Official Gazette: 29 June 2004, No.25507).
- The Law on Environment No.2872 (Official Gazette: 11 August 1983, no 18132) as amended by the Law No.5491 (Official Gazette: 13 May 2006, no 26167)

The terms including hazardous substances, surface water, groundwater, river, lake, coastal water, pollution, environmental quality standards are defined in the By-law on Control of Pollution by Dangerous Substances in Water and its Environment, the By-law on Water Pollution Control, the Law on Fisheries No.1380 and the By-law on Fisheries.

The Measures Program is determined and its implementation periods are defined in the By-law on Control of Pollution by Dangerous Substances in Water and its Environment and in the By-law on the Quality of Surface Water Intended for the Abstraction of Drinking Water.

The By-law on Control of Pollution by Dangerous Substances in Water and its Environment and its amended Annexes (Official Gazette: 31 December 2005, No.26040) covers 33 priority dangerous substances that are identified as “priority substances” in the Annex X of the Directive 2000/60/EC.

In addition, a technical study is expected to be carried out under “Capacity Building Support to Turkey for the Water Sector” Project (TR/2004/IB/EN/01) to be financed under 2006 EU Pre-Accession Financial Assistance. The Project has aimed at enhancing the introduction of water management system at river basin level in Turkey through strengthening appropriate institutions and designing water management instruments, which are applicable to the conditions of various river basins in order to establish an enabling environment necessary for designing a plan targeting the establishment of a framework for action in the field of water policy with a view to implementing the Directives 2000/60/EC of 23 October 2000, 91/271/EEC of 21 May 1991 and Directive 76/464/EEC of 4 May 1976 and its daughter directives at the stage of full membership.

## **B. When is transposition foreseen for the remaining measures?**

A technical study needs to be initiated in connection with the above mentioned project proposal.

## **C. What have been achieved as regards:**

- **Identifying RBDs. (Art. 3)**

There are 25 defined river basins in Turkey.

- **Giving legal effect to administrative arrangements for international rivers, lakes or coastal waters. (Art. 3)**

The water issues are dealt with in the form of bilateral cooperation within the framework of the responsibilities of the relevant institutions.

- **Designating competent authority/ies. (Art. 3)**

Turkey has a number of governmental institutions functioning in the field of water management. Tasks and responsibilities of these organizations are described in their respective establishment laws. The main organizations involved are the Directorate General of State Hydraulic Works with responsibilities for water quantity and quality monitoring on river and lakes and the Ministry of Environment and Forestry with responsibilities related to water quality.

The studies for the 25 river basins defined for the management and development of water resources, have been carried out by the General Directorate of State Hydraulic Works and the Ministry of Environment and Forestry in cooperation with the other relevant institutions.

The institutions related to water issues in Turkey are as follows:

*The Ministry of Environment and Forestry* has an overall co-ordinating role for the development and implementation of environmental policies in Turkey. Thus the Ministry of Environment and Forestry collaborates with other ministries, government agencies and other stakeholders. The specific duties of the Ministry of Environment and Forestry can be summarized as:

- to develop and approve of environmental plans, and ensure their implementation
- to establish laboratories for analysis, experiments, measurements and control
- to ensure the implementation of the By-law on Environmental Impact Assessment (Official Gazette: 16 December 2003, No.25318).
- to designate Ramsar sites,
- to ensure the coordination of harmonization of the Turkish Water Legislation with the EU Acquis,
- to determine the classification of the quality of water resources
- to determine the criteria related to water resources
- to give water discharge permits for installations, monitoring discharges and wastewater treatment plants,
- to approve projects concerning wastewater treatment plants for industrial installations,
- to prepare contingency plans for protection of water resources

*The General Directorate of State Hydraulic Works* under the aegis of the Ministry of Energy and Natural Resources in Turkey is responsible for management of water resources. It has 25 regional directorates.

Investigation, planning, designation, construction and operation of water resources are carried out by the General Directorate of State Hydraulic Works.

The field of activities of the General Directorate of State Hydraulic Works can be listed as follows;

- irrigation facilities,
- production of hydroelectrical energy,
- domestic water supply,
- environment

The General Directorate of State Hydraulic Works is responsible for prevention of damage to both surface water and groundwater and for the quality of these waters depending on their uses.

For the cities with more than 100,000 inhabitants, the General Directorate of State Hydraulic Works is responsible for the long-term supply of drinking domestic and industrial water. For this water supply, the General Directorate of State Hydraulic Works analyses the investments of the transfer pipelines, water treatment plants, pumping stations and main clean water storage, collects data, prepares master plans, final projects, demonstration projects and constructs them.

The groundwater is under the control and ownership of the State. The investigation, usage, protection and registration of the groundwater are subject to the provisions of the Law on Groundwater No.167. The General Directorate of State Hydraulic Works executes the provisions of this Law on behalf of the State. Any person requiring groundwater should get licenses. The licensing of exploration, utilization and improvement-modification are under the authority of the General Directorate of State Hydraulic Works, which determines the number of wells that are going to be opened in the field of an enterprise, their locations, depths, other characteristics and the amount of water to be used from a well.

The General Directorate of State Hydraulic Works is also the authority monitoring water quality in 1,150 sampling stations.

*The Ministry of Health* plays an important role in certain aspects of environmental protection through its responsibilities for public health. In the water sector, it has certain responsibilities for drinking water quality and bathing water quality and certain responsibilities for urban wastewater collection and treatment.

*The Ministry of Agriculture and Rural Affairs* is responsible for:

- protecting the resources of water, plants, animals and fisheries as well as products,
- control of wastewater discharges and receiving environment in fish production areas,
- monitoring of nitrates parameter in freshwater and groundwater.

The Ministry of Agriculture and Rural Affairs has 40 Provincial Control Laboratories, which have been measuring quality of inland, marine and all wastewater.

*The Bank of Provinces* is affiliated with the Ministry of Public Works and Settlement (The Ministry has a role in the planning of coastal areas according to the Law No.3621 on Coasts) as well as public works relating to drinking water supply and treatment, sewage systems and urban wastewater treatment and solid waste disposal for municipalities.

- **Establishing a register of Protected Areas. (Art. 6)**

In order to preserve the drinking water sources in Turkey, inventory lists are being made and protection measures are being taken around the drinking water dams that are defined in accordance with the By-law on Water Pollution Control. In accordance with the Law on Groundwater No.167, when groundwater abstraction is reached to potential of groundwater, allocation is stopped to keep under control the exploitation and preservation of the groundwater sources.

In accordance with the By-law on Conservation of Wetlands (Official Gazette: 17 May 2005, No. 25818) boundaries of protection zones are determined for Ramsar Sites. There are more than 1,000 wetlands in Turkey. 135 of them are classified as “Wetlands of International Importance” according to Ramsar Criteria. 12 of these Wetlands of International Importance are designated as Ramsar Sites.

Apart from the protection areas defined as wetland protection zones, ecological influence area, absolute protection zone and buffer zone, Ramsar Areas are designated in Turkey at where 12 Ramsar sites are officially designated up to now.

Besides, there are 14 Specially Protected Areas<sup>1</sup> in Turkey at where protection of surface water (wetlands, rivers. etc) and groundwater in terms of quality and quantity is of utmost important. The current status of surface and groundwater (including the geothermal water) in these areas are being determined by projects.

In accordance with the By-law on Urban Wastewater Treatment, sensitive areas are foreseen to be determined until 8 January 2009 and the technical studies are under way in this respect.

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<sup>1</sup> These are the areas which are designated in the scope of one of the protocols of Barcelona Convention named as “Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean”.

- **Analysis of the characteristics of the RBD. (Art. 5)**

There exists information about the characteristics of 25 river basins in Turkey including information on topography (contours, elevation, etc.), meteorology (climate, rainfall values, temperature, wind, evaporation, etc.), hydrology (quantity and quality of the water), geology (especially the geological structure around the water source), properties of the soil source if the project aims at irrigation (land classification), agricultural properties of the area which is directly affected from the project or is planned to be developed for irrigational ends (product variety).

- **Review of the environmental impact of human activity. (Art. 5)**

The impact of human activities and the precautions to be taken against them are being reviewed in a detailed way within the scope of the Law on Environment No.2872 (Official Gazette: 11 August 1983, No.18132), the By-law on Water Pollution Control, the By-law on Control of Pollution by Dangerous Substances in Water and its Environment and the By-law on Environmental Impact Assessment.

On the other hand, Turkey is a Party to the “Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)” signed on 16 February 1976, in force 12 February 1978 (revised in Barcelona, Spain, on 10 June 1995 as the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean) and to the “Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)” signed on 21 April 1992, in force 15 January 1994 as well as their Protocols with respect to pollution from land-based sources. Within the framework of these Conventions and Protocols, a National Action Plan against Land-based Pollution is prepared for the water basins, which flow into the Mediterranean Sea, the Aegean Sea, the Marmara Sea and the Black Sea. The sources of the land-based polluters and the extent of the pollution load, as well as regions and sectors having priority are determined in the Action Plan.

- **Economic analysis of water use (Art. 5)**

The 3<sup>rd</sup> Article of the Law on Environment No.2872 emphasizes the “polluter pays” principle as well as the general principles to prevent environmental pollution.

The economic analysis of the planned projects that aimed at provision of potable and drinking water, water for irrigation, water for energy and industry are carried out by the General Directorate of State Hydraulic Works.

The water and wastewater tariffs are determined by Municipalities in accordance with the Law on Municipal Revenues No.2464 (Official Gazette: 29 May 1981 no.17354, amended with the Law No. 5035, Official Gazette No. 25334, dated 2 January 2004). Both the industrial facilities and the households linked to sewage and water supply have to pay “user fee” to municipalities. The industrial facilities that provide their water from water wells do not pay a “user fee”, but have to pay a “sewage connection fee” for their wastewater discharges. In cases where the industrial facilities do not comply with the defined connection limits, “incompliance fee” have to be paid.

The 95 % of the irrigation facilities has been transferred to the Water User Organizations (irrigation associations, irrigation cooperatives, etc.). The organizations recover cost of operation-maintenance and administration of the irrigation facilities.

- **Establishing programmes for monitoring water quality. (Art. 8)**

The studies for monitoring water quality have been carried out since 1979 by the General Directorate of State Hydraulic Works. Currently, monitoring is done in 1150 stations. The quality of drinking water is observed in approximately 400 of these stations at where the measurements are carried out 12 or 6 times a year. 4 or 6 measurements are made per year in stations that have general purposes. In these stations, where needed, heavy metal measurements are made periodically. Heavy metal analysis is also carried out twice a year in drinking water stations. Biological sampling studies are done at the project level.

The water pollution monitoring studies in inland waters are being carried out in about 450 sampling stations, once in three months, four times a month on the basis of 16 parameters including temperature, pH, oxygen, ammoniac, nitrit, nitrate, potassium, total copper, chlorine, sulfate, iron, phosphate, zinc, sulphide and KOI.

In accordance with the Law on Fisheries No. 1380 and the By-Law on Fisheries, receiving environment and wastewater discharge controls are carried out in fish production areas. Furthermore, in the scope of the By-Law on Protection of Waters Against Nitrate Pollution from Agricultural Sources, nitrate parameters have been monitored monthly in surface waters and ground waters in about 1000 sampling stations (200 surface water and 800 ground waters stations) since 2005.

Within the framework of the Barcelona Convention and the Bucharest Convention, the comprehensive and long-term monitoring of the Mediterranean and the Black Sea are carried out in the scope of Mediterranean Pollution Monitoring Program under the MED POL Program and The Black Sea Pollution Monitoring Program, respectively.

At the local level, the Ministry of Environment and Forestry and other relevant institutions have been monitoring the quality of water on the basis of projects through regional and provincial directorates.

- **Establishing programmes of measures for each RBD. (Art. 11)**

The programme of measures and their implementation periods are determined in the The By-law on Control of Pollution by Dangerous Substances in Water and its Environment as well as in the By-law on the Quality of Surface Water Intended for the Abstraction of Drinking Water.

In accordance with the 37<sup>th</sup> Article of the By-law on Water Pollution Control, the Ministry of Environment and Forestry can resort to certain restrictions that are stricter than those stated in the Bay-Law in order to prevent a possible abuse of the receiving environment or to improve its quality.

According to the 10<sup>th</sup> Article of the Law on Environment No.2872, the facilities, institutions or operations that may cause environmental problems due to their activities should prepare an “Environmental Impact Assessment Report.” In this report, the measures to eliminate or minimize the waste that can cause pollution are determined taking into account all possible effects on the environment.

- **Publishing draft River Basin Management Plans and making them available to the public. (Art. 14)**

Basin master plans aiming to improve the water sources in the 25 river basins of Turkey have been prepared by the General Directorate of State Hydraulic Works. On the basis of these master plans, projects that have aimed at provision of drinking water, potable water, water for irrigation and water for industry and establishment of dams and small lakes to produce hydroelectrical energy are developed.

- **Publishing River Basin Management Plans. (Art. 13)**

A technical study needs to be initiated.

- **Establishing an effective enforcement system. (Art. 23)**

In accordance with the Law on Environment No.2872 penal sanctions are imposed, which are implemented for the discharges monitored by Governorships. The Ministry of Environment and Forestry is informed periodically by Governorships about the fines imposed within this context. The Law on Environment No.2872 (Official Gazette: 11 August 1983, no 18132) as amended by the Law No.5491 (Official Gazette: 13 May 2006, no 26167) has stricter and more efficient enforcement system.

There are certain penal sanctions in the Law on Groundwater No.167 about the unlicensed and undue exploitation of waters.

In accordance with the Law on Fisheries No.1380 and the By-law on Fisheries, legal actions are taken against operators that exceed the limit values of the relevant legislation about the receiving environment and wastewater discharge controls.

## Shellfish waters

### *Legal reference*

Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters (OJ L 281 10.11.1979 p. 47) EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed? How is the link to the WFD been considered in the transposition and the implementation?"**

The following provisions of the Directive are being enforced in Turkey by the Instruction on Implementation Regarding the Opening up and Closing of Production Areas for Bivalve Molluscs Produced By Fishing or Through Cultivation, to Product Harvesting, Sampling and Exportation to the European Union (No. 250 10 08 11 03-04-1077-19463, dated 17 August 2005, issued by the Ministry of Agriculture and Rural Affairs):

- determination of the parameters that will be applied for the waters of the bivalve molluscs and of the limit values of those parameters,
- designation of bivalve molluscs waters,
- setting up of a sampling and monitoring system,
- laying down provisions relating to other parameters than those provided for the Council Directive 79/923/EEC of 30 October 1979.

### **B. When is transposition foreseen for the remaining measures?**

Technical studies are in progress.

### **C: What have been achieved as regards:**

- **Designating shellfish waters Art. 4)**

Bivalve molluscs production regions and sub-areas within these regions are designated in Turkey in accordance with the Council Directive 91/492/EEC of 15 July 1991 laying down the health conditions for the production and placing on the market of live bivalve molluscs. Four regions in Turkey were designated as bivalve molluscs production regions by the Ministry of Agriculture and Rural Affairs. These regions were given in the Annex-A of 1999/767/EC.

Three more regions were designated as bivalve molluscs production regions by the Ministry of Agriculture and Rural Affairs in Turkey and relevant information were sent to the European Commission. The Commission Decision was revised in 2005 and New Consolidated List for Turkey was published in 22 November 2005. Currently, the designated bivalve molluscs production regions in Turkey include I. Region: Ayvalık, II. Region: Canakkale, IV. Region: West Black sea, V. Region : Middle Black sea, 84 . Region: Aliğa – Caltidere, 85. Region: Çeşme- Dalyankoy, 86. Region: Çeşme – Mersin Koyu.

Within the designated bivalve molluscs production regions, bivalve molluscs production areas are determined and monitoring programs are carried out at the areas opened to fishing in accordance with the Ministerial Circular Regulating Commercial Fishing in Seas and Inland



Waters (Official Gazette: 12 August 2004, No.25551, issued by the Ministry of Agriculture and Rural Affairs).

A monitoring programme has been running in the 7 designated bivalve molluscs production regions and about 35 bivalve molluscs production areas for the 2005-2006 fishing season.

- **Identifying competent authority/ies**

The Ministry of Agriculture and Rural Affairs is responsible for the monitoring of quality of product and water at the bivalve molluscs production areas.

- **Establishing water quality standards (Arts. 2 and 3)**

The system for monitoring of the bivalve molluscs production areas was set up in 1994 and has been revised in time depending on changes and weaknesses of the system. Within the framework of the monitoring programme for bivalve molluscs production areas, the parameters to be applied to the bivalve molluscs waters and the limit values of these parameters have been determined. The parameters that are monitored in the bivalve molluscs waters include pH, temperature, dissolved oxygen, salinity, petrol hydrocarbons, mercury, arsenic, cadmium, lead, copper, zinc, fecal coli, E. coli, toxic algies, phosphate, ammonium, silicate, nitrate, and nitrite.

- **Establishing an effective sampling and monitoring system (Arts. 6 and 7)**

Within the framework of the monitoring programmes, water and product samples are taken from bivalve molluscs production areas every week or once every two weeks during the fishing season, and once a month during the close season. The parameters including pH, temperature, solved oxygen, salinity, petroleum hydrocarbons, fecal coli, E. coli, toxic algae, phosphate, ammonium, silicate, nitrate and nitrite are measured/analyzed every two weeks. On the other hand, the parameters including mercury, arsenic, cadmium, lead, copper, zinc are analyzed every six months. Samples are taken by the Provincial Directorates of the Ministry of Agriculture and Rural Affairs in the provinces where bivalve molluscs production areas exist. The number of sampling points, depth and distance from the coast of the sampling point and analysis methods are determined by the Ministry Agriculture and Rural Affairs.

- **Establishing programmes to reduce pollution (Art. 5)**

According to the Article 20 of the Law on Fisheries No.1380 (Official Gazette: 04 April 1971, No.13799) and Articles 11 and 12 of the By-law on Fisheries (Official Gazette: 10 March 1995, No. 22223), the substances harmful for fishery products and for the health of consumers or users and for fishing gears and equipments are not permitted to be discharged into the fisheries' production areas in the seas and inland waters or near them and it is prohibited to install any facility to discharge them.

Within this framework, industrial facilities discharging wastes to inland waters or to production areas at sea are inspected twice a year by the Ministry of Agriculture and Rural Affairs. Wastewater samples are taken from the discharges of industrial facilities. Samples are analyzed and legal action is taken against the industrial facilities causing pollution. Besides, water samples are taken from the receiving environment in order to assess the impact of wastes on the receiving environment.

Turkey is a Party to the “Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)” signed on 21 April 1992, in force 15 January 1994 and “Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)” signed on 16 February 1976, in force 12 February 1978 (revised in Barcelona, Spain, on 10 June 1995 as the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean). The Black Sea Pollution Monitoring Program has been running within the framework of the Bucharest Convention. Under the scope of the Program, water samples taken from open sea, coast and inland waters are analyzed seasonally in the designated stations. Besides, Mediterranean Pollution Monitoring Program under the MED POL Program has been carried out under the Barcelona Convention. The amount, quality and trends of land-based pollution in designated stations are determined in the Aegean and the Mediterranean Sea under this Program. The overall objective of these monitoring programmes are to provide an efficient environmental management by determining sources of pollutions on the coasts of the Black Sea, the Aegean Sea and the Mediterranean Sea and to establish pollution reduction programmes derived by priorities to be set for future activities.

- **Establishing an information database (Art. 14)**

A technical study is carried out by the Ministry of Environment and Forestry to establish an institutional infrastructure for data exchange under the “Institution Building & Access to Environmental Information” Project (TR0203-03.4/1) of the “Capacity Building in the Field of Environment for Turkey” Project (TR0203.03) financed under 2002 EU Pre-Accession Financial Assistance. Within this context, technical works have been going on to establish an electronic database based on the monitoring programs implemented in the bivalve molluscs production areas and to make the data available for related institutions and parties.

## **Fish water**

### *Legal reference*

Council Directive 78/659/EEC of 18 July 1978 on the quality of fresh water needing protection or improvement in order to support fish life  
(OJ L 222 14.08.1978 p. 1) EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

#### **How is the link to the WFD been considered in the transposition and the implementation?**

Main legislation with respect to the fresh water for fish life is the Law on Fisheries No.1380 (Official Gazette: 4 April 1971, No.13799), which lays down the rules for the protection, production and control of the fish resources. Also, sub rules for fish resources including water quality criteria are laid down in the By-law on Fisheries (Official Gazette: 10 March 1995, No. 22223) and the By-law on Aquaculture (Official Gazette: 29 June 2004, No.25507).

Other related legislation are the Law on Environment No.2872 (Official Gazette: 11 August 1983, No. 18132) and the Law on the Establishment and Duties of the General Directorate of State Hydraulic Works No.6200 (Official Gazette: 25 December 1953, No.8592). Criteria for water quality are present in the Law on Environment No.2872 and in the operational regulations based on this Law. Water quality monitoring surveys are made in rivers for each basin by the General Directorate of State Hydraulic Works in accordance with the Law on the Establishment and Duties of the General Directorate of State Hydraulic Works No.6200.

### **B. When is transposition foreseen for the remaining measures?**

Technical studies are in progress.

### **C. What have been achieved as regards:**

- **Designating fish water (Art. 4)**

According to the Law on Fisheries No.1380, all inland water are fish production areas. Also there are identified fish production and aquaculture areas in seawater.

- **Identifying competent authority/ies**

According to the Law on Fisheries No.1380, the Ministry of Agriculture and Rural Affairs is the competent authority for protecting the quality of fresh water that needs protection or improvement to support fish life in this water.

- **Establishing water quality standards (Arts. 2 & 3)**

Water quality standards for breeding trouts and carps in fresh water are defined in the By-law on Aquaculture.

- **Establishing an effective sampling and monitoring system (Arts. 6 & 7)**

Water quality monitoring programs are implemented in fresh water by the Ministry of Agriculture and Rural Affairs and the General Directorate of State Hydraulic Works.

- **Establishing programmes to reduce pollution (Art. 5)**

Inspections in regard to prevention of water pollution and protection of the general water quality are carried out by the Ministry of Agriculture and Rural Affairs pursuant to the Law on Fisheries No.1380, and by the Ministry of Environment and Forestry pursuant to the Law on Environment No.2872.

On the other hand, according to the Article 20 of the Law on Fisheries No.1380 and Article of the 11 and 12 of the By-law on Fisheries, discharge of substances that are harmful to fishery products and to the health of animals and humans who consume or use these products, or to the means of production, into inland water and to the production areas in sea water or their surrounding environment as well as establishment of facilities that can cause such discharges are prohibited.

Within this framework, industrial facilities discharging wastes to inland water or to production areas at sea are inspected twice a year by the Ministry of Agriculture and Rural Affairs. Wastewater samples are taken from the discharges of industrial facilities. The samples are analyzed and legal action is taken against the industrial facilities causing pollution. Besides, water samples are taken from the receiving environment in order to assess the impact of wastes on the receiving environment.

- **Establishing an information database (Art. 16)**

Technical studies are in progress.

## Groundwater

### *Legal reference*

Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 020 26.01.1980 p. 43) EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

#### **How is the link to the WFD been considered in the transposition and the implementation?**

A technical working group was established with the participation of relevant institutions with a view to work on the legislative and implementation aspects of the Council Directive 80/68/EEC of 17 December 1979.

Technical studies have been carried out under the “Strengthening the Capacity for Sustainable Groundwater Management in Turkey Project” (PPA05/TR/7/8), which has been supported by the Netherlands Government between 2006-2008. The Project has aimed at assisting Turkey in the transposition and implementation of the Directive 80/68/EEC of 17 December 1979 and relevant articles of the Directive 2000/60/EC of 23 October 2000.

### **B. When is transposition foreseen for the remaining measures?**

Technical studies are in progress as explained above.

### **C: What have been achieved as regards:**

- **Establishing the competent authority/ies**

In accordance with the

- The Law on Environment No.2872 (Official Gazette: 11 August 1983, no 18132) as amended by the Law No.5491 (Official Gazette: 13 May 2006, no 26167) and
- Law on the Establishment and Duties of the Ministry of Environment and Forestry No.4856 (Official Gazette: 8 May 2003, No.25102)

*The Ministry of Environment and Forestry;*

In accordance with the

- Law on the Organization and Duties of the General Directorate of State Hydraulic Works No.6200 (Official Gazette: 25 December 1953, No.8592) and
- Law on Groundwater No.167 (Official Gazette: 23 December 1960, No.10688)

*The General Directorate of State Hydraulic Works;*

In accordance with the

- Law on Metropolitan Municipalities No.5216 (Official Gazette: 23 July 2004, No.25531) and
- Law on Establishment and Duties of General Directorate of İstanbul Water and Sewage Administration No.2560 (Official Gazette: 23 November 1981, No.17523)

*All Metropolitan Municipalities* are competent authorities with respect to groundwater quality issues in Turkey.

- **Prohibiting the direct discharge of List I substances (Art. 4)**

Any prohibitions and regulations related to groundwater pollution are determined in the By-law on Water Pollution Control (Official Gazette: 31 December 2004, No. 25687).

The Article 22/p of By-law on Water Pollution Control is as follows: “Even if wastewater is treated, direct discharge to groundwater is forbidden. Artificial recharge is applied in accordance with legislation related to groundwater.”

Technical studies are under way for groundwater.

- **Establishing a system of prior investigation (Arts. 4, 5, 6, 7 & 8)**

Technical studies are in progress.

- **Establishing a system of prior authorisation for discharges (Arts. 4, 5, 6, 8 & 9)**

Technical studies are in progress.

- **Establishing a system of prior authorisation for disposal or tipping of waste (Art. 10)**

Technical studies are in progress.

- **Establishing an effective inspection and enforcement system (Art. 13)**

According to the By-law on Water Pollution Control, administrative penalty is imposed in accordance with the Law on Environment No. 2872 to polluters changing the quality of groundwater.

According to the Article 12 of the Law on Environment No.2872 (Official Gazette: 11 August 1983, no 18132) as amended by the Law No.5491 (Official Gazette: 13 May 2006, no 26167), activities of the companies, institutions failing to comply with the provisions of the Law shall be suspended by the Ministry of Environment and Forestry or by the institutions and the competent entities to which the inspection authority is delegated. Besides, the human activities causing environmental pollution that is harmful to public health shall be suspended

by the Ministry of Environment and Forestry indefinitely. According to the Article 16 of the Law on Environment No. 2872 the Ministry of Environment and Forestry or by the institutions and the competent entities to which the inspection authority is delegated have responsibilities in imposing administrative penalty.

- **Establishing an inventory of authorisations (Art. 15)**

Technical studies are in progress.

- **Monitoring the effects of discharges on groundwater (Arts. 13 & 18)**

Groundwater sources supplying drinking water have been monitored in terms of quality and pollution by the General Directorate of State Hydraulic Works in accordance with the Law on Potable, Utility and Industrial Water Supply in Ankara, Istanbul and Cities with a Population Over One Hundred Thousand No. 1053 (Official Gazette: 16 July 1968, No. 12951)

Technical studies are in progress for a more comprehensive monitoring system.

- **Establishing a protocol to consult with neighbouring Member States (Art. 17)**

Not applicable before membership.

## **Dangerous substances Directive + daughter directives**

### *Legal reference*

Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (OJ L 129 18.05.1976 p. 23) EUR-Lex hyperlink [html](#)

Council Directive 86/280/EEC of 12 June 1986 on limit values and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC (OJ L 181 04.07.1986 p. 16) EUR-Lex hyperlink [html](#) as amended by Council Directive 88/347/EEC (EUR-Lex hyperlink [html](#)) and amended by Council Directive 90/415/EEC of 27 July 1990 (*Official Journal L 219* , 14/08/1990 P. 0049 – 0057)

Council Directive 82/176/EEC of 22 March 1982 on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry (OJ L 081 27.03.1982 p. 29) ) EUR-Lex hyperlink [html](#)

Council Directive 83/513/EEC of 26 September 1983 on limit values and quality objectives for cadmium discharges (OJ L 291 24.10.1983 p. 1) EUR-Lex hyperlink [html](#)

Council Directive 84/491/EEC of 9 October 1984 on limit values and quality objectives for discharges of hexachlorocyclohexane, *Official Journal L 274* , 17/10/1984 P. 0011 – 0017 [html](#)

Council Directive 84/156/EEC of 8 March 1984 on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry, *Official Journal L 074* , 17/03/1984 P. 0049 - 0054 [html](#)

### **A. Which parts of the provisions of the Directive have been transposed? How is the link to the WFD been considered in the transposition and the implementation?**

The Council Directive 76/464/EEC of 4 May 1976 has been transposed to the Turkish Legislation by the By-law on Control of Pollution by Dangerous Substances in Water and its Environment, which was published in the Official Gazette No. 26005 dated 26 November 2005.

The By-law requires the control of all substances that prevents obtaining “good water status”.

Technical studies are carried out for the establishment of quality criteria and standards and pollution reduction programs with respect to 33 priority substances defined in the Annexes I and II of the By-law in accordance with the Annex X of the Directive 2000/60/EC of 23 October 2000.

### **B. When is transposition foreseen for the remaining measures?**

There are some minor differences in definitions connected with daughter directives. Technical studies are in progress for full transposition.



### **C. What have been achieved as regards:**

- **Designating the competent authority/ies**

According to the Article 4 of the By-law, the competent authorities are defined as follows:

- The Ministry of Environment and Forestry and the Ministry of Agriculture and Rural Affairs are the responsible authorities to issue discharge permits to receiving environment for substances listed under Annexes I and II.
  - Municipalities are the responsible authorities to issue discharge permits to sewers for substances listed under Annexes I and II.
  - The Ministry of Environment and Forestry is responsible for drawing up an inventory of discharges of Annex I and Annex II substances to waters.
- **Deciding whether to adopt the emission limit value (ELV) approach or the water quality objective approach for setting emission standards (Art. 6)**

Both the emission limit values and water quality objective based emission standards are taken into consideration in the By-law.

- **Establishing ELVs/water quality objectives for all List I substances (Art. 6)**

The emission limit values and water quality objectives for Annex I substances are established at the sectoral level by the By-law.

- **Establishing a system of prior authorisation for discharges of List I substances to waters (Art. 3)**

According to the Article 11 of the By-law, the permit procedures for discharges of Annex I substances are established. In this framework, both natural and legal persons have to obtain dangerous substances discharge permit form from relevant authorities when the dangerous substances are discharged to receiving environment.

- **Establishing a system of prior authorisation for discharges of List I substances to sewers (Art. 3)**

According to the Article 10 of the By-law, the permit procedures for discharges of Annex I substances to sewers are established. In this framework, both natural and legal persons have to obtain “connection to sewers quality control permit form” from Municipalities when the dangerous substances are discharged to sewers.

- **Establishing an inventory of all discharges of List I substances to waters and to sewers**

According to the Provisional Article 1 of the By-law, the inventory of all discharges of dangerous substances to waters and sewers shall be established within 3 years after the entry into force of the By-law. Technical studies are in progress.

- **Drawing up programmes in order to reduce pollution of surface waters by List II substances (Art. 7)**

The Article 6 and 7 of the By-law set the principles for the drawing up programs in order to reduce pollution for Annex II substances. Technical studies are in progress.

- **Implementing such programmes (Art. 7)**

Pollution reduction programs and special programs shall be established in accordance with the Article 5, 6, 7 and 8 of the By-law within 7 years after the entry into force of the By-law as set out in the Provisional Article 3.

- **Establishing an effective monitoring system**

According to the By-law, a National Monitoring Network shall be established within 5 years after the entry into force of the By-law as set out in the Provisional Article 2. Technical studies are in progress in this context. On the other hand, monitoring studies have been carried out by the Ministry of Environment and Forestry on project basis. Measurements are made in the Environment Reference Laboratory of the Ministry of Environment and Forestry. Furthermore quality monitoring has been done by the General Directorate of State Hydraulic Works and the Ministry of Agricultural and Rural Affairs in several points according to their respective Laws.

- **Establishing an effective information gathering system (Arts. 11 & 13)**

Article 15 of the By-law defines the procedure and principles for reporting to the Ministry of Environment and Forestry.

## Nitrates

### *Legal reference*

Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (OJ L 375 31.12.1991 p. 1)

EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

The By-law on the Protection of Waters Against Pollution Caused by Nitrates from Agricultural Sources was published in the Official Gazette No.25377, dated 18 February 2004.

### **B. When is transposition foreseen for the remaining measures?**

Technical studies are in progress.

### **C. What have been achieved as regards:**

- **Identifying waters that are, or could be, affected by nitrate pollution (Art. 3)**

In accordance with the Article 5 of the By-law, groundwater and freshwater areas that have been affected or likely to be affected by nitrate pollution from agricultural sources have been determined at the provincial level. For that purpose a number of Circulars (Circular No. 2004/010801, Circular No. 2004/027234 and Circular No. 2004/033587) were published.

- **Establishing programmes for monitoring nitrates in freshwaters and groundwaters (Art. 6)**

A Nitrate Monitoring Program and Network for the monitoring of the nitrate level in groundwaters and freshwaters have been established within the framework of the Circulars (Circular No. 2004/010801, Circular No. 2004/027234 and Circular No. 2004/033587) published in the context of the By-law on the Protection of Waters Against Pollution Caused By Nitrates from Agricultural Sources. Since 2005, nitrate parameter has being monitored in the scope of the Nitrate Monitoring Program in all provinces of Turkey in monthly periods by taking samples from 1000 sampling stations of which 200 groundwater and 800 surface water stations.

In addition, four in-service trainings on analysis with mobile photometer, station selection for groundwaters and freshwaters and sampling and filling forms for selected stations were organized for relevant experts from all provinces of Turkey.

"The Implementation of the Nitrate Directive (91/676/EEC) in Turkey with a view to reducing the Water Nitrate Pollution Coming from Agricultural Sources" Project financed by the Netherlands Government under the MATRA Programme for between 2005-2006 has been carried out. Under this project, pilot areas for the implementation of the Council Directive 91/676/EEC of 12 December 1991 (Nitrate Directive) in Turkey were selected (Eskisehir,

Antalya, Adana and Bolu) and studies are being carried out as regards to site selection, observation of monitoring network and analysis.

- **Establishing programmes for monitoring eutrophication in estuaries, coastal waters and marine waters (Art. 6)**

With a view to initiate establishment of a program for monitoring of eutrophication, a workshop is planned to be organized as a pilot study in Lake Isparta-Egirdir in September 2006 under "The Implementation of the Nitrate Directive (91/676/EEC) in Turkey with a view to reducing the Water Nitrate Pollution Coming from Agricultural Sources" Project.

On the other hand, Turkey is a Party to the "Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)" signed on 21 April 1992, in force 15 January 1994 and "Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention)" signed on 16 February 1976, in force 12 February 1978 (revised in Barcelona, Spain, on 10 June 1995 as the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean). Within the framework of the Bucharest Convention and Barcelona Convention, nutrients (nitrogen, phosphorous) leading to eutrophication, in estuaries, coastal and marine waters for the Black Sea and the Mediterranean have been monitored respectively.

Eutrophication parameters ( $\text{NH}_3\text{-N}$ ,  $\text{NO}_2\text{-N}$ ,  $\text{NO}_3\text{-N}$  and  $\text{PO}_4\text{-P}$ ) have been monitored by the General Directorate of State Hydraulic Works in points of dams, irrigation ponds, drainage channels and estuaries as well.

- **Designating vulnerable zones (Art. 3)**

In accordance with the Article 6 of the By-law, the areas covering waters that contain 50 mg/lit or more nitrate as well as eutrophic waters shall be designated as vulnerable zones following the completion of the program for monitoring nitrates in groundwaters and freshwaters.

Monthly, annual and general forms have been developed to gather information on monitoring areas.

- **Establishing Code(s) of good agricultural practice (Art. 4)**

In accordance with the Article 7 of the By-law, code(s) of good agricultural practice will be prepared subsequent to the monitoring studies executed by the Ministry of Agriculture and Rural Affairs. Furthermore, the By-law on Good Agricultural Practices was published in the Official Gazette No.25577, dated 8 September 2004.

- **Establishing action programmes for vulnerable zones (Art. 5)**

In accordance with the Article 9 of By-law on the Protection of Waters Against Pollution Caused By Nitrates from Agricultural Sources, action programmes for vulnerable zones will be established, considering fertilizer application periods, manure storage capacity, amount of fertilizer applied, nitrogen amounts absorbed by the plants.

- **Establishing limits for fertiliser application (Annex III.2)**

The By-law on Chemical Fertilizer Inspection was published in the Official Gazette No.24736, dated 25 April 2002. According to this By-law, there is no limitation with respect to fertilizers. On the other hand, technical studies related to limit values for livestock manure application in the vulnerable zones have been carried out within the framework of the By-law on the Protection of Waters Against Pollution Caused By Nitrates from Agricultural Sources.

- **Establish a minimum storage capacity of storage vessels for livestock manure and provisions on construction including measures to prevent water pollution by runoff and seepage into groundwater and surface water (Annex III.2 and II A.5)**

A technical study has been initiated under the “Black Sea Agricultural Pollution Control” sub-project of the “Anatolian Watershed Rehabilitation” project financed by GEF for 2005-2012. One of the aims of this technical study is to provide support to Turkey for the implementation of the Nitrate Directive. Within the context of this technical study, there are ongoing studies on construction of the central and farm level manure storages in selected micro-basins in the Black Sea Region.

- **Establishing an effective inspection and enforcement system**

Technical studies need to be initiated.

- **Establish protocol to co-operate with other Member States (Art. 3.3)**

Not applicable before membership.

- **Establish a mechanism to provide reports to the Commission (Art. 10)**

Not applicable before membership.

## Urban wastewater treatment

### *Legal reference*

Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ L 135 30.05.1991 p. 40) EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

The Council Directive 91/271/EEC of 21 May 1991 has been transposed to the Turkish legislation by the By-law on Urban Waste Water Treatment, which was published in the Official Gazette No. 26047 dated 8 January 2006.

### **B. When is transposition foreseen for the remaining measures?**

In accordance with the Provisional Article 2 of the By-law on Urban Waste Water Treatment, sensitive areas will be determined in 2009. A technical study is currently being conducted for the determination of the sensitive areas and the agglomerations to these sensitive areas.

### **C. What have been achieved as regards planning, regulation, monitoring, reporting and information, i.e.:**

- **Identifying sensitive areas (according to the criteria *a, b, c* set up in the Annex II) and delineating its relevant hydrological catchment areas (Art. 5 and Annex II)**
- **Identifying agglomerations related to the directive and making an inventory of those (Art.17):**
  - **Making the list of agglomerations,**
  - **Identifying the size (load generated in p.e.) for each of them**
  - **Identifying current status on collecting systems, treatment level, monitoring data availability and sludge management (generated amount, its treatment and disposal/re-use)**

According to the official data of Turkish Statistical Institute (2004), number of settlement areas regarding population groups in Turkey, number of treatment plants, ratio of sewage system and connection treatment plants to population groups are given as follows:

Population Groups	Number of Settlement Areas	Sewage Connection Ratio	Number of Treatment Plants (secondary+ advanced)	The Ratio of Population Served with Treatment Plant (%)
<2,000	35,106	59	1	5
2,000-9,999	2,572	55	33	5
10,000-49,999	458	81	43	19
50,000-100,000	83	90	15	20
>100,000	114	96	46	69

Technical studies are in progress for making the list of agglomerations to be based on population equivalent.

The performance of the treatment plants is monitored individually by the municipalities to which they are connected. The compliance of the discharge water of the treatment plant with the receiving environment discharge standards, for relevant sector as defined in the By-law on Water Pollution Control (Official Gazette: 31 December 2004, No. 25687), has been monitored.

Technical studies with regard to the determination of the size and load of the agglomerations, as well as the monitoring of the amount of treatment sludge are currently carried out.

- **Establishing technical and financial programme for implementation of the directive (Art.17)**

Technical studies for the preparation of an Environmental Approximation Strategy of Turkey are about to come into being. The outputs of the “Technical Assistance for the Preparation of the Integrated Environment Approximation Strategy for Turkey” Project financed under EU MEDA Program (2003-2004), and the “Technical Assistance for Environmental Heavy Cost Investment Planning” Project within the framework of the “Capacity Building in the Field of Environment for Turkey” Project financed under the 2002 EU Pre-Accession Financial Assistance (2003-2005), are taken into consideration in the preparation of the Strategy. The Document, which sets out Turkey’s action plan for environmental management, also puts forward the purposes of the Urban Waste Water Treatment Directive (91/271/EEC of 21 May 1991), targets, strategies and financial programme for the short, medium and long-term for the implementation of the By-law on Urban Waste Water Treatment.

- **Requiring specific regulation and/or authorisation (permit procedure) and ensuring that treatment plants are designed, constructed, operated and maintained to meet specified performance requirements (Art. 10, 4, 5)**

Article 6 (a) of the By-law on Urban Waste Water Treatment sets out the procedures and principles to be followed in the design, construction and maintenance of the urban wastewater treatment plants that shall take into account seasonal changes in organic and hydraulic loads and can operate with adequate performance under normal local climate conditions.

The Law on the Establishment and Duties of the Ministry of Environment and Forestry No.4856 (Official Gazette: 8 May 2003, No. 25102) assigns the Ministry of Environment and Forestry with the duties of granting discharge permits to facilities, monitoring and controlling the treatment plants and approving the projects for the treatment systems to be established for the facilities. In this context, Ministerial Circular on Waste Water Treatment Facility Project Approval (No: 2005/5, dated 29 April 2005) has been published.

Provincial Directorates of the Ministry of Environment and Forestry monitor whether facilities comply with receiving environment discharge criteria. Accordingly, discharge permit is granted to wastewater treatment plants, which comply with the discharge limits.

There exist legal arrangements with respect to preparation of projects for and construction, maintenance and operation of wastewater treatment plants in the Law on Municipality No.5359 (Official Gazette: 13 July 2005, No.25874), the Law on Metropolitan Municipalities No.5216 (Official Gazette: 23 July 2004, No.25531), the Law on the Establishment and

Duties of General Directorate of Istanbul Water and Sewage Administration No.2560 (Official Gazette: 23 November 1981, No.17523).

- **Requiring specific regulation and/or authorisation (permit procedure) and pre-treatment for industrial discharges into urban/municipal sewage collecting systems (Art.11, Annex IC)**

Article 9 of the By-law on Urban Wastewater Treatment sets out the procedures concerning the principles of discharge of wastewater to the sewage.

The By-law on Water Pollution Control, the Law on Municipality No.5359, the Law on Metropolitan Municipality No.5216, the Law on the Establishment and Duties of the General Directorate of Istanbul Water and Sewage Administration No.2560 set out the permit procedures and special arrangements for pre-treated industrial discharges to sewage.

- **Identifying food-processing industries (Annex III) and requiring prior regulation and/or specific authorisation (permit procedure) and adequate treatment for discharges from these industries (Art.13)**

Article 10 of the By-law on Urban Wastewater Treatment sets out the rules and procedures for the determination of the food industries, special permit procedures for wastewater discharges of food industries to receiving environment as well as the rules and procedures for wastewater discharge of these industries.

- **Providing collecting systems for agglomerations greater than 15 000 p.e. (Art. 3)**

In accordance with the By-law on Urban Wastewater Treatment, 10,000 p.e. is taken as the basis for providing collection systems.

According to the official data of Turkish Statistical Institute (2004), there are 655 settlement areas with a population more than 10,000 in Turkey. The connection ratio of settlement areas to sewage is 92 %. There are 469 settlement areas with a population of more than 15,000. The ratio of the population of the settlement areas served by the sewage to the total population of the municipality is 93 %.

Provisional Article 1 of the By-law on Urban Wastewater Treatment sets out the timeframes for the construction of main collectors and wastewater treatment plants.

- **Providing collecting systems for agglomerations 2 000 – 15 000 p.e. (Art. 3)**

According to the official data of Turkish Statistical Institute (2004), there are 2,572 settlement areas with a population of 2,000 – 10,000 in Turkey. The ratio of the population of the settlement areas served by the sewage to the total population of the municipality is 55 %.

There are 2,758 settlements areas with a population of 2,000 – 15,000 in Turkey. The ratio of the population of the settlement areas served by the sewage to the total population of the municipality is 59 %



- **Ensuring requirements for adequate capacity, special design, construction and maintenance of collecting systems and ensuring measures to deal with limitation of pollution from storm water overflows and prevention of leaks (Art.3 and Annex I.A and footnote)**

Article 7 of the By-law on Urban Wastewater Treatment sets out the rules and procedures for the design, construction and maintenance of the sewage.

- **Requiring UWW entering collecting systems to be subject to secondary or equivalent treatment for agglomerations more than 15 000 p.e. (Art. 4)**

Article 6 (d) and Provisional Article 1 of the By-law on Urban Wastewater Treatment specifies the rules and procedures regarding discharges of the agglomerations more than 10,000 p.e.

According to the official data of Turkish Statistical Institute (2004), there are 104 secondary treatment plants in settlement areas with a population more than 10,000. The ratio served by treatment plants is 53 %.

There are 91 secondary treatment plants of which 4 are advanced treatment plants in settlement areas with a population more than 15,000 and the ratio of the population served by the treatment plants is 55 %.

The treatment requirements will be determined following the determination of agglomerations, sensitive and less sensitive areas. Technical studies are in progress.

- **Requiring UWW entering collecting systems to be subject to secondary or equivalent treatment for agglomerations 10 000 – 15 000 p.e. (Art. 4)**

Article 6 (d) and Provisional Article 1 of the By-law on Urban Wastewater Treatment specifies the rules and procedures regarding the discharges of the agglomerations more than 10,000 p.e.

According to the official data of Turkish Statistical Institute (2004), there are 15 secondary treatment plants in settlement areas with a population of 10,000 – 15,000 and the ratio of the population served by the treatment plants is 13 %.

The treatment requirements will be determined following the determination of agglomerations, sensitive and less sensitive areas. Technical studies are in progress.

- **Requiring UWW entering collecting systems to be subject to secondary or equivalent treatment for discharges to fresh water and estuaries for agglomerations 2 000 – 10 000 p.e. (Art. 4)**

Article 6 (d) and Provisional Article 1 of the By-law on Urban Waste Water Treatment specifies the rules and procedures regarding the discharges of the agglomerations with a population of 2,000-10,000 p.e.

According to the official data of Turkish Statistical Institute (2004), there are 33 secondary treatment plants in settlement areas with a population of 2,000 – 10,000 and the ratio of the population served by the treatment plants is 5 %.

The treatment requirements will be determined following the determination of agglomerations, sensitive and less sensitive areas. Technical studies are in progress.

- **Requiring UWW entering collecting systems for discharge to sensitive areas to be subject to more stringent treatment for agglomerations greater than 10 000 p.e. (Art. 5)**

Article 11 and Provisional Article 1 of the By-law on Urban Wastewater Treatment set out the rules and procedures regarding discharges of agglomerations with a population of more than 10,000 p.e.

The treatment requirements will be determined following the determination of agglomerations, sensitive and less sensitive areas. Technical studies are in progress.

- **Requiring UWW entering collecting systems for discharges to fresh waters, estuaries and coastal waters to be subject to appropriate treatment (Art. 7)**

Article 6 (c) and (d) of the By-law on Urban Waste Water Treatment set out the rules and procedures for the treatment requirements for discharges to the fresh water, estuaries and coastal waters.

Technical studies for the classification of coastal waters are in progress.

- **Requiring prior regulation/ specific authorizations and specific requirements for disposal/re-use of treated waste water from UWWT plants (Art. 12)**

The arrangements with respect to the re-use of wastewater in the Article 5 (e) of the By-law on Urban Wastewater Treatment is given in the irrigation water criteria provision of the Communiqué on Technical Procedures (Official Gazette: 7 January 1991, No. 20748) published in accordance with the with the By-law on Water Pollution Control.

- **Regulating management of sewage sludge: ensuring its treatment and environmentally sound disposal and/or re-use (Art. 14)**

Article 5 (f) and (g) of the By-law on Urban Wastewater Treatment set out the rules and procedures for treatment sludge.

The treatment sludge is used in soil in line with the standards and procedures set out in the By-law on Soil Pollution Control (Official Gazette: 31 May 2005, No.25831).

Sludge that is not used for agricultural purposes is disposed in line with the By-law on Solid Waste Control (Official Gazette: 14 March 2005, No.25755) and By-law on Hazardous Waste Control (Official Gazette: 14 March 2005, No. 25755).

According to the By-law on Soil Pollution Control, permits regarding the use of treatment sludge are given by Governorships.

- **Establishing an effective monitoring and enforcement system and considering accreditation schemes for laboratories, ensuring the use of standard laboratory methods and regular QA/QC (Art. 15, Annex ID)**

Article 14 (a) of the By-law on Urban Wastewater Treatment sets out the rules and procedures for monitoring the discharge of urban wastewater, and Article 5 (h) specifies the rules and procedures to be taken into account in the monitoring of wastewater and receiving environments.

As a requirement of the By-law on Water Pollution Control, the samples taken from the discharge waters of the treatment systems are analyzed periodically by the administrations of the wastewater infrastructure authorities.

The inspection of the treatment plants, which discharge to receiving environments is conducted by the Ministry of Environment and Forestry, and the inspection of the treatment plants, which discharge to the sewerage systems is conducted by the municipalities.

Enforcement is applied in accordance with the Law on Environment No.2872 (Official Gazette: 11 August 1983, No. 18132) to those who do not comply with the By-law on Water Pollution Control, Law on Municipality No.5359, the Law on Metropolitan Municipality No.5216, the Law on the Establishment and Duties of General Directorate of İstanbul Water and Sewage Administration No.2560 and the By-law on Discharge to Sewerage Systems in Metropolitan Municipalities.

In accordance with the Law on the Establishment and Duties of the Ministry of Environment and Forestry No.4856, Competency on Environmental Analysis Certificate is granted to the organizations, institutions and facilities, which conduct measurements and analysis, following the assessment of the analysis methods used in laboratory, adequacy of the personnel making analysis, and other issues. This certificate is made on the basis of “TS EN ISO/IEC 17025” General Standards for the Competency of Experiment and Calibration Laboratories”.

Turkish Accreditation Agency, which is established by the Law on the Establishment and Duties of the Turkish Accreditation Agency No.4457 (Official Gazette: 4 November 1999, No.23866), has started issuing accreditations since 2001. The Agency has become a full member of the European Cooperation for Accreditation (EA) on 28 October 2002. The Agency conducts accreditation procedures in accordance with the TS EN ISO/IEC 17025:2000 standard for the institutions providing laboratory services.

- **Establishing a mechanism to provide information to the public considering publication of regular situation reports (Art. 16)**

Article 5 (i) of the By-law on Urban Wastewater Treatment sets out the rules and procedures for the dissemination of information regarding disposal of wastewater and treatment sludge publicly, via periodic reports.

Data with respect to discharge from sewage, quantity of the collected wastewater, level of treatment and receiving environments to which wastewater is discharged is collected through the “Municipal Wastewater Statistics Survey” conducted by the Turkish Statistical Institute. The statistical results are announced through web site and news bulletins.

- **Establishing a mechanism to report to the Commission in means of:**

- **Management system to report information at national level and**
- **Technical tools for information upload, storage and assessment**

Not applicable before membership.

- **Establishing protocols for notifying neighbouring Member States (Art. 9)**

Not applicable before membership.

## **Drinking water and measurement of drinking water**

### *Legal reference*

Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption (OJ L 330 05.12.1998 p. 32) EUR-Lex hyperlink [html pdf](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

The Council Directive 98/83/EC of 3 November 1998 has been fully transposed to the Turkish legislation by the Ministry of Health by the By-law on Water Intended for Human Consumption, which was published in the Official Gazette No.25730, dated 17 February 2005.

In accordance with the Article 9 of the By-law on Water Intended for Human Consumption, the necessary measures for the compliance of the quality of water to this By-law are taken within three years after the entry into force of this By-law.

A technical study will be carried out to support the full and effective implementation of the By-law on Water Intended for Human Consumption under the “Strengthening the Ministry of Health to Harmonize and Implement Legislation in the field of Water for Public Health Protection” Project (Twinning TR/2004/IB/EN/04) financed under 2004 EU Pre-Accession Financial Assistance.

### **B. When is transposition foreseen for the remaining measures?**

No remaining measures to be transposed.

### **C. What have been achieved as regards:**

- **Establishing an administrative system for ensuring delivery of safe DW**

Administrative system for ensuring delivery of safe drinking water currently exists in Turkey. Various institutions have different functions and responsibilities in this system; which is as follows:

*The Ministry of Health* is responsible for determining the quality standards of drinking water and water for consumption, monitoring of these standards and making legislation concerning these areas in accordance with the Law on Public Hygiene No.1593 (Official Gazette: 6 May 1930, No.1489) and Statutory Decree on the Establishment and Duties of the Ministry of Health No.181 (Official Gazette: 14 December 1983, No. 18251).

*The Ministry of Environment and Forestry* is responsible for making protection and use plans for water resources, carrying out studies required for the management of water resources and soil resources, determining the quality classifications of water resources, increasing water quality and carrying out studies for the efficient use of water resources in accordance with the Law on Environment No.2872 (Official Gazette: 11 August 1983, No. 18132) and the Law on the Establishment and Duties of the Ministry of Environment and Forestry No.4856 (Official Gazette: 8 May 2003, No.25102).

*Municipalities and Special Provincial Administrations* are in principle responsible for constructing and operating the required infrastructure for drinking water within the framework of the Law on Special Provincial Administrations No.5302 (Official Gazette: 4 May 2005, No.25745), the Law on Metropolitan Municipalities No.5216 (Official Gazette: 23 July 2004, No.25531), the Law on Municipality No. 5393 (Official Gazette: 13 July 2005, No.25874) and the Law on the Establishment and Duties of General Directorate of Istanbul Water and Sewage Administration No.2560 (Official Gazette: 23 November 1981, No.17523). Metropolitan municipalities can apply for financial, technical and construction assistance from the Directorate General of State Hydraulic Works or the Bank of Provinces.

*The General Directorate of State Hydraulic Works* is responsible for the management of surface water and groundwater in accordance with the Law on the Establishment and Duties of the General Directorate of State Hydraulic Works No.6200 (Official Gazette: 25 December 1953, No.8592) and the Law on Groundwater No.167 (Official Gazette: 23 December 1960, No.10688). The General Directorate of State Hydraulic Works is also responsible for planning and building water supply systems and drinking water treatment plants in cities with a population over 100,000. Moreover, the General Directorate is responsible for surface water and ground water (raw) quality and quantity monitoring.

*The Bank of Provinces*, an affiliated institution of the Ministry of Public Works and Settlements is responsible for urban planning and public works for drinking water supply in accordance with the Law on Bank of Provinces No.4759 (Official Gazette: 23 June 1945, No.6039). Upon request from the Municipality, the Bank of Provinces can plan and build drinking water treatment plants and water supply systems. Municipalities are shareholders in the capital of the Bank, which can act as a loan guarantor.

*The Ministry of Agriculture and Rural Affairs* is responsible for land use and water resources development (sanitary systems, irrigation) in rural areas (small towns with less than 3 000 inhabitants and which are outside municipal boundaries). Moreover, the Ministry is responsible for fulfilling duties, which are assigned to it by the Law on Fisheries No.1380 (Official Gazette: 4 April 1971, No.13799).

- **Identifying all relevant individual supplies of DW (Arts. 1 and 3)**

The Article 1, 2 and 3 of the By-law on Water Intended for Human Consumption define the aim and scope of the By-law and the exemptions, respectively.

According to the Article 1, the aim of the By-law on Water Intended for Human Consumption is to provide the technical and hygienic conditions and the quality standards of the water for human consumption and; to organize the basics and procedures regarding the production, packaging, labeling, marketing and auditing of the spring water and drinking waters.

According to the Article 2, the By-law on Water Intended for Human Consumption is applied to spring waters, drinking water and water for drinking and using purpose. However, it does not apply to natural mineral waters, thermal water and water for medical purposes.

The Article 3 of the By-law on Water Intended for Human Consumption sets out the exemptions, according to which the provisions of the By-law will not be applied to:

- water intended exclusively for those purposes for which the competent authorities are satisfied that the quality of the water has no influence, either directly or indirectly on the health of the consumers concerned.
- water intended for human consumption from an individual supply providing less than 10 m<sup>3</sup> a day as an average or serving fewer than 50 persons, unless the water is supplied as part of a commercial or public activity.

- **Establishing standards for DW (Arts. 4 and 5)**

The Article 6 and 7 of the By-law on Water Intended for Human Consumption set out the general basics and the quality standards.

According to the Article 6 of the By-law on Water Intended for Human Consumption, water which comply with the chemical and microbiological parameters as set out in the Annex I of the By-law that is fully in compliance with the Council Directive 98/83/EC of 3 November 1998 are regarded as wholesome and clean.

According to the Article 7 of the By-law on Water Intended for Human Consumption, the quality standards of the water including the microbiological, chemical, radioactive and indicator parameter values are set out in Annex I. In situations where the protection of human health necessitates, the parameters not included in Annex I can also be included.

- **Establishing a monitoring system (Arts. 6 and 7)**

The Articles 8 and 10 of the By-law on Water Intended for Human Consumption set out the obligations with respect to compliance and monitoring.

According to the Article 8 of the By-law on Water Intended for Human Consumption, the parametric values set out in Quality Standards shall be complied with:

- a) in case of water supplied from a distribution network, at the point, within premises or an establishment, at which it emerges from the taps that are normally used for human consumption;
- b) in case of water supplied from a tanker, at the point at which it emerges from the tanker;
- c) in case of water put into bottles or containers intended for sale, at the point at which the water is put into the bottles or containers;
- d) in case of water used in a food-production undertaking, at the point where the water is used in the undertaking.

According to the Article 10 of the By-law on Water Intended for Human Consumption, the drinking and using water for consumption are subject to audit and check monitoring in the minimum frequency laid down in Annex II Table B1. Monitoring programmes shall be established according to the minimum requirements mentioned in Annex II Table B1. If the drinking and using water are polluted due to the parameters not included in this By-law and if the nature of this pollution poses a potential threat to human health, a separate monitoring is carried out for substances and micro-organisms that do not exist within this By-law and according to the monitoring results necessary measures are taken.

Currently, monitoring activities have been carried out by the Ministry of Health according to the seasonal changes within the frame of a specific schedule. Besides, the frequency of the

audit monitoring is increased in the direction of consumer complaints and natural phenomenon.

Technical studies for the establishment of a full and effective monitoring system are in progress.

- **Establishing a mechanism to take action when DW fails to meet the standards (Art. 8)**

The Article 11 of the By-law on Water Intended for Human Consumption sets out the obligations with respect to remedial action and restrictions in use.

According to the Article 11 of the By-law on Water Intended for Human Consumption, if the water provided by distribution network do not comply with the parametric values and if this situation is caused by repair of the distribution network, remedial action shall be taken as soon as possible to restore the quality of the water, having regard *inter-alia* to the extent to which the relevant parametric value has been exceeded and to the potential danger to human health. In situations where there is a failure to meet any of the parametric values, if seen necessary the water may be subject to additional audit monitoring outside the monitoring programme. Whether or not any failure to meet the parametric values has occurred, it shall be ensured that any supply of water intended for human consumption, which constitutes a potential danger to human health is prohibited or its use restricted or such other action is taken as is necessary to protect human health.

Currently, the Ministry of Health ensures taking of remedial actions in coordination with other relevant institutions. Technical studies are in progress for the establishment of a full and effective mechanism.

- **Establishing a mechanism and criteria to create a derogation, take action and communicate this to the Commission (Art. 9)**

The Article 12 of the By-law on Water Intended for Human Consumption sets out obligations with respect to derogations.

According to the Article 12 of the By-law on Water Intended for Human Consumption, in cases of non compliances of water intended for human consumption to the microbiological and chemical parametric values determined by the By-law, derogations can be given. Derogations shall be limited to a short time and shall not exceed three years. Towards the end of this time period, a review shall be conducted to determine whether sufficient progress has been made. Recourse to the derogations provided for in this Article shall ensure that the population affected by any such derogation is promptly informed. In addition to this, where necessary, advice is given to particular population groups for which the derogation could present a special risk. This Article shall not apply to water intended for human consumption offered for sale in bottles or containers.

Technical studies are in progress for the establishment of a full and effective mechanism.



- **Establishing quality assurance of treatment, equipment and materials (Art. 10)**

The Article 13 of the By-law on Water Intended for Human Consumption sets out obligations with respect to quality assurance of treatment, equipment and materials.

According to the Article 13 of the By-law on Water Intended for Human Consumption, all surfaces contacting or having the possibility of contacting with water and the equipments and devices that are going to be used in contacting with water till to the final point where the water is offered to consumption, will be made of materials which will not affect the characteristics of water or not harmful to human health.

Technical studies are in progress for the establishment of a full and effective quality assurance of treatment, equipment and materials.

- **Establishing a mechanism to provide information to consumers (Art. 13)**

The Article 14 of the By-law on Water Intended for Human Consumption sets out obligations with respect to information to consumers.

According to the Article 14 of the By-law on Water Intended for Human Consumption, a report will be published every three years about the quality of the water to provide consumers with information. The report shall include, as a minimum, information about all individual supplies of water exceeding 1,000 m<sup>3</sup> a day as an average or serving more than 5,000 persons. It shall cover three calendar years and be published within one calendar year of the end of the reporting period.”

Currently, information is provided to the consumers in cases of incidents by the Ministry of Health in coordination with the relevant institutions.

Technical studies for the establishment of a full and effective mechanism are in progress.

- **Establishing a system to provide reports to the Commission (Art. 13)**

Not applicable before membership.

## Bathing Water Directive

### *Legal reference*

Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water (OJ L 031 05.02.1976 p. 1) EUR-Lex hyperlink [html](#)

### **A. Which parts of the provisions of the Directive have been transposed?**

The Council Directive 76/160/EEC of 8 December 1975 has been transposed to the Turkish Legislation by the By-law on Bathing Water Quality (Official Gazette: 9 February 2006, No. 26048).

### **B. When is transposition foreseen for the remaining measures?**

The Provisional Article 1 of the By-law on Bathing Water Quality defines a 10-year transition period to meet the guide values that are determined for total coliform and fecal coliform with regard to the microbiological parameters pertaining to bathing waters.

### **C. What have been achieved as regards:**

- **Identifying bathing waters**

Article 4 of the By-law on Bathing Water Quality defines bathing water as running water, lake, dam lake and sea water where bathing is explicitly authorized by the competent authorities or bathing is not prohibited and traditionally practiced by a large number of bathers. Bathing area has been defined as any place where bathing water is found.

In lake and sea coasts that are conventionally used by a large number of bathers in the bathing season, the Provincial Directorates of the Ministry of Health have to carry out microbiological monitoring studies at sampling points that are determined by the Commission established in accordance with the Article 10 of the By-law on Bathing Water Quality.

- **Identifying length of the bathing season (at local/regional/national level) (Art. 1)**

Article 4 of the By-law on Bathing Water Quality defines bathing season as the period during which a large number of bathers are expected, subject to local circumstances and local rules laid down with respect to bathing and weather conditions.

The Provincial Directorates of the Ministry of Health determines the bathing water sampling schedules for bathing season before the season.

- **Identifying competent authority/ies (at local/regional/national level) (Art 1)**

The By-law on Bathing Water Quality defines the competent authorities that are responsible for monitoring and inspection of bathing waters, preparing permits for discharges to these waters, and preventing pollution in those areas. This definition is relevant for local, regional and national levels, which is as follows:

- *Monitoring:* According to the Article 14 of the By-law, monitoring activities in bathing and recreational waters have been carried out by the Ministry of Health in the framework of the Law on Public Hygiene No.1593 (Official Gazette: 6 May 1930, No.1489). However, the Ministry of Environment and Forestry has the right to perform monitoring activities in those waters if required.
- *Inspection:* Within the framework of the Article 6, 7, 8, 9 and 11 of the By-law, when the bathing and recreational water monitoring results reveal that the values set out in the Table of Annex I are exceeded, the Ministry of Environment and Forestry shall make the necessary inspections to prevent pollution in source in accordance with the Article 13 of the By-law on Bathing Water Quality. According to the Article 13, the Ministry of Health has to send the results of the monitoring activities to the Ministry of Environment and Forestry.

On the other hand, in accordance with the Article 13 of the By-law on Bathing Water Quality, inspection and monitoring rights of authorities defined in the By-law are reserved. In this scope, in order to protect environment and public health, these authorities may take preventive measures for potential pollution in bathing and recreational waters.

- **Establishing bathing water quality standards (Arts. 2 & 3). Provide information on available monitoring data.**

Annex I of the By-law on Bathing Water Quality covers physical, chemical and microbiological parameters and values related to these parameters in bathing and recreational waters. Waters, which will be used for bathing and recreational purposes, should comply with these limit values defined in the parameters.

Existing monitoring data are collected by the Ministry of Health in hard copy. The Ministry of Health has a network system connecting 81 Provincial Directorates of the Ministry of Health to the Ministry.

Technical studies are carried out under the “Institution Building & Access to Environmental Information” Project (TR0203-03.4/1) of the “Capacity Building in the Field of Environment for Turkey” Project (TR0203.03) financed under 2002 EU Pre-Accession Financial Assistance and the “Strengthening the Ministry of Health to Harmonize and Implement Legislation in the field of Water for Public Health Protection” Project (twinning TR/2004/IB/EN/04) financed under 2004 EU Pre-Accession Financial Assistance.

- **Identifying measures that require to be taken to ensure bathing waters conform to these standards (Art. 4), especially as regards urban waste water treatment and against diffuse pollution from agriculture**

Articles 5 and 8 of the By-law on Bathing Water Quality sets out procedures and principles for protection of and ensuring the quality of waters used for bathing and recreation. Discharge and disposal of any kind of waste into those areas and the running waters which feed them are prohibited by authorities and/or subject to permit.

Moreover, in order to collect, treat and discharge urban wastewater and to protect the environment from the harmful effects of certain industrial sectors, the By-law on Urban Wastewater Treatment was published in the Official Gazette No.26047 dated 8 January 2006.

According to the Article 6 (c) and (d) of the By-law on Urban Wastewater Treatment, measures are defined to eradicate the harmful effects of urban wastewater in coastal waters.

On the other hand, in order to determine the pollution caused by nitrate from agriculture and to minimize and prevent these effects, the By-law on the Protection of Waters Against Pollution Caused by Nitrates from Agricultural Sources was published in the Official Gazette No. 25377, dated 18 February 2004. The By-law sets out the technical and administrative basis for the determination of nitrate and nitrate components causing pollution in soil, surface water and groundwater, for the control and prevention of pollution. Studies on this scope are important to prevent pollution in bathing water caused by agriculture.

- **Establishing sampling and analysis protocols (Arts. 5 & 6)**

Articles 7, 9 and 11 of the By-law on Bathing Water Quality sets out the procedures and basis for the determination of sampling points, sample collection and the analysis methods to be used.

Within the framework of the defined procedure, the technical studies for the establishment of sampling and analysis protocols will be carried out under the “Strengthening the Ministry of Health to Harmonize and Implement Legislation in the field of Water for Public Health Protection” Project.

- **Establishing mechanisms to investigate local conditions upstream for fresh running waters and ambient conditions for fresh still waters and seawater (Art. 6.3)**

Article 8 (d) of the By-law on Bathing Water Quality sets out a mechanism to investigate local conditions upstream for fresh running waters and ambient conditions for fresh still waters and seawater. The basis of this mechanism is defined in the By-law on Bathing Water Quality as follows: “To determine the quality and quantity of potential pollution sources which affect and may affect the bathing and recreation areas and with the aim of preventing the pollution at the source, studies for the periodic investigation of the rivers, lakes and seas containing geographic and topographic data are carried out in the framework of laws of related institutions.”

- **Identifying discharges which lower the quality of bathing water (Art. 6)**

According to the Article 6 of the By-law on Water Pollution Control (Official Gazette: 31 December 2004, No. 25687), the main factors that cause pollution arising from domestic, industrial, agricultural sources, marine traffic and similar sources in the receiving water environments covering coastal and marine waters is as follows:

- fecal wastes,
- organic wastes,
- chemical wastes,
- excess discharge nutrient substances which cause excessive increases in productivity,
- wastewater,
- radioactive wastes,
- discharges and dumping of sludge from sea floor dredging, garbage, excavation waste, rubble and other types of wastes,

- wastes and wastewater (such as bilge water and ballast water, sludge, slope oil, and other types of wastes) of oil and petroleum which is originated from ships or other motorized vessels and
- the substances other than those mentioned above.

According to the Article 23 of the By-law on Water Pollution Control, direct discharges of all kind of pollutants as defined above with respect to sea and coastal water use are prohibited or permitted.

According to the Article 5 (d) of the By-law on Bathing Water Quality, provisions with respect to prevention of pollution of the seas covered by the By-law on Water Pollution Control shall be applied.

On the other hand, according to the Article 21 of the By-law on Water Pollution Control, untreated domestic and industrial wastewater cannot be introduced into reservoirs built for purposes other than supplying drinking and bathing water or into ponds and lakes used for purposes other than these, and the Ministry of Environment and Forestry may request advanced treatment for wastewater to discharge into lakes to ensure the discharge standards.

- **Establishing a mechanism to notify the public where bathing waters does not comply with quality standards.**

Where sea water used as bathing water do not meet the bathing water quality standards, the decisions with respect to measures are taken by the Provincial Hygiene Board and District Hygiene Board in accordance with the Law on Public Hygiene No.1593 and the public is informed accordingly.

A technical study with a view to establish a mechanism to notify the public will be carried out under the “Strengthening the Ministry of Health to Harmonize and Implement Legislation in the field of Water for Public Health Protection” Project.

- **Establishing an effective enforcement system**

According to Article 16 of the By-law on Bathing Water Quality, enforcement is applied in accordance with the Law on Environment No.2872 (Official Gazette: 11 August 1983, No. 18132), the Law on Public Hygiene No.1593 and other related legislation to any kind of human activity deteriorating the bathing and recreational water quality criteria as set out in the Annex I of the By-law, thereby not complying with the provisions of the By-law.

According to the Article 12 of the Law on Environment No.2872 (Official Gazette: 11 August 1983, no 18132) as amended by the Law No.5491 (Official Gazette: 13 May 2006, no 26167), activities of the companies, institutions failing to comply with the provisions of the Law shall be suspended by the Ministry of Environment and Forestry or by the institutions and the competent entities to which the inspection authority is delegated. Besides, the human activities causing environmental pollution that is harmful to public health shall be suspended by the Ministry of Environment and Forestry indefinitely. According to the Article 16 of the Law on Environment No.2872 the Ministry of Environment and Forestry or by the institutions and the competent entities to which the inspection authority is delegated have responsibilities in imposing administrative penalty.