

## **Action 7 OF THE EU STRATEGY FOR THE DANUBE REGION:**

**“To legislate at the appropriate level to  
limit the presence of phosphates in  
detergents”.**

Milestone n°2:

**Policy response on the Overview Report**

*- REPORT -*



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## Introduction

The Roadmap of Priority Area 4 of the EUSDR contains Action 7, “To legislate at the appropriate level to limit the presence of phosphates in detergents”. The ICPDR was responsible under Milestone 1 to prepare an overview report on the implementation of regulation (EU) 259/2012. In the Roadmap of PA4 A7 a special task was identified in Milestone 2 to make a policy response to the overview report. Therefore to complete this task and partially based on Hungarian governmental funds, PA4 concluded a contract with an international research organisation, Czech based Justice and Environment, who prepared a complete research document analysing the situation with regards to phosphates in the Danube basin.

Nutrient pollution – particularly caused by nitrogen and phosphorus – may cause eutrophication<sup>1</sup> of surface waters. Furthermore, the emission and discharge of these substances into coastal areas and into the marine environment may have a significant impact on the status of these ecosystems. Nutrient pollution is a priority challenge, particularly as it affects not only freshwaters but groundwater and the marine environment as well.

Nitrogen and phosphorus emissions cause eutrophication in many Danube River Basin District (DRBD) surface waters and contribute to eutrophication in the Black Sea North Western shelf. For the period of 1988-2005, the Danube, as one of the major rivers discharging into the Black Sea, was estimated to introduce on average about 35,000 tonnes of phosphorus and 400,000 tonnes of inorganic nitrogen into the Black Sea each year.<sup>2</sup>

Phosphates are used to improve the cleaning effect of detergents, especially when used with hard water. The removal of phosphates from wastewater is a costly procedure and requires sophisticated technologies, which many wastewater treatment plants in the Danube Basin lack. As a result, a lot of phosphate is carried to the Black Sea, where it contributes to strongly increased levels of nutrients.

The annual consumption of phosphate-containing detergents in the EU-25 is about 1.8 million tonnes, a value equivalent to a phosphorous content of about 110,000 tonnes. 90-95% of these are consumed in domestic laundry and dishwashing detergents.<sup>3</sup> The emission of phosphates via household detergents is significant in the Danube River Basin (DRB) and it is included in the agglomerations’ contribution to total emissions. In the absence of wastewater treatment or in the case of treatment without a tertiary treatment, the respective phosphate loads find a direct way into the aquatic environment.

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<sup>1</sup>Eutrophication has been defined by Directive 91/271/EEC as: “the enrichment of water by nutrients especially compounds of nitrogen and phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms and the quality of the water concerned”. Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment, OJ L135, 30.5.1991, p. 40.

<sup>2</sup>ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview*, p. 11.

<sup>3</sup>COM (2007) 234 final. Report from the Commission to the Council and the European Parliament pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates.

So far only a few countries in the DRB have introduced a phosphate ban for laundry detergents; although others intend to follow. Phosphate emissions due to laundry and dishwasher detergents in the DRB are estimated at 9.190 t/a. This is 15.7% of the total phosphates emissions.<sup>4</sup>

The basin-wide vision of the International Commission for the Protection of the Danube River (ICPDR) for tackling nutrient pollution is a balanced management of nutrient emissions via point and diffuse sources in the entire DRBD. The main objective of the respective policies and measures are to create an environment where neither the waters of the DRBD nor the Black Sea are threatened or impacted by eutrophication. Within the framework of that vision, reducing the amount of phosphates in detergents is an important objective, preferably to be achieved by eliminating phosphates in detergent products, as it is already the case in certain Danube countries.

The Danube River Basin Management Plan (DRBM Plan) is one of the most comprehensive analyses, which aims to achieve at least 'good status' for all waters of the DRB. The Plan covers the period from 2009 until 2015. It provides a detailed overview on the basin and sets out a Joint Programme of Measures including guidelines for tackling the problems across the entire river network.

The 2012 "Interim Report on the Implementation of the Joint Program of Measures in the Danube River Basin District" (Overview Report) was published by the ICPDR in January 2013. The objective of the Interim Report is to provide an overview on the state of play regarding the implementation of the Joint Programme of Measures as included in the DRBM Plan and agreed by the Danube countries.

Parallel to the efforts of the ICPDR, within the 28 European Union (EU) countries, a wide range of approaches are followed, from legal bans via voluntary agreements to no measures at all.

At an EU level, the Detergents Regulation (Regulation (EC) No 648/2004) was published on 8th April 2004 and entered into force on 8th October 2005. This Regulation was later amended by Regulation (EU) No 259/2012 to restrict the use of phosphates and other phosphorus compounds in consumer laundry and automatic dishwasher detergents, in order to reduce the level of phosphorus discharged into waters.

Regulation 259/2012 stipulates that from 30 June 2013 consumer laundry detergents shall not be placed on the market if the total content of phosphorus is equal to or greater than 0.5 grams in the recommended quantity of the detergent to be used in the main cycle of the washing process for a standard washing machine load. Likewise, by 1 January 2017 phosphorous in dishwasher detergents must not overstep a limit of 0.3 grams in the standard dosage.

**The aim of the current report is** to summarise the main findings of the Overview Report regarding Action 7 "to legislate at the appropriate level to limit the presence of phosphates in detergents" and to formulate recommendations for short term policy reflections, that is, one or two years at the most. The report will also provide a comprehensive overview on the current legislation aiming to limit the presence of phosphates in detergents at the EU level and at the level of the EU Member States.

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<sup>4</sup> ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview* p. 15.

## I. Introduction of phosphate-free detergents

### I.1. Findings of the Overview Report<sup>5</sup>

The introduction of phosphate-free detergents is considered to be a fast and efficient measure to reduce nutrient emissions into surface waters.<sup>6</sup> The ICPDR has initiated a process to support the introduction of phosphate-free detergents in the Danube countries.

Reducing phosphate in detergents may contribute greatly to decreasing nutrient loads in the Danube, particularly in the short term, until all countries have built a complete network of sewers and wastewater treatment. Dishwashing detergents are a significant and increasing source of water pollution in all Danube countries. Efforts to regulate this source are also needed.<sup>7</sup>

Scenarios calculated in the DRBMP show that a ban on phosphate-containing laundry detergents by 2012 and dishwasher detergents by 2015<sup>8</sup> would reduce the levels of phosphates by approximately 2,000 tons a year, to a level of only 5% above the values of the 1960s. This would mean that the objective of reducing the phosphate load by 2015 set forward in the DRBM Plan of 2009 would almost be achieved. While building waste water treatment plants is always a large, capital-intensive and long-term project, a ban on phosphates from an early stage of the implementation of the Plan is considered as a fast and efficient solution to reduce nutrient emissions into surface waters.

Ministers of the Danube countries have committed themselves at the Ministerial Meeting in 2010 to initiate the introduction of a maximum limit of 0.2 to 0.5% phosphorus weight/weight% for the total phosphorus content in laundry detergents for consumer use, if possible by 2012; and to work towards a market launch of polyphosphate-free dishwasher detergents for consumer use by 2015.

**Alternatives to phosphate based detergents are available.** Based on the findings of the Overview Report, laundry detergents on the **German and Austrian** market are **almost completely phosphate-free**. The **Czech Republic permits phosphate content up to 0.5%** of weight in laundry detergents, except for detergents produced for industrial use and agents for dishwashers. Some countries, such as Germany and Austria, have successfully reduced the amount of phosphates **through industry agreements**; while in others countries, including **Hungary, reducing phosphate content is currently in progress**. In **Croatia, Serbia, Romania and Ukraine, legislation or voluntary agreements** are under development. In other Danube countries such as **Bosnia and Herzegovina and Slovenia, the shift to phosphate-free detergents was market-driven**.

<sup>5</sup>ICPDR (International Commission for the Protection of the Danube River) (2012), Interim Report on the Implementation of the Joint Program of Measures in the DRBD. Part A – Basin-wide overview.

<sup>6</sup>Kunikova, Emilia (March 2013), Reducing nutrient pollution, challenges in agriculture. Background paper. Workshop on the Joint Program of Measures, Water Research Institute, Bratislava, p. 10.

<sup>7</sup>ICPDR (International Commission for the Protection of the Danube River) (2009), Danube River Basin District Management Plan, Part A – Basin-wide overview, p. 59.

<sup>8</sup>Phosphate-Ban Scenario-Nutrients.

**At the European level, the Water Framework Directive<sup>9</sup> (WFD)** establishes a legal framework to protect and restore clean water across Europe and ensure its long-term, sustainable use.

**Additionally, the European Council has adopted Regulation (EU) No 259/2012** of the European parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents.

The limit value for consumer laundry detergents is set at “0.5 grams of phosphorus per washing process in a standard washing machine”<sup>10</sup> and it is applicable from 30 June 2013.

The limit value for consumer automatic dishwasher detergents is set at “0.3 grams of phosphorus in a standard dosage”<sup>11</sup> and it will be applicable from 1 January 2017. However, it is subject to confirmation through a thorough assessment in the light of the most recent scientific data and taking into account available alternatives to the use of phosphates.

Reducing phosphate in detergents may contribute greatly to decreasing nutrient loads in the Danube, particularly in the short term, until all countries have built a complete network of sewers and wastewater treatment; and it will not attract additional costs to consumers or governments.

Based on the findings of the Overview Report<sup>12</sup>, Danube countries are regulating the phosphate content in detergents by different methods:

Table 1: Regulation of phosphate-free detergents in the Danube countries

Country	Regulation
Germany	Phosphate-free detergents are in use.
Austria	Phosphate-free detergents are in use.
Czech Republic	For dishwasher agents phosphate content is not restricted. Detergents with a concentration of phosphates lower than 0.5 % weight are in use except in industries and institutions where washing is organised by specially trained personnel.
Slovakia	EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus

<sup>9</sup> 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).

<sup>10</sup> ANNEX Via point 1. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds.

<sup>11</sup> ANNEX Via point 2. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds.

<sup>12</sup> ANNEX 1 “Interim Report on the Implementation of the Joint Program of Measures in the DRBD”. p. 1-7.

	compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented.
Slovenia	Phosphate-free detergents are in use. EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented.
Croatia	Phosphate-free detergents are partially in use. Under discussion with the Association of Manufacturers and Wholesale Dealers of Washing, Cleaning, and Beauty Products.
Serbia	Partially in use.
Bosnia and Herzegovina	About 50% of domestically produced detergents are phosphate-free. There is no information available on imported products.
Hungary	By 2013, approx. 80-90% of detergents are expected to be phosphate-free, partly due to the EURO Compact project. Regulation 259/2004/EK entered into force in 2013.
Bulgaria	EU Regulation Number 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented.
Romania	The average % of phosphate in AWM detergents in 2008 was 5.3, which represents a 66% decrease compared to 2005. The accelerated decrease in trend is continuing. EU Regulation No 259/2012 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents will be implemented.
Moldova	No progress.
Ukraine	The Ministry of Environmental Protection has

	drafted a bill on phosphate-free detergents.
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As the data above shows, **in EU Member States, Regulation 259/2012** as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents **is implemented. In countries outside the EU, different measures are in place**, such as command and control instruments (national regulations aiming to limit the phosphate content of detergents) and voluntary agreements between governments and industry to restrict phosphate in detergents.



## I.2. EU legislation aiming to prevent and to mitigate eutrophication

There have been a number of Directives enacted at the EU level with the aim to limit the concentration of nutrients in surface waters, and thereby help to counter eutrophication:

### **Council Directive 91/271/EEC concerning urban waste water treatment (UWWTD)**

The objective of the Directive is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors (as stipulated by Annex III of the Directive). The Directive requires member states to:<sup>13</sup>

- collect and treat waste water in all agglomerations of more than 2000 population equivalents,
- apply secondary treatment of all discharges from agglomerations of more than 2000 population equivalents; and more advanced treatment for agglomerations of more than 10 000 population equivalents in designated sensitive areas and their catchments;
- require pre-authorisation of all discharges of urban wastewater, of discharges from the food-processing industry and of industrial discharges into urban wastewater collection systems;
- monitor of the performance of treatment plants and receiving waters; and
- control sewage sludge disposal and re-use as well as treated waste water re-use whenever it is appropriate.

### **Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive)**

Under the Nitrates Directive, MSs are required to identify vulnerable zones and to establish and implement action programmes in order to reduce water pollution from nitrogen compounds. The Nitrates Directive aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. It forms an integral part of the WFD and is one of the key instruments in the protection of waters against agricultural pressures.<sup>14</sup>

The main measures of the Directive to realise its objectives are the following:

- identifying waters polluted or at risk of pollution;
- designating "Nitrate Vulnerable Zones";
- establishing Codes of Good Agricultural Practice to be implemented by farmers on a voluntary basis;
- establishing action programmes to be implemented by farmers within "Nitrate Vulnerable Zones" on a compulsory basis;
- national monitoring and reporting.

<sup>13</sup><http://ec.europa.eu/environment/water/water-urbanwaste/>

<sup>14</sup><http://ec.europa.eu/environment/water/water-nitrates/>



### **Directive 2008/1/EC of the European Parliament and of the Council concerning integrated pollution prevention and control (IPPC Directive)**

Under the IPPC Directive, MSs are required to issue permits for certain industrial installations according to the best available techniques (BAT). Annex III of the Directive, the indicative list of the main polluting substances to be taken into account for fixing emission limit values, includes substances which contribute to eutrophication, in particular nitrates and phosphates.<sup>15</sup>

Directive 2000/60/EC, the Water Framework Directive (WFD), has led to an increased focus on eutrophication and to a more holistic approach to water management. Under the WFD MSs must enact programmes of measures to ensure that water bodies throughout the EU reach 'good status' by 2015. In cases where WFD monitoring and assessment shows that phosphorus inputs are significantly contributing to eutrophication, MSs must implement measures to address this problem.

## **I.3. EU Regulation 648/2004 as amended by Regulation 259/2012**

The EU is a land of shared waters. About 60% of the EU's surface area lies in river basins that cross at least one national border, and all Member States except Cyprus and Malta contain sections of at least one international river basin district.<sup>16</sup> Europe's waters are at risk from a wide range of pollutants from different sources, from over-abstraction to physical changes. Therefore, an integrated assessment and planning approach is needed to tackle this multitude of pressures in a coherent and effective way.

The cornerstone of the EU's water policy is the WFD; besides, a number of other legal measures<sup>17</sup> are applied to tackle water pollution, to ensure the good quality of drinking and bathing waters and manage flood risks.

Regulation 259/2012 aims to provide improved protection of the environment by safeguarding water systems from the harmful effects of certain substances found in detergents. It aims:

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<sup>15</sup><http://ec.europa.eu/environment/air/pollutants/stationary/ippc/index.htm>

<sup>16</sup>Water Notes on the Implementation of the Water Framework Directive: Water Note 1 - Joining Forces for Europe's Shared Waters: Coordination in international river basin districts. European Commission (DG Environment). ISBN 978-92-79-09282-4.

<sup>17</sup>Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration. OJ L372, 27.12.06.; Directive 2008/105/EC of the European Parliament and of the Council on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council. OJ L348, 24.12.2008.; Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L375, 31.12.91.; Council Directive 91/271/EEC concerning urban waste-water treatment. OJ L135, 30.5.91.; Directive 2007/60/EC of the European Parliament and of the Council on the assessment and management of flood risks. OJ L288, 6.11.2007.; Communication from the Commission to the Council and the European Parliament, Addressing the challenge of water scarcity and droughts in the European Union. COM(2007)414, 18.07.07.

- to protect the environment by reducing eutrophication caused by phosphorus in detergents used by consumers;
- to reduce the costs of phosphates removal in waste water treatment plants; and
- to ensure the smooth functioning of the internal market in consumer laundry detergents and consumer automatic dishwasher detergents.

In the Community legislation detergents are subject to certain provisions concerning their manufacture, proper handling, usage and labelling, in particular with reference to Commission Recommendation 89/542/EEC and Commission Recommendation 98/480/EC of 22 July 1998 concerning good environmental practice for household laundry detergents;<sup>18</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations<sup>19</sup>.

Regulation 648/2004 introduced the following measures:

- The Regulation harmonised the requirements set for the biodegradability of surfactants in detergents – only surfactants that meet the criteria for ultimate aerobic biodegradation may be placed on the market;
- A derogation procedure has been introduced to grant a derogation for substances intended for industrial or professional use;
- The Regulation requires comprehensive detergent package labelling (including fragrances with potential to cause contact allergy, at concentrations exceeding 0.01% by weight);
- It requires the manufacturers to provide competent authorities and medical personnel with the results of tests regarding detergent ingredients.

In its Report of 4 May 2007 to the Council and the European Parliament, the Commission evaluated, pursuant to Regulation (EC) No 648/2004 of the European Parliament and of the Council,<sup>20</sup> the use of phosphates in detergents. Following further analysis, it has been concluded that the use of phosphates in consumer laundry detergents and consumer automatic dishwasher detergents should be limited in order to reduce the contribution of phosphates from detergents to eutrophication risks and to reduce the cost of phosphates removal in waste water treatment plants. Those cost savings outweigh the cost of reformulating consumer laundry detergents with alternatives to phosphates.

Based on research data,<sup>21</sup> efficient alternatives to phosphate-based consumer laundry detergents require small amounts of other phosphorus compounds, namely phosphonates, which, if used in increasing quantities, might be of concern for the environment. According to the provisions of the Regulation, while it is important to encourage the use of alternative substances with a more favourable environmental profile than phosphates and other phosphorus compounds in the manufacture of consumer laundry detergents and consumer automatic dishwasher detergents, such

<sup>18</sup> OJ L 215, 1.8.1998, p. 73.

<sup>19</sup> OJ L 200, 30.7.1999, p. 1. Directive as last amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1).

<sup>20</sup> OJ L 104, 8.4.2004, p. 1.

<sup>21</sup> Madariaga, Barbara M. de, Ramos, M. José, Tarazona, José V., Dr. (2009), Development of an European quantitative eutrophication risk assessment of polyphosphates in detergents model validation using the WFD intercalibration data, model re-calibration, and Pan-European assessment of the eutrophication risk associated to the use of phosphates in detergents. Green Planet Research Report.

substances should, under their normal conditions of use, present no risk, or a lower risk, to humans and/or the environment. The REACH<sup>22</sup> system should therefore, where appropriate, be used to evaluate such substances.

The interaction between phosphates and other phosphorus compounds requires a careful choice of the scope and level of the limitation on the use of phosphates in consumer laundry detergents and consumer automatic dishwasher detergents. This limitation should apply not only to phosphates, but also to all phosphorus compounds in order to preclude a mere substitution of other phosphorus compounds for phosphates. The limit on phosphorus content should be low enough to effectively prevent the marketing of phosphate-based consumer laundry detergent formulations, while being high enough to allow the minimum quantity of phosphonates required for alternative formulations.<sup>23</sup>

According to the Regulation, it is currently not appropriate to extend limitations on the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents to industrial and institutional detergents at the level of the Union because suitable technically and economically feasible alternatives to the use of phosphates in those detergents are not yet available.

As regards consumer automatic dishwasher detergents, alternatives are likely to be more widely available in the near future. It is therefore appropriate to apply restrictions on the use of phosphates in those detergents. Such restrictions should apply from a future date by which time alternatives to phosphates are expected to be widely available, in order to stimulate the developments of new products. It is also appropriate to specify a maximum permissible phosphorus content, based on evidence including existing national restrictions for phosphorus in consumer automatic dishwasher detergents.

Pursuant to Regulation 259/2012, the content of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents is limited. As of 30 June 2013, the total content of phosphorus in consumer laundry detergents placed on the market shall be less than 0.5 grams in a standard washing machine load. As of 1 January 2017, the total content of phosphorus in consumer automatic dishwasher detergents placed on the market shall be 0.3 grams in a standard machine load.<sup>24</sup>

Based on the provisions of Article 14 (free movement clause) of Regulation 259/2012, MSs may lay down national rules concerning restrictions on the content of phosphates and of other phosphorus compounds in detergents for which no restrictions on the content are set out in Regulation 259/2012. These restrictions have to be justified in particular, on grounds such as the protection of public health or the environment and their feasibility both technically and economically shall be presented.

MSs may maintain national rules that were in force on 19 March 2012 concerning restrictions on the content of phosphates and of other phosphorus compounds in detergents for which restrictions set out have not yet become applicable. Such existing national measures shall have been reported to the

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<sup>22</sup>Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency (OJ L 396, 30.12.2006, p. 1).

<sup>23</sup>Regulation 259/2012. Preamble, paragraph (3).

<sup>24</sup>Annex VIa to Regulation 259/2012.

Commission by 30 September 2012 and may remain in force until the date when the restrictions set out apply.

From 19 March 2012 until 31 December 2016 MSs may adopt national rules that implement the restriction on the content of phosphates and of other phosphorus compounds, where justified, in particular, on grounds such as the protection of public health or the environment and where technically and economically feasible alternatives are available. Member States shall communicate such measures to the Commission in accordance with Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services.

Where a MS has justifiable grounds for believing that a specific detergent, although complying with the requirements of Regulation 259/2012, constitutes a risk to the safety or health of humans or of animals or a risk to the environment, it may take all appropriate provisional measures, commensurate with the nature of the risk, in order to ensure that the detergent concerned no longer presents that risk, is withdrawn from the market or recalled within a reasonable period or its availability is otherwise restricted.

## II. Recommendations on short-term policy responses

There is extended literature on those environmental policy measures which aim to reduce or eliminate the phosphate content of detergents.<sup>25</sup> These range from measures aiming at limiting pollution by imposing regulations or standards on companies, via the use of economic instruments, such as taxes and charges, to policies employing economic incentives, in particular environmental taxation or voluntary agreements to reduce phosphate use in detergents.<sup>26</sup>

Recent approaches attempt to connect individual instruments such as regulatory instruments<sup>27</sup> by integrating existing measures into a comprehensive framework for sustainable development (market based instruments<sup>28</sup> and/or voluntary agreements<sup>29</sup>).

According to the JAP,<sup>30</sup> **a joint decision for a voluntary agreement**<sup>31</sup> on promoting the introduction and use of phosphate-free detergents to the market of the Danube countries should be formulated.

<sup>25</sup>David W. Litke: Review of Phosphorus Control Measures in the United States and Their Effects on Water Quality. U.S. GEOLOGICAL SURVEY Water-Resources Investigations Report 99-4007. Denver, Colorado 1999.; Dr. Jonathan Köhler: Detergent phosphates and detergent ecotaxes: a policy assessment. Department of Applied Economics University of Cambridge, UK. 2001.; WRC plc (Project number 14092-0) Authors: Carla Littlejohn, Helene Horth: Recommendations for the Reduction of Phosphorus In Detergents. Final Inception Report. WRC plc 2005.

<sup>26</sup>Jonathan Köhler: Detergent Phosphates: an EU Policy Assessment. Research Paper. Faculty of Economics, University of Cambridge, Sidgwick Avenue, Cambridge. 2006 Institute of Business Administration. In: Journal of Business Chemistry Vol. 3, Issue 2 May 2006.

<sup>27</sup>Regulatory (administrative or directive-based) instruments specify the obligations of the various actors and define how certain activities shall be conducted.

<sup>28</sup>Market based, or economic instruments create positive or negative incentives for certain activities by adjusting the financial conditions of those activities.

<sup>29</sup>Voluntary agreements are usually agreements which are not the result of a political decision-making process, but mainly the outcome of negotiations between the respective partners and organizations.

At the same time, it is true that the severity and threat of eutrophication is very different even within the EU and also in the Danube countries. **The contribution of phosphate-based detergents to eutrophication therefore varies country by country as well as in different hydrographic basins depending on specific human activities and land use.**

There are several voluntary agreements between governments and industry to limit the use of phosphates in detergents by the detergent industry.<sup>32</sup> In some countries such as Germany, the voluntary agreement in effect is equivalent to a 'ban' of phosphates in household laundry detergents.

Although voluntary agreements are regarded as effective tools of environmental policy in general, practical examples demonstrate the difficulties of maintaining a successful voluntary agreement without legislative back-up.<sup>33</sup> **An alternative and probably a more promising option would be to persuade DRB country governments of the need for national legislation.**

The conclusion of the European Commission's report to Council and the European Parliament on detergents and the use of phosphates further reinforced both the urgency and the need for action.<sup>34</sup>

The UNDP-GEF<sup>35</sup> Danube Regional Project funded by the United Nations Office for Project Services (UNOPS) to develop recommendations for the reduction of phosphorus in detergents in the Danube River Basin, has generated detailed data on phosphate concentration and eutrophication in the Danube. The final report<sup>36</sup> concludes:

*"Whilst it is recognised that other actions, such as improved urban waste water collection and treatment, as well as 'good agricultural practices' are necessary complementary actions, the study has shown clearly that there is ample scope for contributing to a successful resolution of the problem of eutrophication, by replacing phosphate detergents with phosphate-free detergents, thereby reducing the total phosphate burden".*

**Based on the findings of the final report, the policy recommendation to countries of the Danube River Basin was to proceed with national legislation and/or further voluntary agreements to replace phosphate-based detergents to protect the Danube and the Black Sea from eutrophication.** This was re-iterated at the recent High-Level Meeting of all 16 Danube and Black Sea Countries and the

<sup>30</sup> The Joint Action Programme of the ICPDR outlined the specific steps that were agreed to be taken over the period 2001-2005 to achieve the environmental objectives outlined in the Danube River Protection Convention including many large-scale measures to reduce water pollution, to promote nature conservation, to restore ecosystems, and to safeguard the long-term sustainable management of the environment. <http://www.icpdr.org/main/activities-projects/joint-action-programme-jap>

<sup>31</sup> With the participation of the detergent industry (AISE) and the ICPDR.

<sup>32</sup> ICPDR (International Commission for the Protection of the Danube River) (2007), *Joint Action Programme. Final Implementation Report.*

<sup>33</sup> WRc plc (2006), Recommendations for the Reduction of Phosphorus in Detergents. Final Report (Project number 14092-0), p. 8, p. 55.

<sup>34</sup> COM(2007) 234 final, Report from the Commission to the Council and the European Parliament pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates.

<sup>35</sup> <http://web.undp.org/gef/aboutus.shtml>

<sup>36</sup> UNDP/GEF report at Danube River is available at: [http://www.undp-drp.org/drp/activities\\_1-8\\_detergents.html](http://www.undp-drp.org/drp/activities_1-8_detergents.html)



European Commission in a Declaration on Water Protection.<sup>37</sup> **A combination of improved waste water treatment with the use of phosphate-free detergents** would decrease nutrient loads and thereby improve the marine environment more than either of these measures taken alone.<sup>38</sup>

**A complex policy which aims to reduce and/or phase out phosphates from detergents shall be based on the following measures:**

- legislative measures;
- voluntary agreements;
- an eco-labelling system of detergents;
- taxes or fines;
- increased public awareness and involvement.

**National legislative measures** may include the following:

- introduction of a total ban of phosphates in detergents;
- restriction of phosphates in laundry detergents; or
- setting limit values for the content of phosphates in detergents.

When drafting national legislation, countries might build on the experiences of those countries that already have certain regulations and practical knowledge on the phosphate content of detergents. **EU Regulation 648/2004 as amended by Regulation 259/2012 should also be followed and taken into account.** At the same time, EU MSs are obliged to apply the relevant measures of the Regulation.

While the above described legislative measures, the introduction of economic instruments as well as voluntary agreements may be regarded as long-term or at least middle-term instruments for achieving the subsequent environmental objectives, short-term policy measures<sup>39</sup> such as **public reflections or high level discussion** are also important.

The following short-term policy reflections are possible:

**In those countries where no legislation on phosphate-free detergents exists yet, preparing impact assessments** in order to find the most suitable policy option for further action.

For those countries where the relevant legislation or voluntary agreements aiming to reduce/eliminate the phosphate content of detergents are already in place, the top priority is to **monitor compliance with already existing agreements or legislation, with the assistance of NGOs when possible.**

**Promoting public debate and involvement** in the Danube countries regarding phosphate-free detergents: an extensive, national debate on goals and tools should be the base of any national measure, especially in counties where there is no national legislation on the phosphate content of detergents.

<sup>37</sup> [http://www.icpdr.org/icpdr-pages/water\\_protection\\_declaration.htm](http://www.icpdr.org/icpdr-pages/water_protection_declaration.htm)

<sup>38</sup> Report from the Commission to the Council and the European Parliament Pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates. (COM/2007/0234 final )

<sup>39</sup> Regarding the timing of their impact, for the purposes of this study, the term 'short-term policy measures' is used for measures which are to be realized within a timeframe of 1-2 years.

**Raising consumers' awareness** of the water footprint of products; for this purpose the media (print, radio and TV) could be used in most countries to support consumer education, involving consumers as partners in the circle of stakeholders. The internet is an effective tool to promote transparency and to facilitate co-operation and co-ordination among stakeholders (e.g. online versions of legislative or project databases should be created).

**Organising workshops** to inform stakeholders and to explore the best way forward could also be beneficial, for example in countries where there is no legislative ban in place on the phosphate content of detergents.

In any case, it is important to **maintain close contact with the relevant government departments of the countries concerned**; as well as to **maintain a dialogue with both the industry and the relevant trade associations**. International co-operation among the relevant stakeholders (ministries, representatives of the phosphate-industry, international organizations, NGOs) should be enhanced to promote the overall effectiveness of the existing and planned national measures and to recognise and build on other countries' successful experiences.

Based on the conclusions drawn by the Interim Report, the introduction of limitations on phosphorus in detergents, i.e. a phosphorus limitation in laundry detergents by 30 June 2013 and in dishwasher detergents in January 2017, is seen as a cost-effective and necessary measure to complement the efforts of implementing urban wastewater treatment and reach a phosphorus level equivalent to the one in the 1960's. However, **in order to reach these objectives, effective cooperation and an exchange of information are essential to share already existing good practices and to provide legal and technical assistance across the Danube countries.**



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## Annex: Country Reports

### Germany

**Danube Project - German Part, Independent Institute for Environmental Issue (UfU)**

**Berlin, January 2014**

**Action 5: “To establish buffer strips along the rivers to retain nutrients and to promote alternative collection and treatment of waste in small rural settlements”**

**Question 1:**

**(general legal background) Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;**

The German part of the Danube River Basin District straddles the federal states Baden-Wuerttemberg and Bavaria. According to this, the three basic legal acts on water management of the Danube River Basin in Germany are the Federal Water Act (Wasserhaushaltsgesetz, WHG), the Water Act of Baden-Wuerttemberg (Wassergesetz für Baden-Württemberg, WG) and the Bavarian Water Act (Bayerisches Wassergesetz, BayWG).

**Question 2:**

**(scope of regulation) Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;**

*Water protection zones:*

General definitions are given in §3 of the Federal Water Act (WHG). However, within this paragraph, there is no specific definition for protecting territories. Water protection zones are regulated in the section “Public water supply, water reserves, mineral spring protection (§ § 50-53)” of the Federal Water Act (WHG). These water protection zones are predominantly designed for the protection of sources of drinking water. The establishment of water protection zones is carried out by delegated legislation of the competent federal state government. The federal state governments may delegate this power to other state agencies. § 51 WHG regulates the purpose of water protection zones, including the protection of water bodies from current and future negative impacts that decrease the drinking water quality, groundwater nourishment and/or to avoid hazardous runoff of rain water and leaching and accumulation of soil particles, fertilizers or pesticides in water bodies. Instead of giving an own definition for water protection zones, the Water Act of Baden-Wuerttemberg refers to the specifications given in the WHG. In its §45, the Water Act of Baden-Wuerttemberg gives only additional details to the procedure of the establishing of water protection zones in the context of compensatory payments for land owners who have profit cuts due to the ban of the use of fertilizers within water protection zones. Furthermore, it denominates the responsible authorities for the

establishment and monitoring of water protection zones: the Upper Water Authority (“Oberste Wasserbehörde”) in cooperation with the Upper Agriculture Authority (“Oberste Landwirtschaftsbehörde”). Additionally, the public water suppliers play a part in the monitoring and control of water protection zones. Similar statements can be made for the Bavarian Water Act: It also refers to the specifications of the WHG instead of giving own definitions. In its Article 31, the responsibilities are clarified: In the case of Bavaria it is the State Ministry for Environment and Health. A special regulation in the Bavarian Water Act is that it explicitly forbids the establishment of water protection zones within build-up areas of settlements and cities. Compensatory payments for land owners are specified in its Article 32.

*Buffer stripes:*

§38 WHG regulates riparian buffer stripes (“Gewässerrandstreifen”) and gives the following definition: Buffer stripes serve to maintain and improve the ecological functioning of surface water bodies, to maintain water storage, to maintain water flow, and to reduce pollutant inputs from diffuse sources. Riparian buffer zones extend to the littoral zones and a certain part of the adjacent area further inland. Neither the Water Act of Baden-Wuerttemberg nor the Bavarian Water Act give own definitions for buffer stripes, both refer to the definition of the WHG.

**Question 3:**

**(technical details) Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.)**

According to the WHG, buffer stripes outside of settlements and urban areas have to be at least 5 meters wide. Within settlements and urban areas the WHG gives the competent authority on the federal state level the freedom to define “appropriate” buffer stripes, but they are not forced to do so. The WHG gives also the freedom to the competent authority on the federal state level to define wider buffer stripes or to define exceptions where no buffer stripes have to be established. While the Bavarian Water Act does not make use of this freedom, the new version of the Water Act of Baden-Wuerttemberg (that is in force only since 01.01.2014) defines 10 meters for buffer stripes outside of settlements and 5 meters inside of settlements. Furthermore, it points out that wider buffer stripes are preferable when this seems to be meaningful for the achievement of ecologic objectives, but also allows more narrow stripes in special cases so long as it is in accordance with the WHG. The Bavarian Water Act only makes specifications on the establishment of buffer stripes and the associated contracts with landowners, there are no detailed specifications on the management and protection within this Act. Also in this context, the Water Act of Baden-Wuerttemberg goes further: It points out specific requirements on the arrangement of buffer stripes, including the following: within the stripes trees and scrubs have to be obtained, the use and storage of fertilizers and plant protection products is forbidden (exceptions: wound closure products for tree care and products against damage caused by game animals), every type of construction is forbidden (unless it is necessary from a water management perspective), and from the 1<sup>st</sup> January 2019 the use as farmland in an area of five meters from the shore is forbidden (exceptions: planting of trees with harvest intervals of more than two years). Also the Water Act of Baden-Wuerttemberg makes some statements on the establishment of buffer stripes and contracts with land owners which are similar to those in the WHG and the Bavarian Water Act.

**Question 4:**

**(procedural rules) Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;**

*Example for the designation of Water Protection Zones in Bavaria (biggest part of the Danube River Basin in Germany, the procedure in Baden-Wuerttemberg is similar):*

- Usually, public water suppliers or municipalities initiate the procedure for the designation of water protection zones
- Usually a private hydrogeological planning office is hired for the compilation of documents, including hydrogeological descriptions of groundwater aquifers and groundwater cover in the groundwater basin, criteria used for the demarcation of the water protection zone, a situation-specific customized catalog of prohibited or restricted acts within the planned water protection zone, information on land use and on special hazards in the groundwater catchment area, a site map and an overview map on hydrogeological key structures and groundwater flow directions, the location of special hazardous hot-spots (also problematic land uses) and the division into zones of different sensitivity.
- Then, the water supplier or the municipality submits the documents to the competent county authority, which approves the documents and prepares an official appraisal statement
- Then all relevant documents and appraisals are made open to public inspection in every affected municipality. Citizens have the right to raise objections. As far as the citizen's arguments, suggestions and objections are justified and are not yet adequately covered in the documents, the documents have to be modified accordingly.
- Finally, the water protection zone is designated by the responsible county authority through a decree.

#### **Question 5:**

**(summary of findings) Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.**

According to the interviewed representative of the competent authority in Baden-Wuerttemberg the overall cooperation within the Danube River Basin District works quite well. See also: ICPDR, Regensburger Vertrag (bilateral contract between Germany and Austria on water management in the Danube River Basin). Obviously, the Water Act of Baden Wuerttemberg is much newer (in force since 01.01.2014) than the Bavarian Water Act and therefore has integrated more requirements of the Danube River Basin Management Plan. According to the expert, the new Water Act of Baden-Wuerttemberg is a very exact implementation of the WFD. However, in this context it is important to keep in mind that the part of the Danube River Basin within Baden-Wuerttemberg is extremely small in comparison to the Bavarian part. Especially the new regulations on buffer stripes in Baden-Wuerttemberg seem to be ambitious and they include specifications aiming at avoiding inputs of nutrients into water bodies. However, these regulations do not take effect until 2019, that means that they are more important for the second management cycle. So, there is currently a lack of experience on the effectiveness of these regulations. However, according to the expert's opinions, the ban of the use as farmland in an area of five meters from the shore will contribute to avoid nutrient inputs. Currently it is not clear, when the Bavarian Water Act will be renewed, but for the

accordance with the requirements it would be definitely necessary, especially in the field of buffer stripes, and especially because the Bavarian part of the Danube River Basin is the biggest part of it within Germany. The “Bund Naturschutz in Bayern e.V.” (Friends of the Earth Bavaria), other environmental organizations and the Bavarian Green Party are currently lobbying for the integration of stricter regulations on buffer stripes into the Bavarian Water Act.

**Question 6:**

**(local aspects of waste management) Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.**

§ 20 of the German Recycling Management and Waste Law (Kreislaufwirtschaftsgesetz, KrWG) regulates the responsibilities of local public waste management utilities. According to this, local public waste management utilities are responsible for the disposal (according to §§ 15 und 16) and recycling (according to §§ 6-11 KrWG) of every solid waste from private households.

**Question 8:**

**(local waste water treatment solutions) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;**

Usually waste waters have to be discharged into waste water facilities. Local public waste water companies are responsible to insure this. According to § 54 WHG, in special cases, waste water can be discharged directly into water, if the quantity and harmfulness of the waste water is kept as low as possible according to the latest state of technology and best practice and the discharge is in accordance with other legal requirements. For this a special exception approval by the competent authority is necessary.

According to our research and the expert's opinions, there are no specific regulations on small, local settlements within the German waste legislation. For such settlements the same regulations as for every municipality are valid. In the case of very isolated houses or farms individual stand-alone solutions exist, which are not specifically regulated by law and are becoming increasingly rare.



## Czech Republic

### Buffer Zones

Definition, legal framework<sup>i</sup>, technical details

In this chapter, two types of buffer zones will be discussed:

Buffer zones and areas designated directly for protection of water quality, such as protecting zones of drinking water sources or sensitive and vulnerable areas.

Briefly, areas designated for other purposes, but with potential to contribute to water quality, will be mentioned, such as: surface waters used for bathing, protected areas for nature conservation etc.

#### Protecting zones of drinking water sources<sup>ii</sup>

1<sup>st</sup> and 2<sup>nd</sup> degree of protecting zones for drinking water resources of are designated for protection of sources with outtake over 10 000 cubic meters per year. Minimal extent of protecting zones of 1<sup>st</sup> degree are defined by the law (see table below), actual area and restrictions for 1<sup>st</sup> and 2<sup>nd</sup> degree zones are designed by “legal water authority”<sup>iii</sup>.

Tab. 1: Minimal extent of 1<sup>st</sup> degree protecting zones for drinking water sources

Reservoirs				
For drinking water only	Whole surface of filled reservoir			
Also for other purposes	To the distance of 100 m from outtake			
Water courses	Length upstream	Length downstream	Width on the bank of outtake	Width in direction of water course
with increase of water level	200 m from outtake	100 from outtake or edge of weir	15 m	1/3 of channel
Without	200 m from outtake	50 m from outtake	15 m	1/3 of channel
Ground waters	To the distance of 10 m from outtake			



To the 1<sup>st</sup> degree zones, entry of persons or vehicles is forbidden. Scope and regulations for 2<sup>nd</sup> degree is defined by legal water authority according local conditions. Generally, activities, which could undermine capacity, water quality or health care parameters of water source are forbidden.

#### **Sensitive areas<sup>iv</sup>**

Sensitive areas are based on directive 971/27/EEC concerning urban waste treatment. By Governmental Decree<sup>v</sup>, all water bodies in Czech Republic are defined as sensitive areas. The indicators and limits for waste waters are defined also by governmental decree, and revised each 4 years. Currently valid is Decree No. 23/2011.

#### **Vulnerable areas<sup>vi</sup>**

Vulnerable areas are based on nitrate directive 91/676/EEC. For these areas, not designation and only limits for pollutants, but also action plans concerning use of fertilizers, anti-erosion measures and alternation of crops are revised once per 4 years. Currently valid is Governmental Decree No. 262/2012.

#### **Other types of protected areas with potential to improve water quality**

**Protected areas for accumulation of water<sup>vii</sup>** are designed to mitigate floods. Some restriction applied can also have positive impact on water quality – e.g. ban on mining or preservativ of forests.

**Surface waters used for bathing<sup>viii</sup>** are defined by Decree of Ministry of Health Care (in cooperation with Ministry of Environment)<sup>ix</sup>. Another MoHC Decree<sup>x</sup> defines indicators of water quality for those areas. If the water quality drops below these limits, the legal water authority can impose measures to remedy.

For **waters important for life and reproduction of natural fish populations<sup>xi</sup>**, indicators of water quality and programs for their improvements are set up by Governmental Decree<sup>xii</sup>.

**Special protected areas for nature conservation** of national as well as European importance are described in Landscape and Nature Conservation Act No. 114/1992, as well as their buffer zones. Lots of them include water courses and floodplains. In that context, is important to mention important rule<sup>xiii</sup>, that any plan or project with potential negative impact on Natura 2000 network cannot be realized (except in specific cases of overruling public interest), which concerns not only plans and projects located in these areas. In case of water and water-related habitats and species, Natura 2000 thus can be a powrfull tool to protection of the relatively big portion of surrounding catchment area.

Worth mentioning is also **territorial system of ecological stability<sup>xiv</sup>**. It is ecological network consisting of so called bio-centers, connected by bio-corridors. Very often, bio-corridors are in fact water courses and zones alongside them. Bio-centers and bio-corridors are not protected areas in sense of Lanscape and Nature Conservation Act, but they play important rule in physical planning and importantly, there are sources of funding for creating new ones. Improvement of ecological functions of landscape achieved by them can also contribute significantly to water quality improvement.

Recommendations, closing remarks

Despite all tools mentioned above, the difuse pollution from agriculture persists to be a significant problem in Czech Republic. In many places, current agricultural practices lead to extensive erosion and transport of nutrients into surface waters. Solution would require changes in land use and methods applied by farmers – important improvement could be achieved by including a duty to

designate some part of arable land for anti-erosion measures and measures for improvement of water retention in landscape into Cross-compliance for new financial period.

#### Management of solid waste in small rural settlements

Basic law defining solid waste management in Czech Republic is Waste Act<sup>xv</sup>. Municipalities play a key role in management of solid waste from households. Municipalities have a very flexible right to implement system of waste management on their territory with regard to local conditions by municipality decrees. For households, Waste Act set up only a duty to put their waste into places designated by municipality, and separate and give separated waste to further treatment according the system placed in by municipality<sup>xvi</sup>.

Municipality, not inhabitant, are by law considered to be “waste producer”, responsible for categorizing, collecting and handling waste, make records, create waste management plans and carry out control and monitoring. Municipality has duty to designated places for inhabitants to put waste, including special places for dangerous parts of household waste. Municipality has a right to implement by decree a waste management system, including systems of local fees for inhabitants. Waste management system can also include composting. Newly, composting is legally supported by implementing a term “small facility for treatment of bio-degradable waste” (for handling up to 10 tonnes at the same time and up to 150 tonnes per year) – for approval and operation such facilities, less stringent regulations apply<sup>xvii</sup>.

The relevant authorities for establishment and operation of landfills are provinces.

Competences for fines and other sanctions have municipalities, provinces and Czech Environmental Inspection (CIZP). Roughly speaking, municipalities inflict sanctions on inhabitants, provinces and CIZP on businesses<sup>xviii</sup>. System of municipality sanctions can be also established by municipality decree.

Generally speaking, waste management plans are in Czech Republic created on three levels – national, provincial, and local. On local level any “waste producer” (including municipalities) with production of waste over 10 tonnes of dangerous waste or 1000 tonnes of any other kind of waste<sup>xix</sup>.

Municipality waste management plans are approved by provincial offices to achieve compliance with provincial waste management plans. Provincial management plans are created with consideration to national management plan. With any significant change in higher level waste management plans, there is a duty to update subsequently management plans on lower levels.

Currently, new national waste management plans is in preparation<sup>xx</sup>, with many progressive elements, including program for prevention of waste production or methodology for municipalities for selecting most efficient separation methods.

#### Situation in alternative collection and treatment of wastewater in small rural settlements

Small wastewater treatment facilities (for up to 2000 inhabitants) can be further divided into three categories:

Wastewater treatment facilities 5 to 50 inhabitants, called also household facilities. For installation of these facilities, certification for the type (not individual facility) is required. Facilities should also be CE compliant (in that case, operation does not require obligation for measurement of pollutant concentration in released water)<sup>xxi</sup>.

Wastewater treatment facilities for up to 500 inhabitants are intended for small settlements or block of buildings, which cannot be connected to sewage system. Usually they are so called “packed” facilities, delivered to place of installation as a completed product.

Wastewater treatment facilities for 500 – 2000 inhabitants, used similar technologies and identical legal procedures as common municipal facilities for small and middle-sized sources of wastewater.

Wastewater treatment facility is water construction in a sense of Water Act<sup>xxii</sup>. They require permit for handling of surface waters, issued by “legal water authority” (see note <sup>iii</sup>). Facilities up to 50 inhabitants CE compliant do not require building permit – they had to be only announced to relevant building office. Other types of facilities require building permit, issued again by legal water authority.

After construction, legal water authority has to agree with start of test operation, and after evaluation of test operation, another agreement has to be issued before full operation can be started.

Facilities for more than 50 inhabitants or facilities not CE compliant have to be monitored – at least twice a year, samples have to be taken and analyzed by accredited laboratory.

## Austria

### Protecting territories for water flows (general legal background)

In Austria the competence for water protection legislation lies with the Federal state and the central law in this area is the Austrian Water Management Act<sup>40</sup> (WRG). This piece of legislation generally regulates protecting territories for water flows. It contains specific rules for the protection of areas for the extraction of water for human use in its Art 34ff.

Additionally other sectorial laws integrate the protection of waters in their respective provisions (the Waste Management Act<sup>41</sup>, several pieces of legislation in the field of chemicals law, Nature Protection Acts et al.). Within the scope of species and habitats protected under Union legislation (NATURA 2000) also the protection of water flows has certain importance – the matter is regulated under the Nature Protection Acts of the Länder, where the possibility for designation of protected areas exists.

Spatial planning legislation is equally important for the designation of protecting territories for water flows. Due to the federal structure of Austria spatial planning is a horizontal issue. Certain matters are dealt with the federal state, certain matters with the individual Land (Region) and certain matters are dealt with the municipalities. The competent authorities for general spatial planning are the

<sup>40</sup> [Federal Law Gazette I No. 215/1959](#) in its current version

<sup>41</sup> [Federal Law Gazette I Nr. 102/2002](#) in its current version

Laender. The federal state has the competence to regulate spatial planning in the matters listed below:

- Transport (construction of railways, national roads, aviation, passage)
- Forestry
- Water
- Waste facilities
- Mining
- Military installations
- High voltage current

The provisions on spatial planning are part of the acts on the specific subject matters. Usually they lay down principles and guidelines. In implementation of the Water Framework Directive<sup>42</sup> and the Floods Directive<sup>43</sup> the WRG regulates the instruments and organization of public water management planning. In order to implement these instruments the WRG provides for the power to adopt ordinances in a quite unspecified way. Consequently the adoption of the National River Basin Management Plan<sup>44</sup> (NGP), the National Flood Risk Management Plan<sup>45</sup> and the Austrian Water Information System (WISA) including a register of protected areas<sup>46</sup> are set by the WRG.

The before mentioned procedures are to be treated according to the procedural provisions of the sectorial law, complemented by the provisions of the Administrative Procedure Act<sup>47</sup>. Basically decisions are taken by administrative formal decision or by the adoption of an ordinance – the procedures are different accordingly.

## **1. Scope of regulation: legal definitions, legal procedural rules – planning, establishing, managing and monitoring**

### **a.) The planning hierarchy according to the WRG**

The National River Basin Management Plan<sup>48</sup> (NGP) is the central planning act for the management of waters. Art 55c WRG envisions the adoption of such a plan every six years by the Minister of Environment. According to administrative practice the NGP itself is not legally binding. Parallel to the adoption of the NGP an accompanying ordinance (NGP-V 2009) was enacted<sup>49</sup>, which leads to a partly legally binding plan – because it does not cover the whole content of the NGP. The Austrian NGP encompasses programmes of measures for the improvement of waters and the protection from future impairments, the prioritization, implementation and evaluation of mentioned measures with adequate instruments and the classification of waters. Based on the programmes of measures the designation of protected areas can be carried out. Additionally the plan contains a list of the

<sup>42</sup>2000/60/EC

<sup>43</sup>2007/60/EC

<sup>44</sup> Art 55a ff

<sup>45</sup> Art 55i ff

<sup>46</sup> Art 59 ff

<sup>47</sup>[Federal Law Gazette I No. 51/1991](#) in its current version

<sup>48</sup> National River Basin Management Plan 2009: BMLFUW-UW.4.1.2/0011-I/4/2010

<sup>49</sup> Nationale Gewässerbewirtschaftungsplan VO 2009, Federal Law Gazette II No. 103/2010

environmental objectives for protected areas which have to be followed in the regulation and management of these areas.<sup>50</sup>

### b.) Legal definitions and basic procedure

The NGP registers protected areas, defining them as areas requiring the protection of surface water and groundwater or the conservation of water-dependent habitats and species on the basis of Union legislation.<sup>51</sup> Furthermore Austrian specific protected areas according to the Water Management Act<sup>52</sup> (WRG) are covered by its definition. The protected areas can be distinguished according to their protective purpose:

1. Areas for the extraction of water for human use
2. Areas that have been identified on the basis of Community legislation for the protection of economically significant aquatic species
3. Areas for the protection of habitats and species: Birds and Habitats Directive areas (NATURA 2000) and waters in accordance with the Fish Directive (2006/44/EC)
4. Nutrient sensitive areas, if they have been designated as sensitive areas under the Urban Waste Water Directive (91/271/EEC) or designated as vulnerable zones under Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources
5. Waters designated under the Bäderhygienegesetz<sup>53</sup> (Act on Hygiene at Swimming Pools and Bathing Waters) in implementation of the Bathing Water Directive (2006/7/EC)

#### Ad 1.)

Legal definition/purpose	Competent authority	Procedural rules	Managing and Monitoring
Aim to protect drinking water supply facilities from contamination (Art 34 protected areas)	In order to protect water supply facilities from contamination (§ 30 para 2) or against attacks on their productive capacities, the competent water authority may prohibit special arrangements on the land/water management, prohibit the construction of certain facilities and determine appropriate reserves by administrative decision.  The competent water authority (can be the district authority, the governor or the MoE)	The administrative decision designating the protected area is to be seen separately from the decision authorizing the water supply facility: It is a	Monitoring is carried out via observation of the water extraction point.  Monitoring measures for drinking water lie in

<sup>50</sup> Cp. NGP 2009, p. 14.

<sup>51</sup> NGP 2009, p. 26

<sup>52</sup> Art 34, Art 35 and Art 37 WRG.

<sup>53</sup> [Federal Law Gazette No. 254/1976](#) in its current version.

	<p>takes an administrative decision (<i>Bescheid</i>)</p>	<p>decision taken in the public interest of a safe and hygienic water supply<sup>54</sup></p> <p>The administrative decision produces an in rem effect – changes of ownership do not have an effect on the decision.<sup>55</sup></p> <p>Basically the water authority decides ex officio on the designation of a sanctuary - in the run of the permitting procedure of the water supply facility this has to be checked anyways.<sup>56</sup></p> <p>The operator of the water</p>	<p>the competence of the food inspection (Ministry of Health) and for ground water inspections in the competence of the district authorities and in certain cases in the competence of the respective governor (Art 131 WRG). In cases concerning transboundary waters or the Danube the Minister of Environment can also take control measures (para 3 leg cit)</p>
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<sup>54</sup> Cp. VfGH 14.06.1980, B 473/77.

<sup>55</sup> Cp. Oberleitner/Berger, WRG<sup>3</sup> (2011), § 34 Rz 9.

<sup>56</sup> Art 104/1 WRG

		<p>supply facility is entitled to file a request for the designation of a protected area.</p> <p>Basically there is no legal standing or other party rights when adopting an ordinance. In certain cases an ordinance can be challenged by individuals, courts or administrative authorities (Art 139 Constitutiona l Act)</p> <p>In permitting proceedings affecting the sanctuary in some way, the water supply facility or the affected municipality are party to the proceedings (cp. Art 34/6)</p>	
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<p>Aim to generally protect public drinking water supply (Art 34/2 Sanctuaries)</p>	<p>According to this provision the sanctuary is to be designated in the form of a Legal ordinance by the respective regional Governor ('Landeshauptmann').</p> <p>In Some cases the MoE is competent.</p> <p>The governor may determine activities which are not allowed, need to be officially authorized or have to be notified in the respective area.</p>	<p>This legal ordinance is regularly enacted for the areal protection of groundwater resources.<sup>57</sup></p> <p>Basically there is no legal standing or other party rights when adopting an ordinance. The administrative authority acts upon its own motion and not upon request.</p>	<p>In sanctuaries evaluations are carried out by GZÜV<sup>58</sup> measuring points. These points are illustrated in the NGP</p>
<p>Aim to ensure future drinking and process water supply (Art 35)</p> <p>According to this provision the protection of currently not used, but potentially future useable water</p>	<p>Protected areas are designated in the form of a legal ordinance by the respective regional Governor ('Landeshauptmann').</p> <p>The governor may determine activities which are not allowed, need to be officially authorized or have to be notified in the respective area.</p> <p>Same criteria as for the designation of sanctuaries.</p>		

<sup>57</sup> Oberleitner/Berger, Oberleitner/Berger, WRG<sup>3</sup> (2011), § 34 Rz 12.

<sup>58</sup> Gewässerzustandsüberwachungsverordnung – GZÜV (Ordinance on the Monitoring of the Quality of Water Bodies)

r resources required. <sup>59</sup>			
Aim to protect natural medicinal springs or moors (Art 37)	Art 34 is to be applied here		

### Ad 2.)

In Austria no reserve of economically significant aquatic species have been reported.

### Ad 3.)

The protection and designation of Natura 2000 sites falls under the nature protection competence of the Laender<sup>60</sup>. In nature protection issues each of the nine Austrian Laender is competent in legislative and executive matters. Basically the respective Nature Protection Act itself provides for the criteria when an area is to be protected. The designation of protected areas in compliance with the FFH Directives is carried out via legal ordinance by the competent regional government (e.g. Art 9/3 Lower Austrian Nature Protection Act). Natura 2000 sites are incorporated into the register of protected sites according to Art 59b WRG when the maintenance or improvement of the water status is an important factor for their protection.

Generally for Natura 2000 sites the monitoring measures lie in the competence of the Laender. Nevertheless the monitoring of areas for which the maintenance or improvement of the water status states an important factor for the protection of these sites is taken over by the national monitoring programmes according to the Ordinance on the Monitoring of the Quality of Water Bodies for both surface waters as well as groundwater. Water bodies situated in "water framework directive-relevant" Natura 2000 sites are principally included into the national surveillance monitoring network when a risk of not achieving water quality goals can be estimated.

The Fish Directive (2006/7/EC) sets obligations to establish programmes and measures to reduce water pollution and to achieve compliance with certain limit values set up by the Directive. The Austrian implementing legal act is the Fischgewässer-VO<sup>61</sup> ('Fish Water Ordinance'). The ordinance defines in its Annex A certain protecting areas. The MoE is competent to enact programmes

<sup>59</sup> Oberleitner/Berger, WRG<sup>3</sup> (2011), § 35 Rz 1.

<sup>60</sup> Austria is a federal state and consists of the Federal state and the nine Austrian regions (Laender) – all these bodies have legislative and executive competences.

<sup>61</sup> Verordnung des Bundesministers für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft über die Qualität von schutz- oder verbesserungsbedürftigem Süßwasser zur Erhaltung des Lebens der Fische (Fischgewässerverordnung), BGBl

containing measures to reduce the water pollution within the designated areas. The protected territory is defined by the protective purpose of the ordinance: *“to improve the quality of running or standing fresh water by preserving and improving the life of certain fish species”*<sup>62</sup> The monitoring of the parameters specified in the Directive is carried out within the existing national water monitoring programme.

#### **Ad 4.)**

Austria has opted for nationwide reduction measures. For this reason no separate designation of nitrate vulnerable and nutrient-sensitive zones has been provided for in Austria. The monitoring of national implementation measures will be reviewed by both the monitoring programs for surface waters, as well as groundwater. Furthermore all municipal wastewater treatment plants are obliged to perform periodic tests on the respective inlet and discharge values. For these examinations both the measuring frequency and the parameter are determined.

#### **Ad 5.)**

The monitoring of designated bathing waters is coordinated by the Federal Ministry for Health. The monitoring of bathing water is ensured by the federal states. The results of the monitoring of bathing water are published in the respective reports or at the website of the Ministry of Health and the Laender, additionally in the annual report of the European Commission

### **2. Technical Details: technical requirements of the buffer zones (extension, management and protection measures)**

A protected area according to Art 34/1 WRG shall only refer to a restricted water catchment area: nearby wells or water sources. The Highest Administrative Court defines the maximum size of a water protection area with the so called 60-day-limit<sup>63</sup> - meaning this shall be the maximum flow rate till the water catchment for establishing a water protection area in accordance with Art 34 WRG. Usually a geographical distinction is made which also refers to the activities allowed in the respective zone (Zone I – strict protection, and II – lower protection, and III – lowest protection). The Highest Administrative Court states, that the representation of the local boundary of a protected area is to be established beyond reasonable doubt, otherwise the necessary ownership restrictions for the protected cannot be assumed<sup>64</sup>. A protected area is not clearly determined, if its geographical situation is not clearly identified and there is room for expansion variants<sup>65</sup>.

The sanctuary regulated in Art 34 para 2 WRG refers to bigger areas than the above mentioned provision. So any area beyond the “60-day-limit” may be designated as such a sanctuary. A sanctuary even may encompass some smaller water protection areas. The area is categorized in Zones (I, II and III) as already described above. The plot boundaries have to be specified in the ordinance designating the sanctuary – this may be done by indicating the architectonical or natural reference points of the

<sup>62</sup> Cp. Art 1/3 FischgewässerVO.

<sup>63</sup> Cp. VwGH 12.12.1996, 95/07/0055.

<sup>64</sup> VwGH 23.06.1972, Slg 8258

<sup>65</sup> VwGH 19.9.1989, 86/07/0046

borderline (e.g. Art 2 Schongebietsverordnung Oberndorf<sup>66</sup>). The exact boundaries of the sanctuary are mapped in a proper site plan which is an integral part of the ordinance and is publicly accessible (at the seat of the relevant district authority, the regional government and the affected municipalities).<sup>67</sup>

For protected areas according to Art 35 (protection of future water supply) and Art 36 (protection of natural medicinal springs or moors) the criteria of Art 34 are to be applied.

The designation of Natura 2000 is carried out by ordinance of the respective governor. The ordinance distinguishes different treatment zones and the Natura 2000 site is to be defined by exact plot boundaries.

### **3. Procedural Rules: Rules on Planning and designation of the protecting territories, authorities and stakeholders taking part**

#### **a) National River Basin Management Plan (NGP)**

The Austrian WRG provides detailed rules for the elaboration of the NGP – the last NGP was adopted in 2009, the next will be due by 2015. As already mentioned – the Minister of Environment shall adopt the NGP by ordinance and publishes the document on the Homepage of the Ministry of Environment. The plan has to be incorporated into the Water Information System (WISO) and made publicly available at the office of all nine Laender governments.<sup>68</sup> The Minister of Environment is responsible to coordinate the plan with effected foreign countries – in fact this task lies with the Commission on the Protection of Waters (*Gewässerschutzkommission*).<sup>69</sup> The procedures functions according to the following rules:

- A time and work plan is to be elaborated already 3 years before the adoption of the NGP; this plan shall include also public consultation measures;
- Two years before the adoption of the plan, an elaboration of an overview on the international and national river basin and on the most crucial water management issues for the respective river basins;
- Completion of a draft plan, one year before the adoption of the plan;<sup>70</sup>

The foundation of the NGP is the assessment of the baseline situation (*Bestandsaufnahme*) which is in the responsibility of the Minister of Environment and the regional governors, which will be incorporated into the WISO.<sup>71</sup> Equally flood risks have to be evaluated and incorporated into the NGP as well as into a separate flood risk management plans.<sup>72</sup> Art 55m WRG provides for public consultation provisions in the NGP elaboration process in the framework of a strategic environmental assessment (SEA). The background documents and the draft plans have to be made available for comments to stakeholders and the public in general – notification via newspapers and publication on the web, indication of deadlines for comments (6 weeks) and publication of all comments on the

<sup>66</sup> Sbg. Law Gazette [No. 98/2003](#)

<sup>67</sup> Cp. Art 2 Schongebietsverordnung Oberndorf, et al.

<sup>68</sup> Art 55c/1 WRG

<sup>69</sup> Art 55c/3 WRG

<sup>70</sup> Art 55c/4 WRG

<sup>71</sup> Art 55d WRG

<sup>72</sup> Art 55h,i and j

web. The comments shall be taken into account when adopting the plan. Apart from the environmental report, the draft plan has to be accompanied by a description of transboundary consultations and SEA procedures.

#### **b) Other Water Management Plans**

For the adoption of further water management plans which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC (EIA Directive) a strategic environmental assessment is to be carried out as well.<sup>73</sup> The procedure set for the elaboration of the NGP (including public consultation and participation) has to be applied here. This provision shall cover the elaboration of regional programmes (Art 55g WRG) which are - as mentioned above - elaborated in concretization of the NGP and the designation of sanctuaries (Art 34 WRG).<sup>74</sup> In practice it is doubted that strategic environmental assessments are carried out for the two last mentioned plans.

- **Sanctuaries**

Competence, procedure and monitoring (see above 2. b.).

According to academia a SEA shall be obligatory for these procedures based on Art 55g WRG.

#### **c.) Protected areas designated by individual administrative decision**

- **Water protection area**

Competence, procedure and monitoring (see above 2. b.).

#### **Summary of Findings:**

There is various legal areas important for the protection of water flows – but the central law stating protection and permitting criteria and the monitoring of the protection programmes or activities are stated in the Water Management Act (WRG). The WRG departs from a strict planning hierarchy where protection areas can already be deduced from the National Water Basin Management Plan (NGP) and its programmes and measures. Unfortunately only part of the plan is enacted by ordinance so certain contents of the NGP cannot be evaluated as legally binding. This considerably reduces the commitment with certain water protection activities and aims. The WRG-intrinsic instruments for the protection of water flows are the water protection area and the sanctuary – these are the legal instruments mainly used for the protection of waters.

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<sup>73</sup> Art 55n WRG

<sup>74</sup> Oberleitner/Berger, WRG<sup>3</sup> (2011), § 55n, Rz 1.

With respect to the definition of water protection areas – mostly the protected areas defined by their protective purpose (to protect drinking water, bathing water, the quality of water supply etc.). For these areas certain activities are forbidden, have to undergo a separate permitting procedure etc. and special control measures are taken.

Whereas the elaboration of plans and programmes determined by EU law or on a structural level is accompanied by a multi-stakeholder process and structured methodology, the designation of individual water protection areas is an ordinary administrative procedure with only certain or no parties participating in. Especially the adoption of ordinances in the case of sanctuaries does not allow for an elaborated procedure with legal standing. Monitoring measures are strictly set and in practice broadly applied.

#### **4. Local Aspects of Waste Management: Local relevance of legal provisions on specific waste management activities – selective collection, composting, landfill regulations**

##### **a.) Municipal Waste Management**

The competences for waste management are divided between the Federal State and the Laender. The Federal state regulates the major part and the Laender are only competent in some cases regarding the treatment of not dangerous waste.<sup>75</sup> The central piece of legislation is the Austrian Waste Management Act (AWG). The AWG states highlights the goal, that waste shall be treated or neutralized in the nearest proper waste management facility and waste management shall allow the society as a whole to become self-sufficient in waste disposal. This is also valid for waste treatment facilities processing mixed household solid waste.<sup>76</sup>

The Laender exercise competences especially in the area of discharge of municipal (household solid waste) waste, raising waste collection charges and the planning of waste treatment facilities. Every Land has a separate Waste Management Act regulating the before mentioned issues. Each Waste Management Act contains the principle that the municipalities are obliged to provide for an orderly waste disposal (i.e. residual and bulky waste). The municipalities cope with these obligations via the adoption of removal orders. At a supra-regional level Waste Management Associations process the current and future problems and challenges of waste management. The tasks of these associations (consisting of geographically close municipalities) vary in each Land – in most of the Laender their main duty is to carry out the procurement procedure for the treatment of residual and bulky waste. Some of them have also taken over the operation of disposal facilities. Furthermore, they are often entrusted with the organization and collection of recyclable materials and recycling of waste materials. In Burgenland, and parts of Lower Austria the waste management associations are even entitled to impose and collect waste charges.<sup>77</sup> According to experts an imposition of charges by the waste management associations themselves brings various advantages – less bureaucracy, less burden for the administration, efficient use of resources fostered. A waste management association

<sup>75</sup> Schnedl, Umweltrecht im Überblick (2012), 162.

<sup>76</sup> Art 1 Waste Management Act (AWG), Federal Law Gazette I No. [102/2002](#) in its current version.

<sup>77</sup> Cp. Bundes-Abfallwirtschaftsplan 2011, p. 26.



is constituted of a chairman (mostly the mayor of the municipality), the executive committee, a director and an agency for administrative issues.<sup>78</sup>

In practice the collection and treatment of waste in big cities is carried out by the public institutions themselves (cp. In Vienna the municipal department No. 48 – MA 48) whereas small municipalities waste collection is regularly outsourced to private operators – even more the waste treatment.<sup>79</sup>

### **b.) Waste Generation and Collection**

Mostly the regional Waste Management Acts obliges the property owners to hand over their waste to the public garbage disposals – to the municipality. Waste has to be selectively collected (how and which waste, depends on each Land – e.g. the collection of plastics is carried out in seven different ways in Austria). The costs have to be beared by the producer. Therefore the municipality is competent to prescribe waste collection charges.<sup>80</sup>

### **c.) Selective collection**

Waste collection and treatment activities have to be notified or even authorized by the waste management authority. The Styrian AWG states that the responsibility for the collection and removal of municipal solid waste lies with the respective municipality.<sup>81</sup> The treatment (recycling and disposal) of the waste referred to above has to be ensured by the waste management associations.<sup>82</sup> The municipality may assign the waste collection and removal to other public entities (i.e. Waste Management Association, Administrative Community) or even to a legitimate private waste management company.<sup>83</sup> The municipality has to make waste containers available.<sup>84</sup>

The citizens of almost all Austrian municipalities have the possibility to deliver various types of waste (e.g. paper, glass, plastics, textiles) to so-called recycling centers (*Altstoffsammelzentren* – ASZ). Some municipalities share such facilities with each other.<sup>85</sup> Experts state that Austria has an elaborated waste management system and especially the selective collection works very well at local/community level. Mostly the the Waste Management Associations entrusts the municipality with the selective collection of residual waste.<sup>86</sup>

### **d.) Organic Waste**

<sup>78</sup> Interview with waste management expert – “die Umweltberatung”.

<sup>79</sup> Interview with waste management expert – “die Umweltberatung”.

<sup>80</sup> E.g. Styrian Waste Management Act

<sup>81</sup> Cp., Art 6 Styrian AWG

<sup>82</sup> Art 6 para 2 Styrian AWG

<sup>83</sup> Art 7 para 5 Styrian AWG

<sup>84</sup> Art 9 Styrian AWG

<sup>85</sup> Organisatorische Aspekte der österreichischen Abfallwirtschaft - Endbericht. Wien. März 2009.

<sup>86</sup> Interview with waste expert s – Ecology Institute and “die Umweltberatung”



Organic waste (households as well as commercial and industrial) is to be either composted by the producer, or he has to provide for separate discharge. The removal of domestic organic waste is regulated by the Laender in very different ways. But in general as with residual and bulky waste - a collective responsibility to the municipalities can be deduced here. The municipalities would have quite some scope to promote alternative methods for the treatment of organic waste. The focus lies on household composting and the creation of cooperatives with farmers in the use of agricultural composting plants. The municipality provides advice and instructions to citizens how self-composting is done properly or promotes the formation of cooperatives with farmers. The municipality is able to set intervention measures by designing the waste charges accordingly – citizens who self-compost are exempted from diverse waste charges.<sup>87</sup>

#### **e.) Planning of local waste management activities**

Example Styria: Based on the Federal Waste Management Plan and on the Regional Waste Management Act a Regional Waste Management Plan is enacted and based on these two plans a Local Waste Management Plan is elaborated by the Waste Management Associations.<sup>88</sup> This plan has to be adopted by the regional government (then it has the legal form of an ordinance). The plan is to be revised every five years. It contains planning, baseline, strategies, measures etc. for the local waste management.

#### **5. Municipal Level Bodies: Role of municipality council and at the lowest level administrative bodies (municipality clerk, decentralized administrative bodies etc.) in regulating, organizing, managing etc. the local waste management activities**

See above.

#### **6. Local Waste Water Treatment Solutions: Levels of Waste Water Treatment Facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;**

Wastewater treatment is regulated in Austria by the WRG and in numerous ordinances (e.g. Waste Water Emission Ordinance).

In 2006 about 641 municipal wastewater treatment plants with a capacity from 2,000 EW<sub>60</sub> have been counted by the Federal Environmental Agency.<sup>89</sup> The total capacity of these plants was about 20.6 million EW<sub>60</sub>. In municipal wastewater treatment plants around 1,064 million m<sup>3</sup> of wastewater

<sup>87</sup> Interview with waste expert – “die Umweltberatung”

<sup>88</sup> Cp. Art 15 Styrian AWG

<sup>89</sup> UBA, Abwasserentsorgung in Österreich:

<http://ww2.umweltbundesamt.at/umweltsituation/wasser/abwasser/>

was cleaned in 2006. The connection rate to municipal wastewater treatment plants was about 91.7% in Austria. Due to the settlement structure (settlements in scattered sites, single objects), a 100 percent connection rate is considered to be unrealistic.

Around 8-9 % of the Austrian population is connected to an alternative wastewater collection and/or treatment system. In these areas the collection of waste water is carried out in domestic sewage treatment plants, in cesspools and other systems. The disposal of these wastewaters is usually organized by transport of the pit contents into larger municipal sewage treatment plants.<sup>90</sup>

In small rural settlements which are not connected to the canal system the method of wetlands for the treatment of agricultural and domestic waste are regularly applied. Waste water is collected in some kind of canal system and filtered in a reed body. Respectively advocacy and public information campaigns for possible substances in the waste waters are needed – this system does not work for industrial waste waters. In remote agricultural areas the waste water collection is regularly combined with the manure collection.<sup>91</sup>

**Legal control: Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring)**

The disposal and treatment of waste water is based on the precautionary principle. Wastewater is to be treated according to the best available technics (state of the art – ‘Stand der Technik’). Secondly the quality of the wastewater is monitored as well as the quality and classification of the receiving waters. So general permitting is combined with a monitoring approach both by the water authority and the operators themselves.

The water authority has the competence to control authorized facilities, to issue administrative orders with limit values for wastewaters etc. (cp. Art 33ff WRG).

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<sup>90</sup> Austrian Waste Management Plan 2011: <http://www.bundesabfallwirtschaftsplan.at/>

<sup>91</sup> Expert Interview: „die Umweltberatung“.

**Slovakia****Danube project.****Part of international comparative research - Slovakia.**

*Imrich Vozár, VIA IURIS.*

*Banská Bystrica, 28. January 2014.*

**Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations**

- *(general legal background)* Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;

Research tips: This question can be answered even by a formal electronic search in your legal system with the calling phrases such as “protecting territory” “protecting zone” or “protecting stripe”. The short survey of the relevant laws can form of the basis of the whole further research.

**Answer:**

Act no. 364/2004 Coll., on Waters (Water Act) contains general rules for the protection of water flows. It defines and regulates protection of specific protected areas, which can cover also protection of water flows. For their protection, however, a separate buffer zones are not established.

Act no. 543/2002 Coll., on Nature and landscape protection (Nature protection Act).

It defines and regulates regime of protection areas for the nature conservation, water flows may be the subject of a protection under this law.

Act no. 139/2002 Coll., on Fisheries.

It defines and regulates protected areas to protect fish habitat, which may include protection of water flows.

- *(scope of regulation)* Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;

Research tips: Elements of the definitions you find can be enlisted similarly as we did in Sub-chapter I.2 and this can be added by a short list and description of the planning rules, and also with some details on the decisions on the parameters of the protecting territories (the decision-making body, the possible responsibilities, remuneration rules etc.).

- *(technical details)* Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);

Research tips: Meters, square meters, or any indirect ways of establishing protecting territories.

- (*procedural rules*) Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;

Research tips: This could be the more detailed point in the research and bridging it towards the practical implementation of the rules on protecting territories. Please describe shortly the authorities involved, participation of the stakeholders, different ways to start the procedures, collecting data and main content elements of the decisions. Please include into the discussion of procedural rules monitoring and sanctions and other legal consequences of non-compliance, too;

- (*summary of findings*) Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.

Research tips: The interplay of the legal institutions in the relevant branches of laws, major elements missing from the system according to your professional opinion, effectiveness of the system – these could be the major points under this question. For non-EU countries the level of harmonisation with the EU Nitrate Directive and with other EU laws you consider relevant for the establishment and protection of buffer strips and zones along the rivers seems to be an important part of the report. Usually the beginning or the end (the preamble or the miscellaneous rules etc.) of the national laws mention the relevant EU laws that were taken into consideration by the legislator. Even without a specific mentioning, some content elements of your laws might directly or indirectly refer to the relevant EU law – for these content elements see Chapter 4 above. We underline again: this part of the question is applicable only to the non-EU country respondents.

Answers:

The protected area under the Water Act is defined as:

1. Area with surface water intended for the abstraction of drinking water,
2. Area with water intended for swimming,
3. Area with surface water suitable for life and reproduction of native species of fish,
4. Protected areas of natural water accumulation (hereinafter referred to as "protected water management area"),
5. Protective zones of water resources,
6. Reference sites,
7. Sensitive areas,
8. Vulnerable areas,
9. Protected areas and their buffer zones under special regulation.

For the protection of water flows some of these categories of protected areas could be used.

### **1. Area with surface water intended for the abstraction of drinking water**

As is clear from the provisions of § 7.1 of Water Act, surface water resources intended for the abstraction of drinking water are so called "water sources", and under the provisions of § 7. 2 of the Water Act also the water flow can be a water source. Ministry of Environment elaborated under the Program measures and timetable for their implementation to achieve the quality and other requirements for surface water intended for the abstraction of water for drinking water.

Water flows, which are water sources, are listed in Annex. 2 of Decree 211/2005 Coll., establishing a list of important water flows and water streams. Currently it lists total of 102 water flows, which are also water sources.

Infringements of these conditions are subject to sanction proceedings under the Water Act.

## 2. Area with surface waters suitable for life and reproduction of native species of fish.

Water flows, designated as a protected area for the purpose of protection of life and reproduction of indigenous fish species are designated under the Fisheries Act.

If water flow is also the fishing ground according to the Fisheries Act, in order to protect the genetic resources of fish and improve the status of indigenous species of fish, the Ministry of Environment may, based on the results of the ichthyologic survey and after negotiations with the user of Fishing Ground, designate parts of the fishing ground or whole fishing ground for the protected fishing zone.

In the protected fishing zone is prohibited

- a) fishing or any form of catching fish habitat,
- b) interfering with spawning of fish fry and its evolution, or fish wintering and
- c) mining of river materials.

Infringements of these conditions are subject to sanction proceedings under the Fisheries Act.

## 2. Protected areas of natural water accumulation ("protected water accumulation area").

Slovak Government may declare a protected water area which by its natural conditions forms an important natural accumulation of water, to be an accumulation area for that territory. This area also includes water flows. All interests and activities related to production, transportation and other, including outlining concepts of spatial development and spatial planning, must be consistent with water management in protected water accumulation area.

In general, in the protected water accumulation area only activities consistent with surface and groundwater protection and the conditions of their formation, occurrence, natural water accumulation and renewal of their stocks, can be planned and carried out. In the protected water accumulation area it is prohibited to carry out following activities:

### a) build or expand

1. new industrial sources or existing industrial sources, which produce or manufacture harmful substances or particularly harmful substances, with the exception of enlargement and remodeling of existing industrial sources that will achieve effective water protection, and new industrial sources, if the best available techniques ensure a high level of water protection,
2. new industrial sources or existing industrial sources that produce industrial effluents containing particularly harmful substances,

3. pipelines and other linear pipelines for the transport of pollutants and particularly harmful substances,
4. stocks of oil with a total capacity exceeding 1 000 m<sup>3</sup>, with a total capacity exceeding 200 m<sup>3</sup> tank each with a capacity greater than 50 m<sup>3</sup>,
5. veterinary sanitation facilities and sanitary slaughterhouses,
6. buildings of large scale farms,
7. buildings of public recreation or individual recreation without securing urban wastewater treatment,
- b) to conduct aerial application of fertilizers and chemicals to protect plants or for controlling pests or weeds near the surface water and uncovered groundwater, which can cause water pollution or a threat to the quality and health safety of water,
- c) carry out drainage area of forest land to an extent which substantially disturb the water conditions in the protected area of natural water accumulation,
- d) draining agricultural land with an area greater than 50 ha of contiguous area,
- e) mine peat in quantities of more than 500 000 m<sup>3</sup> in one place,
- f) to exploit the non-reserved minerals of superficial way or perform other ground work uncovered continuous groundwater level,
- g) to store radioactive waste,
- h) to build a landfill for hazardous waste.

Protected water accumulation areas are declared by Government regulation no. 13/1987 Coll. on Certain Protected Areas of Natural Water Accumulation. Protected water accumulation areas usually means a coherent geographic units (e.g. whole mountain range), with all water flows.

Infringements of these conditions are subject to sanction proceedings under the Water Act.

#### **4. Protection zones of water sources.**

Because the water sources for drinking water can also be an water flow, also this kind of protected area may cover protection of water flow as such. The Protection zones of water sources are determined by individual decision of a competent state water administration authority in individual administrative proceedings, based on the opinion of Health Protection Authority, to protect the yield and quality of health safety of water sources that are used. Decision determining protection zones of water source determines also its boundaries and measures of protection to prohibit or restrict activities that harm or threaten the quantity and quality of water, or quality of drinking water sources, as well as technical adjustments to protect drinking water sources and other measures performed in the protection zone. Protective zones of water sources are divided into 1<sup>st</sup> protection zone, which serves to protect the immediate proximity to the water abstraction or detention facilities, and the 2<sup>nd</sup> protection zone, which is used to protect water resources against threats from distant locations. To enhance the protection of drinking water sources 3<sup>rd</sup> protection zone may be determine. However, if the conditions for the 1<sup>st</sup> protection zone sufficiently protect the yield, quality and health safety of drinking water sources, other protection zones may not be determined.

Infringements of these conditions are subject to sanction proceedings under the Water Act.

#### **5. Reference sites.**

The reference site is a protected area to protect the original status of the water flow in a quality and quantity it would exist without human impact or with a minimal human impact. The reference site



condition is the basis for the quantification of disturbance of the aquatic environment and the evaluation of surface water. The reference location shall be designated according to the state of watercourse, its shores and coastal zone, hydrological regime, land use, physical and chemical indicators of water quality with the presence of introduced species or intensive fish farming. In the reference site it is forbidden to carry out any activity that threatens the existing condition. In the river basin of reference sites it is forbidden to carry out any activity that undermines the existing condition, except for the implementation of activities under the Forest Act, the Act on the Protection of Agricultural Land.

Reference site consists of a stretch of water flow one kilometer above the designated river take-off. It is marked by a visibly placed sign at one of the shores of the watercourse in a particular river kilometer.

The intention to declare a reference site is power of Ministry of Environment, which must notify in writing the owner, manager and tenant of a concerned land. Notification of intention to declare a reference site includes basic characteristics, constraints arising from the declaration of the reference sites and a draft agreement on determining the amount and method of compensation provided for the restriction of property rights.

The list of reference sites is declared by a generally binding regulation issued by the Ministry of Environment, which has, however, not yet been issued.

Infringements of these conditions are subject to sanction proceedings under the Water Act.

## **6. Protected areas and their buffer zones under the Nature Protection Act.**

Water flows may also represent an important part of nature protected under the Nature Protection Act. Water flows may be declared protected areas by Government generally binding regulation, specifying the requirements for protection under the Nature Protection Act. Protection of Water flow may be declared as a so called large protected area (protected area, national park), and so called small protected area (nature reserve, natural monument, protected area, protected landscape element).

Large protected areas generally cover over 1000 ha. Small protected areas generally cover less than 1000 ha, natural monument cover normally within 50 ha.

The intention to declare protected area according to the Nature Protection Act shall competent Nature Protection Authority notify in writing to the owner (administrator, tenant) of land, affected municipality and other affected state authorities. The intention includes in particular the essential characteristics of protection plan, area of protection and the suggested protection conditions under the Nature Conservation Act.

Infringements of these conditions are subject to sanction proceedings under the Nature Protection Act.

Practical information:

As appears from the information obtained from the competent national authorities (Ministry of Environment, State Nature Conservation Authority, Slovak Environmental Inspectorate), legislative

regulation of water flows is in their view sufficient. Problematic is the application of relevant laws, when inspection encounters insufficient material and staffing in order to consistently exercise its powers. In the view of the State Nature Conservation Authority, the main problem rests in the operation of administrators of water flows. They do not need the opinion of the State Nature Conservation and thus may in their actions cause damage on the natural values of water flows.

On the contrary, according to information obtained from non-governmental organizations dedicated to the protection of water flows, legislation related to protection of water flows is insufficient. Also consistent protection of bank vegetation is missing. Water flow as a linear formation, is not defined as a potential object of protection of a particular protected area. In fact there are no directly applicable provisions to protect water flows in specific cases of negative impact on water courses (e.g. construction of small hydropower plants).

#### Summary.

The overview of relevant legislation suggests, that protection of water flows as such is not (except of general provisions) ensured sufficiently. Nature Conservation Act does not include special provisions that would protect the natural values of water flows. There are no provisions that take into account the specifics of the watercourse, in particular with regard to the fact that it is a linear formation. Similarly Water Act does not contain special provisions stipulating declaration of a protected area for the protection of water flows as such (with the exception of the reference sites, but none has been declared in practice until now).

### Questions suggested for the international comparative research on the issues of Milestone No. 3 based on the survey of the system of the related Hungarian laws and regulations

- *(local aspects of waste management)* Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

Research tips: This question refers to the central level waste management rules of mostly substantial legal nature, referring to the general requirements of the management of the household solid waste. Within this issue, please pay attention to the flexibility of the rules, i.e. specify how far local specialties are taken into consideration in your national laws and regulations concerning household solid waste management;

*(municipal level bodies)* Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralized administrative bodies etc.) in regulating, organising, managing etc. the local waste management activities.

Research tips: This question refers to the organisational-procedural side of the local waste management activities. As such this has more relevance to the practical implementation of the waste management law. Municipality waste management planning, organising work (selecting, contracting

the entrepreneurs etc.) and regulating/helping local communities' waste management efforts such as composting are the issues that belong to here.

Answers:

According to the Waste Act municipality is responsible for the management of municipal waste generated in the municipality, and minor construction waste generated in the municipality.

The municipality is obliged to introduce a suitable waste collection system or to enable the collection and transportation of municipal waste generated in its territory, for the purposes of its recovery or disposal. Municipality is also obliged to secure bins, with respect to municipal collection system in the municipality and to provide the space where the residents can deliver separate components of municipal waste within the separate collection of municipal waste. Apart from separated household waste each municipality is also obliged to ensure, where appropriate, at least twice a year containers for collecting and transporting bulky waste containing pollutants and minor construction waste for the purposes of its recovery or disposal.

Each municipality provides details on the management of municipal waste and minor construction waste, including biodegradable kitchen and restaurant waste from related operations and households, by generally binding regulation, stipulating in particular the details of the method of collection and transport of municipal waste, the method of separate collection of individual components of municipal waste, the method of handling minor construction waste, as well as places for the disposal of these wastes, waste disposal and the reasons for failure to implement separate collection of biodegradable municipal waste.

Each municipality is in addition obliged to establish and ensure the implementation of separate collection of municipal waste for paper, plastics, metals, glass, biodegradable municipal wastes other than those which are originated by the kitchen operator. Obligation to establish and ensure the implementation of separate collection of municipal waste for biodegradable municipal waste does not apply to the municipality if

1. The implementation is not possible due to technical problems, especially in historical city centers and sparsely populated areas,
2. The municipality demonstrates, that at least 50% of the population is capable to composted waste on their own or
3. It is for the community economically unsustainable as the costs of managing municipal waste can not be covered by the local tax.

In addition to this, the municipality approves a so-called Municipality programme of waste, which is a management and planning tool for waste management of municipalities. The municipality is in charge to elaborate such programme, but it is approved by state authority - the competent local district authority.

#### **Practical information:**

According to information received from a non-governmental organization involved with waste issues, there are still many municipalities in Slovakia, which do not fulfill the legal requirements for waste separation. For example, bio-waste separation programme are actually installed only in 100-200

Slovak municipalities. In the case of biodegradable waste, municipalities often apply exceptions outlined by law, interpreting it extensively.

**Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations**

- *(local waste water treatment solutions)* Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

Answer:

Water Act regulates discharges of urban waste water into surface water. Any such sewerage system must guarantee adequate treatment of urban waste water. If installation of public sewerage system requires excessive costs or significant improvement of the environment is not to be expected after installation, other appropriate measures may be used.

Urban areas with more than 10 000 inhabitants were obligated to install a sewage system by the year 2010. For urban areas with 2000 to 10000 inhabitants, this obligation must be fulfilled by the end of 2015.

Municipal sewage and organically polluted industrial wastewater discharged to surface waters must go through secondary treatment that will decrease levels of pollutant emissions to limits equal to those in regular conditions. In high mountain environment, where the effectiveness of biological treatment is very low, it may be that the degree of cleaning is dispensed with if the expert assessment shows that there is no adverse impact on the environment.

Water Act regulates also the protection of water from pollution caused by nitrates from agricultural sources. Such protection is ensured in particular by enforcing measures, which are necessary for the storage, handling and application of natural and chemical fertilizers and appropriate farming. In this regard, so called Code of Good Agricultural Practice is applicable, which must be prepared by the Ministry of Agriculture and must include general measures for farming with respect to different regions. Those general measures are:

1. Season when the application of fertilizer is inappropriate,
2. Application of fertilizer on the land with a large slope of the terrain,
3. Land application of fertilizer to water-saturated, flooded, frozen or snow covered land,
4. Conditions for land application of fertilizer near water flows,
5. Capacity and construction of storage tanks for organic fertilizers, including measures against leakage of organic fertilizers into groundwater and surface water and discharge of stored plant material such as silage,
6. Procedures for application of fertilizers and organic fertilizers on land, including the amount and uniformity of their application, which will maintain the transport of nutrients from the soil into the water at an acceptable level.

The following measures as stipulated by the Code of Good Agricultural Practice may be included:

1. Farming should include the use of crop rotation systems and the proportion of land are dedicated on the permanent crop to annual crops,
2. Maintaining at least the minimum vegetation cover on land, especially during the rainy season, which removes nitrogen from the soil, otherwise there may be water pollution by nitrates,
3. Establishment of fertilizer plans for individual farmers and keeping records of the use of fertilizers,
4. Protection against pollution of water from surface drainage and seepage of irrigation water.

- *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

Answer:

Competent State water administration bodies may impose measures to remedy damage caused to surface water or request persons responsible for the damage to pay such related costs.

State water administration bodies supervise the observance of the provisions of the Water Act, supervise whether the decision are adhered to. Competent authorities may request the cooperation of expert bodies. Competent authorities act ex officio or upon request of third parties.

State water administration bodies may impose adequate measures to eliminate identified shortcomings.

If, despite the measures imposed, discharged wastewater contains harmful substances in breach of permission or if there is a leak of harmful substances into surface water or groundwater (or in the environment associated with water) and when there is risk of damage to the environment or to natural heritage, the State water administration body is authorized to restrict or prohibit related production or activity.

Practical information:

According to the information obtained from the Slovak Environmental Inspection, inspection of water abstraction aiming to control pollution is carried out by authorized laboratories. Producer of waste water is also obligated to conduct inspection. However, compliance with the Code of Good Agricultural Practice is monitored only following violations of the law, which result in water pollution (e.g. in an event of accident). According to representative of the Inspection, their powers are sufficient.

## Slovenia

Slovenia has a population of 2 million and a total surface area of 20 676 km<sup>2</sup>. Slovenia is divided into two river basin districts: Danube and North Adriatic. Slovenia shares catchments with Member States and third countries.

### Protection of the water quality - regulatory background

The authority responsible for the implementation of the EU WFD is Ministry of the Environment and Spatial Planning (hereinafter: MOE) together with affiliated bodies. Their work is based on different regulations, especially on Public Administration Act, Environmental Protection Act and Water Act.

Competences are distributed within MOE: Environment Directorate - Department of Waters and its affiliated body: Environmental Agency of the Republic of Slovenia (hereinafter: ARSO) and its regional offices on catchment areas and basins.

MOE is responsible for the administration, preparation of regulations, transposition, preparation of action programmes, draft of national programme, water management plan, programmes for the preparation of specialist tasks according to the contents of water management plan, coordination of national and international preparations, public participation, reporting to the European Commission.

ARSO is responsible for water monitoring, the preparation of programmes for monitoring different states/conditions, reporting about the monitoring and the state of the environment through the WISE system.

The Water Act (2002, 2008) regulates water management and management with water and coastal lands and in this scope:

- specifies operators of water management;
- territorial basis – river basin districts, catchment area and river basins;
- boundaries of river basin districts and water bodies;
- types of water management acts;
- public participation by the preparation of management plans;
- protected areas – water protection areas, as well as water protection areas of surface waters.

The Environmental Protection Act regulates the protection of water quality:



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- specification of quality standards, emission limits;
- monitoring of the state;
- measurements in case of excessive burdens;
- environmental protection permits, environmental protection consents.

Two river basins are determined in Slovenia for the purposes of carrying out the water management programme and river basin management plans. One is river basin Danube and the other is river basin Adriatic Sea (Article 53 of the Water Act). Here it has to be pointed out that according to Article 5 and Annex II of WFD also water bodies on surface water as well as water bodies of groundwater were determined with two rules:

- Rules on determining and classification for water bodies on surface water (Official Gazette 63/2005; 26/2006) and
- Rules on determining water bodies of groundwater (Official Gazette 63/2005).

Review of the environmental impact of human activities is part of Article 55 of Water Act, which determines summary of significant burdens and impacts of human activities on the state of surface and groundwater, especially:

- assessment of point source pollution,
- assessment of diffuse pollution, including a major intervention into the environment,
- quantitative assessment of water state usage, including important water facilities and installations for water usage,
- analysis of other impacts of human activities on the water status.

The impact of human activities on the status of surface and groundwater is also shown in the water management plans. The main intention of the analysis made within the plan is to determine, on which part of water area human activities excessively burden the environment and therefore threaten environmental goals.

Protected areas are determined in different articles of the Water Act, as well as in Environmental Protection Act and implementing regulations. Article 74 of Water Act regulates water protection areas, which are shown in water management plans. Water protection area is specified to secure the water body, which is being used for removal or is intended for public water supply, against the pollution or other kinds of burdening, which could have effects on water wholesomeness or on its quantity. Article 77.a regulates protection areas and protection of bathing water regime for the purposes of the protection of bathing water against pollution or other sources of burdening, which could have effects on the quality of bathing water. On these areas certain activities could be limited or forbidden, if they could threaten appropriate quality of bathing water or the owners of the land on the protected bathing water areas can be ordered that they have to carry out measurements, with which the quality of bathing water is protected.

Monitoring and water quality status evaluation is one of the key tasks of the Environmental Agency of the Republic of Slovenia. In 2007 the monitoring was carried out according to the requirements of the Water Framework Directive.

The Environmental Agency of the Republic of Slovenia yearly collects data on the basis of monitoring on surface waters:

[http://www.arso.gov.si/vode/poro%C4%8Dila%20in%20publikacije/povrsinske\\_letna.html](http://www.arso.gov.si/vode/poro%C4%8Dila%20in%20publikacije/povrsinske_letna.html)

<http://www.arso.gov.si/en/water/reports%20and%20publications/Kakovost%20voda-ANG.pdf>

### **Protection of waters from nutrient pollution**

The legal framework governing water and sanitation is composed of numerous regulations, including the Water Act, the Rules on criteria for determining a drinking water protection area, the Environmental Protection Act, the Spatial Planning Act and the Housing Act. Responsibility for ensuring drinking water supply and discharge and treatment of wastewater is decentralized with each municipality bearing the primary responsibility for these services, for all people within its jurisdiction. In addition to the domestic legal framework, as a member of the European Union, Slovenia is further obliged to comply with EU standards regarding water and sanitation, in particular with regard to water quality and wastewater treatment.

There are several types of pressures that have been identified in the RBMPs as significant in Slovenia. The most important pressures regarding water quality are related to chemical pollution. Agriculture is identified as an important diffuse source of pollution: a few surface water bodies in Slovenia indicated high pressure from agriculture due to nitrogen, phosphorus and plant protection products. The RBMP reports that nitrogen is the most problematic parameter.

To a certain degree measures have been discussed and agreed with farmers and other stakeholders. Important stakeholders (mainly national institutions) were involved in several ways (regular meetings, continuous involvement, sector-specific workshop). Local stakeholders and farmers were involved mainly through public workshops.

A number of technical measures have been selected to address the pressures. Reduction of nitrogen pollution includes various measures connected to implementation of the relevant national legislation. Basic measures for reduction of pesticide pollution include more stringent controls on the use of plant protection products. Additional measures include site and problem specific guidelines, education of farmers, and the development of alternatives to the current farming practice. Most natural streams in Slovenia have vegetative buffer zones to protect surface waters from direct pollution - technical measures also include the creation of enhanced buffer zones.

Financial compensation is provided for losses of income due to reduction of pollution in drinking water safeguard zones and other protected areas (biodiversity, eutrophication etc.).

Non-technical measures aim to improve various controls, mainly supervision and inspection of wastewater discharges from various agricultural and food processing operations, setting up new codes for fishery, awareness raising and education, preparation of measures to increase the impact of measures included into the Rural Development Programme, preparation of technical standards for breeding facilities and special project on fertilising and using quick nitrogen tests to prevent pollution.

The scope of the application of the measures varies. Many measures are general, some of them target various sub-sectors (crop farming, livestock etc.), others various geographic areas (depending on the characteristics of the area).

The costs of measures have been identified, and there is a clear financial commitment to implement them. For the new financial period of rural development 2014–2020 two new measures are provided for payments on the basis of the WFD (promotion of the use of rapid soil nitrates tests and the composition and application of fertilisation plans on the basis of results of analyses and plants' needs for nutrients; planting and maintenance for an ecological type of typical riverside vegetation).

In general the implementation is planned until 2015.

### **Wastewater-treatment**

The Water Act<sup>92</sup> regulates the management of sea, inland waters, groundwater, water bodies and coastal land. The Act claims are made for the granting of water rights, water permit, described process of obtaining the water consent and the process of obtaining a concession for utilization of water for irrigation of agricultural land.

The Decree<sup>93</sup> on the emission of substances and heat in the discharge of wastewater into waters and public sewage system determines limit values of efficiency of water purification specific measures related to the design and operation.

The Decree<sup>94</sup> on the emission of substances in waste water discharged from urban wastewater treatment plants and Decree on the discharge and purification treatment of urban wastewater and meteoric water; both regulations presents nominal rules, which govern the discharge of wastewater into the aquatic environment. Provide overall limits of emissions of heat and matter in the water.

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<sup>92</sup>Water Act (ZV-1), Ur.l. RS, št.67/2002.

<sup>93</sup>Decree on the emission of substances and heat in the discharge of wastewater into waters and public sewage system Ur.l.RS, št.47/2005.

<sup>94</sup> Decree on the emission of substances in waste water discharged from urban waste water treatment plants Ur.l. RS, št.35/1996.

Rules on initial measurements and operational monitoring of waste water and on conditions for their implementation is the landmark legislation, which determines sets of parameters, which are the subject of initial measurements and operational monitoring of waste water, measurement methodology and format for reporting information to the Environmental Agency.

Operational programme<sup>95</sup> for the discharge and treatment of urban waste water 2005 – 2017 is Implementation Act, which determines settlement areas, for which is obligatory to ensure discharge of waste water into public sewers and adequate wastewater treatment plants in the prescribed time frame.

The operational programme for collection and treatment of urban wastewater includes inter alia the objective to build small wastewater treatment plants with a purification capacity equal to or greater than 50 PU and less than 2,000, which will provide:

- secondary treatment with microbiological purification during the bathing season in the region of bathing waters, no later than 31.12.2015
- secondary treatment in regions with a density greater than 20PU/ha no later than 31.12.2017.

Responsibility for ensuring drinking water supply and discharge and treatment of wastewater is decentralized with each municipality bearing the primary responsibility for these services, for all people within its jurisdiction. In addition to the domestic legal framework, as a member of the EU, Slovenia is further obliged to comply with EU standards regarding water and sanitation, in particular with regard to water quality and wastewater treatment.

The Government is obliged to ensure that wastewater collection exists for all agglomerations of 2000 population equivalents or more by the end of 2015. Secondary treatment, which generally involves “biological treatment with a secondary settlement”, is required before discharge of wastewater coming from agglomerations of 2000 population equivalents or more by the end of 2015.

In areas with less dense populations, where it is not justified to establish a wastewater collection system “because it would produce no environmental benefit or because it would involve excessive cost,” the systems chosen must achieve the same level of environmental protection.

One of the biggest problems facing water conservationists in Slovenia is wastewater in sparsely populated areas. Since connecting to the public sewage system is, for economic or other reasons, impossible, septic tanks are often the most common solution. This, however, places excessive burden on the environment.

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<sup>95</sup> [http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo\\_okolja/operativni\\_programi/operativni\\_program\\_komunalne\\_vode.pdf](http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo_okolja/operativni_programi/operativni_program_komunalne_vode.pdf)

## **Solid waste management**

Quantities of waste are growing in Slovenia, and on average slightly more than 7 million tonnes of waste are generated each year, of which more than 900 000 tonnes is municipal waste – about 450 kg per inhabitant (EEA, 2010).

The most relevant acts related to waste management in Slovenia are the Environmental Protection Act (adopted in 2004), the Decree on the Landfilling of Waste (adopted in 2006), and the Decree on Waste (adopted in 2011). Other relevant legislation may be grouped in several clusters (EEA, 2010): legislation concerning different sorts of waste, legislation on waste management and legislation on monitoring emissions from waste treatment.

The majority of MSW generated in Slovenia is landfilled. In July 2009 Slovenia applied for the derogation period of four years (prolongation of the deadline for fulfilling the targeted value from 2016 to 2020).

According to present trends, Slovenia is on track to fulfill the 50 % recycling target of the EU Waste Framework Directive by 2020. By 2010, Slovenia has decreased biodegradable municipal waste landfilled by 13 percentage points (related to the generated amount in 1995) from 2006 to 2010. Municipalities are responsible for MSW management in their administrative territories. The first National Waste Management Plan is in the drafting process.

The quantities of municipal waste in Slovenia are increasing. Schemes for collecting and treatment of individual types of waste streams along with financing of activities that ensure proper management of such waste have been established (EEA, 2010).

In order to implement EU legislation, several changes in waste management were introduced in recent years. Alongside introducing producer responsibility, schemes have been established for collection and treatment of individual types of waste, along with companies that ensure the proper management of such waste. Since June 2009, only treated waste may be landfilled, and landfill site operators are obliged to provide financial guarantees to the local authority. Waste incineration is conducted at three sites, two of which generate energy. A small plant for heat treatment of municipal waste is undergoing trial operation – and there are plans for two further facilities. Electronic reporting is being introduced, and this should allow easier tracing of waste.

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## Croatia

**Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations**

- (*general legal background*) Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;

Research tips: This question can be answered even by a formal electronic search in your legal system with the calling phrases such as “protecting territory” “protecting zone” or “protecting stripe”. The short survey of the relevant laws can form of the basis of the whole further research.

In Croatian legislation, protection of waters is dispersed among a great number of different regulations such as Act on Waters (OG No. 153/09, 63/11,130/11, 56/13), Environmental Protection Act (O.G. No. 80/13, 153/13) but also Act on Water Management Financing (O.G. No. 153/09, 90/11) and a great number of by-laws such as for example is Decision on determining of the sensitive areas (O.G. No.81/10) and Ordinance on conditions of determining sanitary protection zones (O.G.no.66/11) and many others.

Croatian Environmental Protection Act (EPA, OG No. 80/13, 153/13) contains basic rules of water protection. According to Art.24 par.1 of EPA water protection includes water protection measures and improvement of water quality with the aim of avoiding or reducing the adverse effects on human health, freshwater eco systems, quality of life and the environment as a whole. Furthermore EPA determines (Art. 24 par.1) that protection of water against pollution is implemented with the aim of preserving human life and health and protecting the environment, as well as enabling sustainable, harmless and undisturbed use of water for various purposes.

Croatian Act on Waters (OG No. 153/09, 63/11,130/11, 56/13) contains more detailed provisions regarding water protection. For example it determines in details what are the aims of the water protection such as following: to prevent further deterioration, to protect and enhance the status of aquatic ecosystems with regard to water needs, terrestrial ecosystems and wetlands directly depending on aquatic ecosystems; to better protect and improve the condition of the water environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of hazardous substances from the priority list, interruption or phasing out of discharges, emissions or spillage of hazardous substances from the priority list, to ensure a gradual reduction of pollution of groundwater

and prevent its further pollution; to make a significant reduction in pollution of groundwater; to achieve the objectives of relevant international agreements, including those that are focused on eliminating pollution of the marine environment in accordance with the regulations that ensure the termination or phasing out of discharges, emissions and losses of hazardous substances from the priority list, with the ultimate goal of achieving values in the marine environment close to the core concentrations of substances which occur naturally and concentration around zero for synthetic substances, etc.

Furthermore, the Act on waters determines that water protection is achieved by adopting of specific implementing regulations determined by the Act, by monitoring of the status of water quality and sources of pollution, by pollution control, by prohibiting discharges of pollutants into the water and the prohibition of other actions and behaviors that can cause pollution of the aquatic environment and the environment in general, by construction and management of buildings sewage and waste water treatment and other measures intended to preserve and improve the quality and usefulness of a dedicated water.

The Act on waters contains also provision saying that the enforcement of water pollution may not directly or indirectly increase the pollution of ground water and that water protection always includes protection of the water environment, and where applicable, and other components of the environment.

- (*scope of regulation*) Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;

Research tips: Elements of the definitions you find can be enlisted similarly as we did in Subchapter I.2 and this can be added by a short list and description of the planning rules, and also with some details on the decisions on the parameters of the protecting territories (the decision-making body, the possible responsibilities, remuneration rules etc.).

Act on Waters in its Art. 48 determines **protected areas** and indicates that such areas are defined as areas where for the protection of water and aquatic environment it is necessary to implement additional protection measures.

Protected areas - areas of special protection waters are :

- Sanitary protection zones of drinking water ,
- Areas suitable for the protection of economically significant aquatic organisms ,
- Areas for swimming and recreation ,
- Areas subject to eutrophication and vulnerable to nitrates ,
- Areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an essential element of their protection in accordance with this Act and / or regulations on environmental protection
- Areas of poor water exchange coastal waters , the sensitivity of which are reviewed in relation to the discharge of waste water.

The Act on Waters further determines that Hrvatske vode (Croatian Waters) is responsible for creation of a register or registers of protected areas - areas of special protection waters that will be an integral part of the river basin management plan.

Bodies or persons who issue the decision on determination and / or protection of water areas of must submit it to the Croatian waters within 60 days of the decision. The Act on Waters, Art 49 also defines **sensitive and less sensitive areas**. *Sensitive areas* are areas in which to achieve the goals of water quality it is necessary to implement a higher level or a higher degree of wastewater treatment and *less sensitive areas* are areas where natural water features allow the implementation of a lower level or a lower level of wastewater treatment. The act of determining more or less sensitive areas is adopted by the Croatian Government.

The Act on Waters, Art. 50 contains provision on identification of *vulnerable areas which are* areas where it is necessary to implement intensive protection of waters against pollution by nitrates from agricultural origin. The Decree of determining the vulnerable areas is adopted by the Croatian Government and it stipulates the obligation of monitoring the concentration of nitrates from agricultural sources in surface water and groundwater in vulnerable areas. Aforementioned act shall be reviewed at least every four years and, if necessary, amended and/or supplemented.

Also, in order to achieve the general level of protection against pollution by nitrates of the body surface, including coastal and ground water, it is necessary to apply the principles of good agricultural practice for which appropriate incentives may be adopted (ministry of agriculture is responsible for that). For areas identified as vulnerable, the minister of agriculture brings action programs with mandatory measures for a period of four years.

There is an Ordinance on conditions of determining sanitary protection zones (OG No. 66/11) and it applies only to protection of water sources. This Regulation lays down the conditions for the determining of water protection zones which are used for public water supply, measures and restrictions to implement them, deadlines and procedures for making decisions on the protection of water sources. Sanitary protection zones can be identified if water research is carried out and a study of sanitary protection zones is prepared. Shortly the decision is made in this way:

- prefect, mayor or municipal mayor establishes a commission to prepare a draft decision on the protection of water sources. The Commission is formed from: representatives of decision makers, members of the ministry responsible for water management, the county governing body responsible for regional planning and environmental protection, the county governing body responsible for the economy, the county governing body responsible for agriculture, Croatian water and water suppliers.

- Croatian waters is the authority responsible for obtaining the water research papers they established a commission to prepare a draft decision on the protection of water sources.
- A further decision-making process on the protection of water resources is carried out according to the regulations on the adoption of bylaws of the local government units and regional (regional) governments.
- within 12 months from the date of the decision on the protection of water source there must be issued a Program of remediation measures within the sanitary protection zones for existing buildings and existing activities which becomes an integral part of the decision on the protection of water sources

Decision on the protection of water sources contains: size and boundaries of sanitary protection zones, sanitary and other conditions of maintenance, protection measures, sources and methods of financing the implementation of protective measures, restrictions or prohibitions on carrying out agricultural and other activities, restriction or prohibition of the construction or carrying out other activities which may affect the quality or quantity of water sources and penalty provisions.

Also there is a Governmental Decision on determining the sensitive areas which define 2 sensitive areas in the Republic of Croatia which are 1) the water area of the river Danube and 2) Adriatic Seawater area. Water area of the Danube River is entirely basin of sensitive area. On the Adriatic Seawater area, all areas designated as eutrophic, areas designated for the abstraction of water for human consumption, and nature protection areas make sensitive area.

- *(technical details)* Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);

Research tips: Meters, square meters, or any indirect ways of establishing protecting territories.

Article 8 of Act on Waters defines that a water estate (*vodno dobro*) consist of land lots that include: water-bearing and abandoned riverbed surface water, regulated inundation area, unregulated inundation area, area in which the source of drinking water is placed which is required for the physical protection of the area, yield at least 10m<sup>3</sup> per day of natural mineral, thermal and natural spring water required for the physical protection and islands resulting (which can be not less than 400 m<sup>3</sup> and not more than 450 for water source which is not owned by the state, and 1 hectare if the source is owned by the state) - from or arising in the aquifer bed by drying up of water, its division in several journal, flooding the land or by human activity. Also, the Act determines that the water estate is of importance for

Croatia and has its special protection and water estates must be used in a manner and under conditions prescribed by this Act.

The Ordinance on conditions of determining sanitary protection zones (OG No. 66/11) determines that there are 3 zones of sanitary protection with the water extraction and they are: Zone of restrictions-Zone IV, Zone of restrictions and surveillance- Zone III; Zone of strict restrictions and surveillance- Zone II and Zone of strict protection regime and supervision- Zone I. The Ordinance also differs zones for different areas, so there are different zones defined for protection of lakes and accumulations, different zones for water extraction from the surface water, for the ground water, etc. Also, there is a detailed list of restrictions for each zone. For example in III Zone of sanitary protection of reservoirs and lakes it is prohibited to temporary or permanently disposal of waste, to discharge untreated wastewater, to set storage of petroleum and petroleum products, etc.

There is a detailed description of purpose and borders of each zone set in the Ordinance. For example, the border of the I zone of sanitary protection with the water extraction from aquifers with intergranular porosity must be at least 10 meters away from the water extraction buildings from all sides and must be enclosed by a fence stable enough to prevent the entry of unauthorized persons; .II Zone is zone outside the boundaries of the I zone to the line from which groundwater stays in the ground for minimum of 50 days before entering into the water extraction structure, etc.

- (*procedural rules*) Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;

Research tips: This could be the more detailed point in the research and bridging it towards the practical implementation of the rules on protecting territories. Please describe shortly the authorities involved, participation of the stakeholders, different ways to start the procedures, collecting data and main content elements of the decisions. Please include into the discussion of procedural rules monitoring and sanctions and other legal consequences of non-compliance, too;

Act on Waters (OG No. 153/09, 63/11, 130/11, 56/13) sets out the basic rules for river basin management plans. According to the Article 36 Croatian Government adopts the river basin management plan, which is published in the "Official Gazette" and the plan is issued for a period of six years, after which it will be amended for period of the next six years. Among other things, the plan must contain: list and map of protected areas, the summary of significant loads (pressures) and the impact of human activity on the status of surface waters, including coastal waters and groundwater, and in particular the assessment of pollution from point sources, assessment of pollution from diffuse sources including review of significant impacts on the aquatic environment, the evaluation of the quantitative status of water use and analysis of other impacts of human activities on state waters, etc.

Croatian waters can bring a more detailed management plan for sub-basin, a small basin and sector, and plans related to other issues of interest to management. Local and district (regional) governments are obliged to obtain the prior opinion of the Ministry of conformity of its regional plans with the RBMP. The report on the execution of the river basin management plan must be submitted to the Croatian Parliament every three years. The report is produced by Croatian Waters and it represents an integral part of the river basin management plan.

According to the experts for protection of water flows it seems that protection of water flows in fact does not exist as a concept in Croatia. For example, River basins management plan for period 2013-2015 (O.G. 82/13) is primarily engaged in the protection of ground and surface water intended for drinking, and on the chemical composition of the water. Also, the bodies which have water protection under their jurisdiction, are just dealing with further regulation of water flows, with protection from floods, and all that is based on old data while nobody is planning or dealing with hydro morphological improvements of water flows, so either the aforementioned Plan mentions it.

- *(summary of findings)* Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.

Research tips: The interplay of the legal institutions in the relevant branches of laws, major elements missing from the system according to your professional opinion, effectiveness of the system – these could be the major points under this question.

Since there are so many different regulations which contain some parts of water management and some parts protection of water flows, it is not easy to understand, even for experts for that area, who is responsible body for something and what and to have clear picture of obligations of each body involved into water management. Such a dispersion of rules into so many different regulations is very bad for the implementation of all regulations, since they are sometimes even in collision. Big problem is also that the water sector is dislocated out of the Ministry of Environment and Nature Protection which is maybe the reason that still only technical measures in water management and use are used, and no sustainable approach is encouraged and implemented. This also leads to the conclusion that integrative approach to the water management it is still not accomplished in Croatia.

As for the sanitary protection zones - water wells - implementation is not working as it should. There is the local authority responsible, and Croatian Waters are responsible for monitoring of its and apparently there's a lot of problems in different parts of Croatia. For example, regardless of various prohibitions on what may not be near the water sources (chemical industry, major roads, waste disposal, etc.) such prohibitions are often violated for profit. Sometimes even for profit of Croatian Waters itself because they have their sister companies (14 of them) which built embankments, dikes, performs channeling river, etc. and sometimes for profit of local government bodies. For example, in the water protected area



of Mala Mlaka there is a road constructed for heavy traffic ; the largest chemical industry in Croatia is located right next to the water protected area, and instead of the existing plant is moved to another location, permits were issued for the construction of new plants. Also, the dump for waste of Croatian capital is located directly next to the river, etc.

Professional public in Croatia expected a lot from the Water Framework Directive, however, although the Directive is very ambitious and open, the legislator in Croatia, however, seems to choose a uniform plan with no real desire to improve the situation. Available data do show that is still omnipresent a chemical status of water, too little attention is paid on the biology and ecology of the river, and public participation in decision-making concerning water and still not at a satisfactory level.

As for the river basin management plans, local governments share the responsibility for their implementation, and can be authorized and responsible for the implementation of specific measures outlined in the plan. However, it seems that local authorities are not yet fully familiar with the purpose of making management plans for river basins, not even with his role in it. In the process of making of a Sava River Basin Management Plan it was revealed that local authorities are not sufficiently familiar with the procedure of adoption of such a plan, nor with their opportunities for involvement in the same.

Although communication between governmental agencies and different levels of authorities responsible for water management has improved it still depends from sector to sector if the communication is pro forma (because of EU projects) or communication aims to achieve a common goal - good water management that has a goal to protect the water flows and its environment. According to experts from non-governmental organizations that deal with the problems of water management for more than a decade, the biggest problem is the lack of inter-sectorial cooperation, which is necessary for an integrated approach to water management.

There is still a very problematic role of Croatian Waters. With recent amendments to the Water Act that, already too big and very closed institution, received even more autonomy although it showed that is primarily oriented towards profit.

The big issue is also the water inspection, which was established in the Ministry, and in fact all permits related to water are issued by Croatian Waters, which in turn have their own water guardians. There is no joint inspection, are also there is not clearly defined their competence, and very often both of them denies a liability. The second problem is also that the water inspection has a very centralized system, and therefore since 2009 water inspection was abolished for the city which lies on even 4 rivers.

Croatian legislation does not regulate in details what happens with the sludge that remains

after treatment of wastewater in the wastewater treatment plant. The problem is the question of solving flood because it still applies outdated approach that boils down to channeling of rivers. In this regard the most problematic is the fact that the water management in general so including the flood control systems is not closely linked with the process of spatial planning.

In Croatia there is still omnipresent the trend of water use for the production of electricity, and the question is even if it's cost effective because all planned Hydro-power plants are based on the old data that need to be reviewed. However, here we are back to the question of construction.

**Questions suggested for the international comparative research on the issues of Milestone No. 3 based on the survey of the system of the related Hungarian laws and regulations**

- *(local aspects of waste management)* Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

Research tips: This question refers to the central level waste management rules of mostly substantial legal nature, referring to the general requirements of the management of the household solid waste. Within this issue, please pay attention to the flexibility of the rules, i.e. specify how far local specialties are taken into consideration in your national laws and regulations concerning household solid waste management;

**Act on Sustainable Waste Management** (O.G. 94/13), provides rules on separate collection of waste paper, metal, glass, plastics and textiles, and large (bulky) waste. According to Art. 35, par 1 of the **Act on Sustainable Waste Management** local government has an obligation to carry out a separate collection of hazardous waste, waste paper, metal, glass, plastics and textiles and large (bulky) waste in a manner that ensures: operation of one or more recycling yards or mobile units on its territory; setting an appropriate number and type of containers for separate collection of hazardous waste, waste paper, metal, glass, plastics and textiles, which are not covered by a system of special categories of waste on public land; informing households of location and change of location of the recycling yard, mobile units and containers for separate collection of hazardous waste, waste paper, metal, glass, plastics and textiles and transportation service large (bulky) waste at the request of customers.

According to Art. 35, par 2 of the **Act on Sustainable Waste Management** local government which has a population of 1,500 or less, and did not ensure the functioning of the recycling yard shall provide the same function in its area through a mobile unit (which is considered a recycling yard). Local governments which has more than 1,500 inhabitants shall ensure the

functioning of at least one recycling yard and the next one in every 25,000 people in its area and local government which has more than 100,000 inhabitants shall ensure the functioning of at least four recycling centers and the next one in every 30,000 people in its area. Also, in the villages where there is no recycling yard the functioning of the same shall be ensured via a mobile unit. The City of Zagreb shall ensure the functioning of at least one recycling yard in every district. Additionally, the local government shall ensure that the spatial distribution of a recycling yard or mode of mobile unit is accessible for use to all residents of the area for which recycling yards or mobile units are established.

Aforementioned are basic requirements for local governments as set by the Act regarding waste management to which we have to add some problems with implementation of these requirements which occurred in practice. 54 By-law are planned to be issued on the basis of the Act, some new, some amended) ) are since they are not yet adopted local governments cannot yet define clearly how to start with implementation of their obligations. Also, it is not clear where the local government should obtain funds to meet the obligations under the Act, which in practice proves to be a big problem because many local governments do not comply with the Act justifying it by the large costs of the new system. Specifically, the previous Waste Act contained obligation for the local governments to start with the primary selection of different types of waste and to strengthen the systems by charging the waste disposal according to the quantity or volume, but most local governments had not done that in the past few years due to lack of funds provided or lack of involvement in obtaining additional funds.

- *(municipal level bodies)* Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralized administrative bodies etc.) in regulating, organizing, managing etc. the local waste management activities.

Research tips: This question refers to the organizational-procedural side of the local waste management activities. As such this has more relevance to the practical implementation of the waste management law. Municipality waste management planning, organizing work (selecting, contracting the entrepreneurs etc.) and regulating/helping local communities' waste management efforts such as composting are the issues that belong to here.

Waste disposal at the level of cities and municipalities is under authority of the governing bodies of local governments responsible for environmental protection in accordance with the Waste Management Plan of the city or municipality. For example, it can be the Bureau of transportation and utility infrastructure or Administrative Department of Planning, construction and environmental protection.

Each city and municipality must prepare a Waste Management Plan and it must contain in particular: measures for separate collection of municipal waste, measures for the management and monitoring of landfills for municipal waste, list of areas polluted by waste

and uncontrolled landfills, sequence of activities remediation of uncontrolled landfills and areas polluted by waste, sources and amount of funds necessary for the implementation of rehabilitation.

The waste management plan is adopted by the city or municipal council and the competent administrative authority shall supervise the implementation of waste management plans. Government of the city and municipality is required to annually, by 30 April of the current year for the previous year, submit the report on the implementation of the Plan, and in particular on the implementation of established obligations and efficiency of the measures taken to the regional authority. Once the plan is adopted by the competent office of the regional government yearly report must be submitted to the Ministry of the Environment and Nature Protection and to the Agency. Such report must be published in the official gazette of the city or municipality.

In addition, the governing bodies of cities and municipalities, must be the initiators of the process of creation of a common policy for waste management in the county, and their activities should aim at institutionalization of cooperation between counties, municipalities and cities, and to achievement of the consensus on all important issues, primarily, to include the selection of the location of the county waste management center and transfer station, adjustment of spatial - planning documentation and to of financing models of common waste management system .

As regards to sea ports, waste management in the sea ports is defined in the Ordinance on the conditions and methods of maintaining order in ports and in other parts of internal waters and territorial sea of the Republic of Croatia (90/ 05 ). The port authority is responsible for supervising the implementation of order in ports and in other parts of internal waters and territorial sea, especially for keeping the coast and the sea from pollution from maritime facilities. Port authority is obliged to clean the harbor of debris that threaten the safety of navigation and pollute the sea and is responsible for the organization of the waste management of sea ports. Ordinance prescribes the procedure for filing and acceptance of waste from vessels and cargo residues. All ports open to public traffic and special purpose ports must develop and implement a plan for the reception and handling of waste and cargo residues that can be developed on a regional level. The cost of accepting waste in ports, including treatment and disposal of waste, shall be covered adequately by fees for the use of reception facilities.

**Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations**

- (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

According to the Act on Waters, Art. 3, point 67 *Urban wastewater treatment* means treatment of urban waste water by mechanical, physical, chemical and / or biological processes

Utility service of wastewater treatment as a public service is performed by local government units and legal entities and individuals. Local government units are obliged to provide collection and treatment of urban waste water, prior to their direct or indirect discharge into the water, in line with water permits for wastewater discharge. Natural persons owners, or other lawful possessors of small wastewater treatment devices are required to maintain them through the supplier of water services of public sewage or other person authorized in accordance with the decision on wastewater discharge. With the decision on waste water discharge mandatory deadlines for control must be set. Legal persons may obtain a concession for the public service of wastewater treatment and / or the right to perform or design and conduct activities in wastewater treatment. The concession for the provision of public services of wastewater treatment is given for a period of 5-10 years. Construction of the facilities and infrastructure for wastewater treatment is financed from: waste water treatment fees, local government budget, donations and other sources defined by special regulations. Act on Waters determines that the construction of drainage and wastewater treatment systems must be designed, constructed and maintained to ensure protection of water. Devices for purification of waste water must be designed, constructed or reconstructed so that the discharge of treated wastewater into the receiver may take a representative composite sample before and after wastewater treatment.

Many municipalities did not yet constructed a waste water system. Some of the planned solutions of these municipalities are:

- acceptance of waste water in the first phase of construction will be addressed by building watertight septic tank facilities for up to 10 GB with secured system of discharge and drainage- for facilities with more than 10 GB it is envisaged to construct devices for biological purification of waste water to the hygienic sewage and disposition thereof through drainage wells while satisfying the prescribed parameters of discharge to the sanitary protection zone in which the facility is located

- Drainage of storm waste water from roads, parking and maneuvering areas will be solved by engaging in field the drainage wells with pre- treatment in the oil and fat separator and precipitators. Clean rainwater from rooftops will be discharged in the ground through drainage wells
- Wastewater collection will be solved by the sewer pipes placed in roadways of economic zones.
- The construction of the unit for wastewater treatment plant with the highest degree of purification is planned.
- Wastewater from the facility where increased pollution is possible it is necessary to install a pre-treatment of waste water and bring them to the level of quality of urban waste water before connecting it to external drains.
- The plan is to install a device that works on the principle of biological treatment with activated sludge. The device is technologically designed in such a way that it treats the sanitary wastewater, and engaging technology in wastewater collection system and treatment is conditional on their pre-treatment at the point of generation to a level of sanitary waste water.
- *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

Reports on the implementation of waste management plans at local government offices must be submitted for a review to the Ministry of Environmental and Nature Protection and the Environmental Protection Agency. Besides that, Croatian Waters are monitoring quality of facilities for drainage and wastewater treatment and quality control of treated wastewater, sampling and analysis of waste water is carried by an accredited laboratory.

#### Conclusion:

Experts in waste management in Croatia indicated several drawbacks related to waste management. For example, Croatia has no national waste management plan, which should



be one overriding strategic document, and as such serve as guidelines for developing regional and local waste management plans. However, as there is no such document, in fact every local authority almost entirely independently decides how to plan and prepare its waste management system. For this reason, there are big differences in local waste management plans.

Also, so far, until the new Act on sustainable waste management, in fact there was no political will to adopt good and enforceable legal solutions that would lead to the establishment of good waste management system. The new Act has set a good framework, and is much more advanced than the former one, but the question remains how its implementation will be done.

## Serbia

Serbia is a developing country in Europe, bordering with EU countries and other Western Balkan countries in various stages of eventual EU accession. Serbia covers an area of 88,361 km<sup>2</sup>. 92% of the country lies within the Danube Basin (accounting for 10% of the Basin). Of this land, 30% is forested. The territory of the Republic of Serbia is a single water management area.

### Legal background and responsibilities

The main piece of legislation which addresses water is the Water Law (Official Gazette of the Republic of Serbia number 30/2012 and 93/2012). Certain aspects of water management are also regulated by a set of environmental laws.

In order to approximate the national legal background of water management with the EU law, and to fulfill international obligations a set of by-laws was adopted in Serbia between 2010-2012. These include the Regulation on emission limit values in waters and deadlines for the achievement thereof and the Regulation on limit values of polluting matter in surface and groundwaters as well as sediment and the deadlines for their achievement.

According to the existing Law on Water and Law on Ministries, Ministry of Agriculture, Forestry and Water Management i.e. its operational body Directorate for Water is responsible for integrated water management in Serbia.

Directorate for Water is responsible for:

- Water management policy
- Multipurpose water usage
- Water regime
- Protection from water
- Water protection measures
- International cooperation
- Other activities according to the Law on Water.

Ministries responsible for certain aspects of water management are:

- Ministry for Environmental Protection
- Ministry of Health
- Ministry of Infrastructure
- Ministry of Public Administration and Local Self- Governance etc.

## **Main water related problems**

Insufficient waste water treatment is one of the main water-related problems; only 10% of the waste water produced is adequately treated, despite 60% sewage connection. There is a lack of data, especially on ground water. Lack of funding is also a big problem, causing, that water supply infrastructure is incomplete.

In Serbia the development of the waste water treatment infrastructure throughout the country is a great challenge. The price of water is low and there is little water metering. Current economic assessments of the water sector suggest that existing funds are about 3-4 times lower than required. Water tariffs and water management charges are low. The average charge for drinking water is considerably lower than it should be and is also lower than the water tariffs charged in the region.

Wastewater evacuation coverage lags behind drinking water supply, such that only slightly more than 50% of the population has access to public sewers. Wastewater is generally discharged untreated into watercourses. Only a few percent of pollution sources (less than 10%) are equipped with functioning wastewater treatment facilities. About 50% of the settlements have access to public wastewater collection systems, additionally, only some 12% have wastewater treatment plants in place.

The solution of these problems will have to be financed from national sources, as well as supported by national and international financial institutions. The problem of shortage of capacities on water governance and integrated management are an important challenge, but focusing on water resources and wastewater management is an important step in developing framework for sustainable water resources management.

## **Solid waste management**

The National Waste Management Strategy (NWMS, 2003) in Serbia is the first fundamental document in the creation of conditions for a rational and sustainable waste management at the national level. According to requirements of the NWMS, establishment of a region consisting of several municipalities for integrated waste management presents the only sustainable waste management solution.

According to EU Commission Progress Report for Serbia (2009), progress can be reported on waste management in Serbia, with the adoption of the Law on Waste Management (LWM) and the Law on Packaging and Packaging Waste. The LWM stipulates that each municipality develop a municipal waste management plan; subsequently, municipalities must then organize themselves into regions and prepare regional waste management plans based on the local plans. The EU Commission

Progress Report for Serbia (2010) also provides information about progress in the area of waste management.

One of the key obstacles to the achievement of NWMS goals is lack of plans of waste management at regional and local levels which have to be developed. Waste volumes in the Republic of Serbia is hard to estimate. The main reason is lack of information on waste qualitative and quantitative analysis, i.e. data base of quantities, characteristics, especially content, and classification of waste. Only ca. 60% of municipal solid waste is collected.

Waste disposal, especially hazardous waste disposal, is an obvious problem. The existing urban disposal sites are mainly disorganized, with no additional equipment or protection measures. Officially, there are about 180 disposal sites of municipal solid waste across the country, not counting a large number of illegal waste dumps in rural areas. As a consequence of regionalization process in waste management, current, poorly managed municipal landfills are to be closed in accordance with remediation and closure design documents, to ensure the long-term protection of human health and the environment, and to minimize the need for long term post-closure maintenance.

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## Bosnia-Herzegovina

- Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows. Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories. Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.). Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc. Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.

Bosnia and Herzegovina (BiH) is a complex federal state comprised of two entities - Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS). Protected territories are defined by Law on Water, as a water management administration law which is adopted on the entity level. These laws and the bylaws enacted on their basis are harmonized with the EU acquis, including EU Directive on Nitrate. Also, the cantons in Federation of BiH have enacted their legislation on water management, but this legislation does not define any of the matters herein differently. The Law on Water and the bylaws enacted based on these provisions define buffer zones, the technical requirements concerning these zones, and the legal rules concerning procedures of planning, establishing, managing and monitoring such territories. Bylaws enacted on the entity level based on this piece of legislation are: Rulebook on means and conditions for establishment of limited use of usage of public water good, Rulebook on means of establishing borders of of public water good and of establishment of belonging of a piece of land to a public water good, Rulebook on minimum standards of regulation in general act on maintenance, usage and observation of weater management objects, Rulebook on monitoring in areas susceptible to eutrification and nitrate sensitive.

Protected territories are defined by the entity laws on water as cadastre plots on which surface water is temporarily or permanently present because of which special hydrological, geomorfological or biological relations which define water and water related ecosystems, basic riverbed of liquid water including isles, sunken land, abandoned riverbed which are occasionally flooded, swamps and defined inundiated zone and land under water objects exist.

Buffer zones are defined as two zones with 15 meters and 5 meters range, respectively. The 15 meter range applies to surface waters of 1st cathegory, while the five meter range applies

for surface waters of 2nd level category. Entity level Authority for Inspection monitors the implementation of legislation and rulebooks. Entity level agencies in FBiH and Public Institution in RS decide and determine the rights of usage of protected territories and buffer zones of the waters of 1st category (in RS both categories) while cantonal ministries operate on 2nd level category of waters. While the law on water obliges owners to allow the buffer zone determining personnel to approach the water goods, the law or the bylaws do not specifically determine where or how is the buffer zone marked and with usage of what instruments. However, the borders of each separate buffer zone is marked in spatial planning.

The main actor in management of water public goods are: two Agencies in FBiH, one for Sava river basin and the other for Neretva river basin and one agency in RS "Public institution Waters of Srpska".

Effectiveness of national legislation does not seem to be satisfactory. In many municipalities, houses are often built on river banks and therefore they do not comply with the law. This often creates serious problems during high level of water and floods.

- Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralised administrative bodies etc.) in regulating, organising, managing etc. the local waste management activities.

In local waste management activities, local (municipal) authorities have the jurisdiction in waste management. In cases where small isolated settlements exist they can delegate this authority to the representatives of this local settlement. The municipality can manage waste management activities through local utility services company, or it can give the jobs in question to a private investor either through a concession or through a bidding procedure for a limited time contract. The municipality and its organs, including the municipality council have full authority to decide in selective collection, composting and location of the landfills. The only limit of these regulations are entity regulations. In practice, municipalities enjoy a wide discretion in defining all aspects of waste management on their territories. Specific decisions usually entitled „Decisions on communal order“ are passed by municipality councils and they contain very specific provisions concerning waste management on a household level.

Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

In areas where large scale sewage systems do not exist, waste water is collected by a separate sewage system which disposes waste water into individual cesspools and collective pits. The local utility services company in charge of waste management is in charge of emptying the cesspools and pits and deponing their contents to local solid waste depository



or other location determined by the local municipality in coordination with local community. In all other cases a large scale sewage system is constructed and it encompasses even small settlements. Technical standards concerning waste water facilities

Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Authorities that control local waste water treatment are municipal authorities and they do so through local municipality owned utility services companies. The companies have the authority to supervise implementation of bylaws and ordinances and order the citizens certain activities aiming at better quality of waste water management. However, these companies cannot fine anyone for breach of bylaws or ordinances. Instead, they can refer these cases to either municipal or cantonal/federal (in FBiH) or republic (in RS) inspectors who assess the situation and take adequate measures. This is a general permitting model.

## Montenegro

### MONTENEGRO Basic facts:

- **Surface area:** 13,812 km<sup>2</sup>
- **Population:** 660,000
- **Land under cultivation:** 517,153 ha (37.4% of the country)
- **Climate and soils:** highly variable and generally unfavorable
- **Montenegro lies between**
  - 18°20' and 20°21' east geographic length **and** 41°05' and 43°33' north geographic width.
- **Distance between end** south and east spots is 200 km, **and between** east and west spots is 173 km.

Montenegro is predominately mountainous country with the climate conditions, changing from Mediterranean to mid-continental and sub-alpine type. It is situated in mainly karst region, and due to its position along the south coast of Adriatic Sea with the terrain ranging from the sea level to 2500 m above sea level. By its water balance per square metre, Montenegro belongs among the largest in Europe and the world. Its richness in water potential also is accompanied with the beauty of its water bodies, which significance has been globally recognized and thus protected, such as river Tara with its UNESCO Man and Biosphere (1979) protected canyon, Skadar lake as Ramsar site (1995) and National Park (1983), National park Biogradska gorá as one of three last remains of rainforest in Europe, etc.

Being positioned along the south coast of Adriatic Sea influences on Montenegro precipitation regime, having locations with over 4500 mm – which are among the highest in Europe. The precipitation is higher in south of the Country than in the north, forming around 14 billion m<sup>3</sup> in total of annual precipitation in Country. The country is rich in hydro power potential in natural flow and there is planned possibility of its use by integration of specific water courses, i.e. by transfer of water from one basin to the other.

As far as water courses are concerned, Montenegro forms mainly upstream country, waters of its own basin are more than 95% total flow off on its territory while only 5% are transit waters.

By flow off, surface and ground waters from Montenegro territory belong to Black Sea basin (7260 km<sup>2</sup> or 52, 5%) and Adriatic Sea basin (6267 km<sup>2</sup> or 47, 5%). The most important Montenegrin rivers of the Black Sea basin are: the Piva, the Tara, the Lim, the Čehotina and the Ibar, and from Adriatic Sea basin are: the Morača, the Zeta and the Bojana.



The rivers Piva and Tara form almost 40% of total water of the river Drina, with no more than 20% of its basin area. These rivers, with water of the Lim and the Čehotina, also from the area of Montenegro, participate with approx of 63% of the Drina flow at its mouth to the river Sava.

The significant part of these waters flows into Adriatic Sea or Black Sea through neighbouring countries, like waters of: the Piva, the Tara, the Lim, the Čehotina, the Ibar and the Bileća Lake, which is partially situated and filled up from the territory of Montenegro; while waters of Skadar Lake and the Bojana river are crossing or flow along the border of Albania. That is why these waters appear as trans-boundary and their use or constructions of facilities which can change their regime are treated as trans-boundary.

In the process of Country's association toward EU the reform of legislation is intensive and major. The Country's is using variety of EU funds, as well as experiences of other EU or candidate countries experiences and best practices in order to harmonise its legislation in line with national, EU and global sustainable principles and standards.

In the area of water management with the Water law from 2007 the harmonisation with EU principles and WFD has been achieved up to 62%. Further harmonisation of Water law, as well as drafting and adopting various sub laws is expecting Montenegro, in order to not only transpose EU and global principles but use and manage its water resources and resources according to sustainable development and WFD, thus implementing water management plans, integrated water management, water flows buffer zones, etc.

1. (*general legal background*) Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;

The main legal acts and plans/programs in water sector in the Country are:

**Laws:**

1. Law on Waters ("Official Gazzete", No. 27/07, 17.05.2007., No. 32/11 from 01. 07. 2011. and 47/11 od 23. 09.2011)
2. Law on financing water management ("Official Gazzete", No. 65/08 from 29.10. 2008)

**Plans:**

Water management baseline (2001)

Montenegro lacks legally defined water flow "buffer zone" terminology and principle. The main legal act – the Law on Waters ("Official Gazzete", No. 27/07, 17.05.2007., No. 32/11 from 01. 07. 2011. and 47/11 od 23. 09.2011) is at the moment the only legal instrument that defines definition of different terms and principles of water management in the Country. The Water Law misses certain sub-law instruments for the implementation of all principles that it encompasses (water management plans, etc), leaving the principles stated in the Law to be just theoretically planned and not enforced.

2. (*scope of regulation*) Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;

Article 4 of the Law on Waters (2007) defines terms in use.. Under this Article „buffer zones“ are not defined. The point no. 61 is a definition of **Protected areas**:

- **Protected areas** mean areas of land used or intended for abstraction of water for human consumption providing at least 10m<sup>3</sup>/day or serving more than 50 persons, including the sensitive watershed areas; areas susceptible to eutrophication or nitrates sensitive; areas designed for protection of economic imported aquatic sorts; areas for recreation and bathing; areas for conservation of natural habitats or sorts which need good quality of water for survival and reproduction;

The Law on Waters (2007) recognise the sensitive buffer zones around water supply sources and natural bathingsites and in Article 33 is stated:

- **Compliance of the Water Master Plans with Physical Planning documentation (Article 33)**

The physical planning documentations shall include the areas under special

protection(sensitivebufferzones aroundwatersupplysources andnatural bathingsites)andendangered areas(floodanderosionprone),pursuanttothe provisionsofthisLaw.

3. (*technical details*) Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);

The sub law specifying technical requirements for the areasunderspecial protection(sensitivebufferzones aroundwatersupplysources andnatural bathingsites) exists („TheRulebookondeterminingandmaintainingzonesandbeltsof sanitary protectionof springs and limitsinthose zones, “Official Gazzete”, No.66/09, 2. 10.2009).

The sub law specifying technical requirements for the „buffer zones”/protection zones of water flows does not exists.

4. (*procedural rules*) Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;

The main authority responsible for water management is Ministry of Agriculture and Rural Development, with its departments and directorate for water management (see the list below). The main legal acts and plans/programs in water sector in the Country are Law on Waters (“Official Gazzete”, No. 27/07, 17.05.2007., No. 32/11 from 01. 07. 2011. and 47/11 od 23. 09.2011) and Law on financing water management (“Official Gazzete”, No. 65/08 from 29.10. 2008).

The water management institutional framework in the Country include following institutions:

- Ministry of Agriculture and Rural development (MARD);
- Department for water management in The Ministry of Agriculture and Rural development (MARD);
- Ministry responsible for environmental policy – Ministry of Sustainable Development and Tourism (waste and waste waters are under this Ministry);
- Directorate for water, under MARD;
- Hydro-meteorological and seismology Institute of Montenegro (monitoring quality of waters);
- Environmental Protection Agency (enforcement of environmental legislation).

Basic Country’s strategic documents:

- Water management baseline (Vodoprivredna osnova) from 2001);
- Water Management Plans (planned but not exiting);
- River basin management plans (planned but not exiting);
- Master plan for disposal wastewater of Montenegrin coast and Municipality of Cetinje;

- Strategic master Plan for sewage and wastewater in central and northern part of Montenegro.
5. (*summary of findings*) Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.
- The Montenegro legislation in water sector is not fully harmonised with EU legislation and WFD.
  - The current main legal act – the Law on Waters (“Official Gazzete”, No. 27/07, 17.05.2007., No. 32/11 from 01. 07. 2011. and 47/11 od 23. 09.2011) does not recognises buffer zones in water flows in accordance with EU and WFD standards;
  - The program for developing Water Management Plans however, non has been prepared yet.
  - Integrated Water Management Plans have not been prepared.

Strategic priorities for water sector are:

- Adoption of laws and regulations for water users and suppliers in harmonization with EU laws and regulations;
- Development of river basin management plans;
- Monitoring of water quality and quantity;
- Protection of surface and ground waters from pollution;
- The extension of water supply and improvement of water supplies of citizens;
- Extension of sewerage network in urban and rural areas and construction of WWTP;
- Long-term protection and conservation of water resources as national assets and their use according to the principles of sustainable development.

6. (*local aspects of waste management*) Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

On national level Ministry of Sustainable Development and Tourism is responsible for general waste management policy and legislation. However, other Ministries have responsibility over specific areas of waste management (e.g. Ministry of Agriculture and Rural Development have responsibility of the animal waste management, soil protection, etc.; Ministry of Interior has the responsibility over local governments, etc.).

Law on Waste Management was adopted in late 2011 (“Official Gazette of Montenegro”, No. 64/11). In accordance with the Law on Waste Management (2011) the new National Waste Management Plan/Strategy for the period 2014-2020 and its Action plan for implementation is



under preparation (funds provided by the EU Delegation to Montenegro - IPA 2009). This new Plan will support updating the Montenegrin National Policy Paper for Waste Management 2004 and the Strategic Master Plan for Waste Management 2005.

The new Plan/Strategy that is under preparation will define guidelines for organizing waste management sector and for creating conditions for:

- (i) improvement the status in the sectors of the environment and human health;
- (ii) harmonization with guidelines from other EU strategic documents;
- (iii) sustainable resource management available to Montenegro (the waste is resource that can be: reused, recycled as raw material, or processed as energy resource);
- (iv) comprehensive approach by analyzing all sectoral policies related to issues of waste collection, transport and treatment and waste generation;
- (v) taking into account all specificities and restraints existing in Montenegro"

Local self-governments are also stakeholders in waste management and have responsibilities in the municipal waste management sector (i.e. waste generated in households and waste of similar characteristics). In the process of development of new National plan/Strategy local self-governments have to identify problems and bottlenecks, to reconsider possible solutions with benefits coming out of it, to identify target groups and potential partners for tackling these issues, and to consider impacts of this segment on the other local development policies and otherwise, and only after that to start decisively and responsibly into an action. New National Strategy will act as umbrella document and offer possible directions of strategic development of local self-governments in this sector.

By the Law on Waste Management Local governments are obliged to prepare Local Waste Management Plans (LWMP) for 5 year period, which should be approved by the Ministry of Sustainable Development and Tourism. Some Municipalities in the country have prepared and adopted the LWMP, some have not. The EU funded project also encompasses technical support in preparation of LWMP for certain municipalities in the Country.

The adopted of the Law on Waste Management in 2011 has been followed by adopted of numerous sub laws defining certain actions or sectors, such as:

- Regulation on the procedure for the establishment of the system of taking, collection and treatment of waste vehicles and operation of the system ("Official Gazette of Montenegro", No. 28 /12).
- Regulation on the procedure for the establishment of the system of taking, collection and treatment of waste electrical and electronic products and operation of the system ("Official Gazette of Montenegro", No. 24/ 12).
- Regulations on waste classification and waste catalog ("Official Gazette of Montenegro", No. 35 /12).
- Regulation on the procedure for the establishment of the system of taking, collection and treatment of waste tires and operation of the system ("Official Gazette of Montenegro", No. 39 /12).

- Regulation on the procedure for the establishment of the system of taking, collection and treatment of waste batteries and accumulators and operation of the system ("Official Gazette of Montenegro", No. 39 /12).
- Regulation on detailed criteria, amount and manner of payment of a special fee for Waste Management ("Official Gazette of Montenegro", No. 39 /12).
- Regulation on the procedure for the establishment of the system of taking, collection and treatment of waste packaging and operation of the system ("Official Gazette of Montenegro ", No. 42 /12).
- Regulations on Waste Oil Management ("Official Gazette of Montenegro", No. 48 /12).
- Rules for the Treatment of equipment and waste containing PCB ("Official Gazette of Montenegro", No. 48 /12).
- Ordinance on the conditions, manner and procedure of medical waste ("Official Gazette of Montenegro", No. 49 /12).
- Rules for the Treatment of construction waste, manner and procedure for processing construction and demolition waste, requirements and how to dispose of asbestos-cement construction waste ("Official Gazette of Montenegro ", No. 50 /12).
- Ordinance on the manner of keeping records of waste and contains a form of waste transport ("Official Gazette of Montenegro ", No. 50 /12).
- Ordinance on the conditions to be met by a company or entrepreneur processing and / or disposal ("Official Gazette of Montenegro", No. 53 /12).
- Regulation of the detailed content and manner of submission of annual reports on the implementation of waste management plans ("Official Gazette of Montenegro" , No. 53 /12).
- Regulation on detailed contents of waste management plan waste producers ("Official Gazette of Montenegro", No. 5 /13 of 23.01.2013.godine).
- Ordinance on the conditions to be met by a company or entrepreneur for collection and transport of waste ("Official Gazette of Montenegro", No. 16 /13).
- Regulations on Packaging and removal of asbestos-containing waste ("Official Gazette of Montenegro", No. 11/ 13).
- Rules on the Management and the content of the request for registration of exporters of non-hazardous waste ("Official Gazette of Montenegro", No. 27/ 13) .
- Regulation on detailed characteristics of the location, construction conditions, sanitary and technical conditions, operation and closure of landfills ("Official Gazette of Montenegro", No. 31 /13).
- Decree on the conditions of storage of waste ("Official Gazette of Montenegro", No. 33 /13).
- Ordinance on Incineration and / or co-incineration of waste ("Official Gazette ", No. 33 /13).
- Regulations on keeping the register of permits issued for the processing and / or disposal of waste collectors registry, Registry Operator and the traders and dealers waste ("Official Gazette of Montenegro", No. 47 /13).
- Regulations on the collection and delivery of waste vehicles which the holder is unknown ("The Official Gazette of Montenegro ", No. 47 /13).
- Rules on the conditions to be met by municipal sewage sludge, the quantity, scope, frequency and methods of analysis of municipal sewage sludge for permitted uses

and conditions to be met by land planned for its implementation ("Official Gazette ", No. 89/ 09 ).

- Ordinance on the content, form and manner of keeping the register of issued permits for cross-border movement of waste ("Official Gazette ", No. 71/10).
- Regulation on the detailed content of documents for issuance of import, export and transit of waste, as well as the list of waste classification ("Official Gazette", No. 75/10).

In accordance with the Law on Self Government of Montenegro (o. 42/2003, 28/2004, 75/2005, 13/2006 and "Official Gazette of Montenegro", No. 88/2009 and 3/2010) the Local Governments provide for and regulate the activity of the solid waste management, water supply, waste water management and sanitation (communal services) in the Municipality through the Public Utilities for Communal Services. The basic law that regulates these activities and the work of communal service body is Law on Communal Services (2011). In order to support Local Governments in the very comprehensive task, which is very costly and requires loans and credits from different financial bodies and mechanisms, of communal services, the Government has established a special unit for the implementation of projects financed by the loan proceeds - PROCON - special structure within the relevant government authorities for the implementation of the EU grants. Certain Local governments have invested effort, presented initiatives and creativity in providing the necessary conditions for the implementation of certain provisions of the Law on Waste Management. First of all – the Capital city (Podgorica) has built a modern center for waste treatment and has the first sanitary land filled in Montenegro (only 2 sanitary land filled exist in Montenegro, one in Podgorica, of the regional character and another one in Municipality Bar, also of a regional character). The Podgorica sanitary land filled is used by 2 other Municipalities Danilovgrad and Cetinje. Some efforts have been made in partial waste selection in Municipalities of Herceg Novi, Kotor and Tivat. As of July 2012 the second regional sanitary landfills operates - Možura where Municipality Bar and Ulcinj dispose waste, and lately waste from Budva , Kotor and Tivat. It can be concluded that about half of the total amount of waste produced in Montenegro is disposed on these sanitary landfills. It is expected that construction of a waste treatment centers in Niksic and Berane will begin in near future, which construction ensures that virtually 90 per cent of the collected amount of waste in the Country is disposed in the proper manner provided by the Law on Waste Management.

The involvement of private sector in waste management on local levels has bases in Law on Participation of Private Companies in Public Services (Official Gazette GoM No. 30/02 from 26.06.2002 and No. 08/09 from 04.02.2009). At the very moment private sector has not been involved waste management of any type. However, the Law, which applies to all public institutions, provides a framework for intensification of participation of the private sector in the areas of general significance for the society, and application of public services in relation to leasing and management contracts, including build-operate-transfer (BOT) arrangements. This Law, together with the Law on Concessions (Official Gazette of GoM No. 08/2009), provides general arrangements for several instruments that could be used for planned action and private capital to revitalise the infrastructure of the state/local governments despite the lack of funds from the budget for participation of the private sector in public services, for the

betterment of government/local governments.

7. (*municipal level bodies*) Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralised administrative bodies etc.) in regulating, organising, managing etc. the local waste management activities.

At the local level in municipalities, the collection, transport, and disposal of solid waste are organized within Public Utility Companies (PUC), which are fully owned by municipalities.

By the Law on Communal Services (Official Gazette of GoM, No. 48/08 and 2011) organization of communal services on local level is the responsibility of the Local-self Government. These services are aspect of the scope of work of Public Utility on communal services or other company that Local Self-government decides to govern these tasks.

Communal services, defined by the Law on Communal Services, are:

- 1) Public water supply
- 2) Waste water management
- 3) Management of atmospheric water
- 4) manage municipal waste
- 5) Planning and maintenance of public areas
- 6) Management of public lighting
- 7) Public passenger transport in urban and suburban areas
- 8) Maintenance of municipal roads (local roads, city streets and streets in residential areas) and biking trails
- 9) The maintenance of bridges and waterbeds of local importance
- 10) The maintenance of cemeteries, chapels and cremation and burial
- 11) Maintain the market
- 12) The maintenance of public spaces for parking
- 13) Maintenance of public toilets
- 14) Disposal of abandoned and lost animals and for themaintenance of shelters for their care.

8. (*local waste water treatment solutions*) Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Wastewater management analyses:

- Sewerage mostly covers urban and suburban areas. Depending on the municipality, from 40 - 100% of urban populations is connected to public sewer system;
- In areas where there is no sewerage system constructed people uses septic tank, and in some cases, wastewater is discharged directly into watercourses or into the ground;
- Recipient: The coastal municipalities outflow waste water into the sea via sea outfalls. In the northern and central regions, mostly in local waterflows, except Cetinje and Zabljak where waste water is discharged into local sinks;

- WWTP exists in Podgorica (reconstructed) and Mojkovac, and ongoing activities exist on the construction of the WWTP Niksic (smaller one in Virpazar and Rijeka Crnojevića);
- In most municipalities there is a separate sewage system;
- The coastal region is a function of CS 27, in the northern and central regions, CS does not exist.
- Only four municipalities (three coastal Bar, Tivat and Herceg Novi and one central Niksic) have a decision on the establishment and maintenance of zones of sanitary protection of all water sources, which are used for public water supply. In all other municipalities, this question is only partially resolved or not resolved at all;
- In most of the water supply system is not only a basic analysis of the suitability of water for drinking because of the limited financial resources of public enterprises for water and sanitation;
- Unadequate use of water-daily consumption in the urban environment, as assessed by Institute for public Health from 2008, amounted to an average of 500 l/day;
- Large losses in water supply systems;
- Periodic blurring of water during rainy periods (Bistrica, Breznica, Oraškapit);
- The lack of a sufficient number of WWTP;
- A number of outfalls, usually inadequate length (without treatment);
- Underdeveloped and inadequately maintained storm water sewerage leads to penetration of rainwater into sewers for sewage wastewater;
- Pumping stations are in operation, but electromotive equipment is in poor condition, frequent interruptions in the power supply or cuts in order to reduce the consumption caused by the discharge through the emergency outfall;
- Outdated plumbing and insufficient funding of Public Utility Companies for Communal services (PUCs) for the rehabilitation and reconstruction;
- Irregular connection to the network.

9. *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Responsibility of waste water treatments and water supply are divided between national and local level:

- the Ministry of Agriculture and Rural Development, the Ministry of Sustainable Development and Tourism Environment and Water Directorate
- local governments provide for and regulate the activity of the public water supply and public communal and sanitation activities in their territory.

Local Governments establish Public Utility Companies (PUCs) which are responsible for water supply and protection of waters from pollution. At the coast of Montenegro the "Regional water supply company" has been established for development and management of regional water supply system. In addition it has the competence to discharge and treatment of wastewater and solid waste from the coastal area.

In addition to these structure DOO "Vodakom" - Tivat has been created to better coordinate investment activities in the field of water supply and wastewater management on the Montenegrin coast.

Different types of permitting and monitoring exist:

- the level of technical documentation proportion and project implementation/construction: main design approval, construction permit, EIA, water permit, etc.
- Monitoring by inspection on local level and national level: ecological inspection, construction inspection

**INTERVIEWS:**

1. Ministry of Sustainable Development and Tourism
2. Ministry of Agriculture and rural Development/Water Directorate
3. Institute for Hydro-meteorology and Seismology
4. EPA of Montenegro
5. NGO Ozon (through publicly available data-being published in newspaper on their activities in the respective fields)



## Romania

### Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations

- (*general legal background*) Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;

Research tips: This question can be answered even by a formal electronic search in your legal system with the calling phrases such as “protecting territory” “protecting zone” or “protecting stripe”. The short survey of the relevant laws can form of the basis of the whole further research.

The issue is regulated through the frame law regarding the waters, The Water Law no 107/1996, and several other specific secondary legislation: Governmental Decision 930/2005 regarding nature and size of sanitary and hydro geological protection zones (human health related), HG 683/2013 regarding the approval of the National Action Plan on reducing risks associated with the use of plant protection (agricultural related),

- (*scope of regulation*) Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;

Research tips: Elements of the definitions you find can be enlisted similarly as we did in Sub-chapter I.2 and this can be added by a short list and description of the planning rules, and also with some details on the decisions on the parameters of the protecting territories (the decision-making body, the possible responsibilities, remuneration rules etc.).

The definition of the protecting zones is given by Law no 107/1996, Annex 1: “the area adjacent to watercourses, water management works, buildings and installations, which shall be made, as appropriate, prohibitions or restrictions on the construction or operation of the land regime to ensure the stability of the banks or building, and to prevent pollution of water resources;”

According to art 16 para 2: In the protection areas established under this law the storage of garbage and waste of any kind, and storage or use of fertilizers, pesticides or other dangerous substances, is forbidden.

Art 5 of the law stipulates that around the water sources and water supply installations, mineral water source, therapeutic lakes, there are established sanitary protection areas with strict regime or restrictions regime, as well as hydrogeological protection perimeter. The property right over the

water sources and water supply installations, mineral water source, therapeutic lakes and therapeutic mud lakes, is extended also over the sanitary protection areas with strict regime.

Any activity in the protection zones must be done so that no adverse effects will be made on water, the banks and beds of watercourses, shorelines and basins of lakes, natural monuments, buildings, works or existing installations in watercourses beds and will influence as little as possible the water use by other users. In no event the deterioration of water quality is allowed.

According to art 40 of the law no 107/1996, the protection areas are established for:

- a) Minor beds of watercourses;
- b) The area of natural lakes or ponds covered with water and aquatic vegetation and also the beach and sea cliff;
- c) Surface reservoirs corresponding to their verification flow quota
- d) Areas occupied with improvement or consolidation of riverbeds, channels and hydrotechnical derivations at their maximum capacity to transport and other hydraulic structures made on the water;
- e) Flood defence works;
- f) Hydrometric constructions and installations and automatic installations of water quality determination.

The Governmental Decision no 930/2005 regarding nature and size of sanitary and hydro geological protection zones, art 3, is establishing specific protection zones for the objective of the norms mentioned in art 5 of the Law no 107/1996 :

- a) The severe regime of sanitary protection;
- b) Sanitary protection zone with restriction regime;
- c) Hydrogeological protection perimeter.

Sanitary protection area with strict regime includes land around all the objectives set out in art. 2. Here it is forbidden to place any establishment or locate any activity that could lead to contamination or contamination of water sources.

Sanitary protection zone with restriction regime comprises the area around area with strict regime of protection, delimited in a certain way, so that, by applying protective measures according to local conditions, the entire the danger of impaired water quality, is eliminated.

Hydrogeological protection perimeter encompasses the area between the feed and discharge areas of the surface and/or underground natural groundwater through this emergency(s), drains and wells and is designed to provide protection against hard degradable or non-degradable pollutants and regeneration flow sampled by abstraction.

Chapter three of the GD 930/2005 regulates technical measures for establishing the dimensions of the protection zones. In this respect, all factors natural, local and anthropogenic, must be considered.

The dimensions are established by units authorized by the water competent authority at central level, through hydrogeological studies done according to the instructions approved by the Order of the water competent authority at central level.

The protection zones are mapped in the situation plan in system Stereo 70, the protection measures needed being also stipulated.

The GD 930/2005 provided criteria for each type of protection zone to be used in establishing the dimensions.

For the sanitary protection zone with strict regime, the limits are marked on water surface with buoys or other conventional signs, and the shore will be fenced. Warning signs will also be placed. Regarding the hydrogeological protection perimeter, all works and activities on the land placed in these perimeters, the environmental impact assessment is necessary. The evaluation study must foresee all necessary measures to prevent the pollution of the groundwater, lakes, therapeutic muds, etc.

Regarding the sanitary protection zone with restriction regime.

The land included in this category can be used by the holders for agricultural purposes, with conditions:

- a) The use of plant protection substances;
- b) Irrigation with wastewater, treated even completely;
- c) The location of stables and cages of animals and storage of livestock manure;
- d) Grazing and silage fodder;
- e) Location of greenhouses and fish ponds.

An inventory of the use of these lands must be kept by the users or operators of the groundwater capture.

Certain activities are completely restricted:

- a) Location of slaughterhouses, railroad yards, auto base;
- b) The location of leaky sewage ponds, wells, absorbent cesspools, simple pit;
- c) The location of housing, hospitals, airports, military units, if not have a sewage system to transport wastewater and rainwater, in complete safety, outside the area of health protection regime restriction;
- d) The location of animal and human cemeteries, cemeteries cars, waste containers;
- e) The emptying and cleaning water tanks carrying faeces household;
- f) infiltrating water reservoir or injection and / or cooling;
- g) Conducting military manoeuvres, placement of gravel, peat mining, quarrying, construction of the drainage works or any other works which diminishes coating, protecting the aquifer;
- h) The execution of construction for industrial and agricultural activities, such as barns, silos, storage of fertilizers and plant protection substances, storage of fuels, lubricants, solid fuels;
- i) The location of campgrounds and beaches, if not have a sewage system to transport wastewater and rainwater, in complete safety, outside the area of health protection regime restriction;
- j) Washing machines and making change oil;
- k) Pipeline transport of pollutants of any kind, except sewer pipes targets located within the area of sanitary restriction regime, which should set strict measures to ensure tightness.

Exceptions are allowed for restricted situations, when the water captation is already realized, with the permissions of the public health inspectorate:

- a) Providing complete sewerage systems of residential buildings and economic, social and cultural objectives;

- b) Capture water runoff through appropriate channels and direct them outside the sanitary protection regime restriction;
- c) The abolition of absorbing wells, cesspools and latrines.

The land included in the severe regime of sanitary protection, will be used only for the operation and maintenance of supply, construction and installation of water supply. All activities in these lands are forbidden.

In the protection zones with severe regime established for surfaces waters are also forbidden:

- a) The discharge of waste water, even if they are treated;
- b) Navigation and mooring of boats, stopping them and dock floats and timber floating in circumstances other than those set out in the establishment of sanitary protection area with strict regime;
- c) Fishing and bathing;
- d) Milling ice and water harvesting and watering animals.

In these areas are is allowed any interference with active soil layer covering deposits of the aquifer; the land for the sanitary protection area with strict regime will be protected against erosion and flooding, all the old galleries and open excavations, canals, wells, drilling, blasting hoppers shall be provided to prevent water ingress with potential pollutant.

Agricultural land included in the sanitary protection areas with strict regime may be operated only for perennial crops, straw and plant trees, under conditions that do not cause degradation of water works.

Agricultural land area with strict regime of protection are prohibited:

- a) animal or chemical fertilizers and plant protection substances;
- b) irrigation waters have features for drinking;
- c) crops that require frequent care works or using animal traction;
- d) grazing.

#### CAP. V

- (*technical details*) Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);

Research tips: Meters, square meters, or any indirect ways of establishing protecting territories.

The dimensions of the protection areas are stipulated in Annex 2 of the Law no 107/1996:

For water courses less than 10 m long, the width of the protection zone is 5 m. Between 10 and 50 m, 15 and more then 51, 20. For regulated rivers, the width for courses less than 10 m long, 2m, between 10 and 50 m 3, more then 51, 5 m.

For dammed rivers, the protection area is the entire length of the dam-shore if it is less than 50 m.

Around natural lakes, regardless of the surface area, 5 m plus the protection zone established according to art 5.

Around reservoirs, between normal retention level and crown quota

Around dams, 4 m inside the precinct.

Around hydrotechnic derivation channel, 3m

Around barrages made of soil, rockfills, and other materials and connected works, 20 m

Around installations used to determine the water quality, hydrometric constructions and installations, 2m

Around hydrogeological drillings, 1.5 m.

Around drilling drainages, flow measurement installations 1 m

The protection area is measured, according to The Law no 107/1996, as it follows:

- The water courses starting from the limits of the riverbed
- The natural lakes, from the medium level
- Other hydrotechnical works, from the limit of the construction zone

- *(procedural rules)* Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;

Research tips: This could be the more detailed point in the research and bridging it towards the practical implementation of the rules on protecting territories. Please describe shortly the authorities involved, participation of the stakeholders, different ways to start the procedures, collecting data and main content elements of the decisions. Please include into the discussion of procedural rules monitoring and sanctions and other legal consequences of non-compliance, too;

The Law 107/1996 stipulates the regulation for designating the protection zones:

The protection zone for the water supply installations is determined by the health competent authority.

Demarcation of the protection zones is done by The National Administration "Romanian Waters" together with the Land Cadastre Authority and the holders of the riparian lands.

The implementation of the restriction regime in the protecting areas is ensured by The National Administration "Romanian Waters", with consultation of the holders of the respective lands and if necessary with the civil navigation units, according to the methodology established by the water competent authority at central level.

The measures and design for the protection of the riverbeds, watercourses, beaches, Black Sea coast, of the works established on waters or connected to waters, are done through technical norms and specifications elaborated by water competent authority at central level.

The protection zones regulated for reducing risks associated with the use of plant protection according to The Governmental Decision no. 683/2013 are respecting the same limits of the protection zones established through The Law 107/1996, and respects the interdiction stipulated in art 16 para 2, mentioned above, related to the prohibition of the use of fertilizers, pesticides or other dangerous substances.

According to The Governmental Decision no 683/2013 the multifunctional protection zone are recognized as important because:

- a) Significantly increase biodiversity;
- b) Increase the production yield due to better pollination;

- c) Become a habitat for small mammals and birds;
- d) Represent measures to ensure the protection of soil and water.

Protection areas established under the provisions of national law effect is a good solution for reducing the risk of contamination surface waters with plant protection products, but also for biodiversity conservation.

According to the GD 683/2013, the control of the establishment and control of the protection zone for reducing risks associated with the use of plant protection for is done by The National Environmental Guard.

According to GD 930/2005 regarding regarding nature and size of sanitary and hydro geological protection zones, the competent authorities to ensure the respect of the provisions of the law, are:

1. The Romanian Water Administration
2. The National Environmental Guard
3. The Agency for Mineral Resources inspectors
4. Other persons delegated by the chief of the central authority for waters or of the local authorities

For the violations of the provisions of this Governmental Decision fines may be applied, with a quantum between 6000ron (1333 eur) and 12000 ron (2600 eur).

- *(summary of findings)* Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.

Research tips: The interplay of the legal institutions in the relevant branches of laws, major elements missing from the system according to your professional opinion, effectiveness of the system – these could be the major points under this question. For non-EU countries the level of harmonisation with the EU Nitrate Directive and with other EU laws you consider relevant for the establishment and protection of buffer strips and zones along the rivers seems to be an important part of the report. Usually the beginning or the end (the preamble or the miscellaneous rules etc.) of the national laws mention the relevant EU laws that were taken into consideration by the legislator. Even without a specific mentioning, some content elements of your laws might directly or indirectly refer to the relevant EU law – for these content elements see Chapter 4 above. We underline again: this part of the question is applicable only to the non-EU country respondents.

The general opinion is that the implementation of the law and the law itself could improve regarding the monitoring of the protected zones. The sanctions to be applied should also be more drastic so that would discourage any tentative to violate the provisions of the law. The fines applies tent to be very low and sometimes the profit form realizing certain forbidden activities into the protected areas is suitable for paying a fine, if the competent authorities discover the violation of the law.



**Questions suggested for the international comparative research on the issues of Milestone No. 3 based on the survey of the system of the related Hungarian laws and regulations**

- *(local aspects of waste management)* Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

Research tips: This question refers to the central level waste management rules of mostly substantial legal nature, referring to the general requirements of the management of the household solid waste. Within this issue, please pay attention to the flexibility of the rules, i.e. specify how far local specialities are taken into consideration in your national laws and regulations concerning household solid waste management;

Definition of waste – EGO 195/2005 regarding the protection of the environment - orice substanță, preparat sau orice obiect din categoriile stabilite de legislația specifică privind regimul deșeurilor, pe care deținătorul îl aruncă, are intenția sau are obligația de a-l arunca;

A similar definition is given also by the Waste Law no 2011/2011.

Art 29 of EGO 195/2005 – The Waste management aims to protect the human health and the environment.

The individuals and the legal persons are not allowed to pollute the environment if they are dealing with waste resulted from the use of dangerous substances (art 28), from activities involving GMO (art 44), radioactive materials (art 48), activities likely to pollute the waters (art 58): eg. from ships, shipyards, harbours, etc including the general obligation not to pollute the waters with substances coming from household waste, petroleum, narcotics, explosives, any other dangerous substances, not to deposit any kind of waste near the waters - banks, riverbeds, wetlands, coastal), holders of forests (art 69) must manage accordingly the waste coming from normal exploitation of the forests.

The local administration as well as the individuals and legal persons must respect the provisions of the land use plans and urban plans regarding the landfills – household, streets, industrial waste (art 70) as well as the obligation not to pollute or degrade the environment through uncontrolled dumping of waste.

The authority responsible with the control of the waste management is the environmental authority (Minister of Environment and Climate Change as well as the subordinated authorities – environmental protection agencies at country level and the Environmental National Guard) – art 30.

The other public authorities have responsibilities regarding the environmental protection too:

- The authority responsible with economy and commerce is elaborating the policy regarding the recycling and recovery of industrial waste (art 86).
- The local authorities are supervising the subordinated economic operators to prevent accidental emissions of pollutants, uncontrolled waste deposits and development of the reusable waste collecting systems (art 90)

All individuals and legal persons have the obligation to deposit any kind of waste only in special authorized places (art 94)

*Sanctions can be applied as it follows:*

**Contraventions: Administrative fine** from 3000 RON (about 600 eur) to 60.000 Ron (about 13.000 eur) (limits are higher for legal persons and smaller for individuals)

- uncontrolled waste depositing, including the failure of the local authorities to execute the obligation presented in art 90 - administrative fine
- failure of the local authorities to respect the provisions of the land use plans regarding the landfills or any kind of waste deposits
- violation of the obligation prescribed in art 44, 48, 58, 69 described previously

**Offences: imprisonment from 6 month to 3 years or criminal fine whether they were likely to endanger life or human, animal or plant:** Releasing into the air or soil waste or dangerous substances, failure to supervise and to ensure landfills, introducing illegally waste in Romania, releasing used waters or dangerous waste from ships and floating platforms into the waters, failure to take all necessary measures to dispose of the dangerous waste substances or chemicals.

According to Law no 211/2011 regarding the wastes regime, the waste management is functioning according to the principle of hierarchy of waste:

- Prevention,
- preparation for reuse
- recycling
- other options as energy recovery
- waste disposal

Depending on the type of waste this principle can be modified.

Another important principle set by the Law no 211/2011 is the protection of the environment including human health.

The households waste are defined in Governmental Decision no 856/2002.

According to Law no 211/2011, the producers of waste as well as holders of waste must collect separately at least paper, metal, glass and plastic.

The operators ensuring collecting and transportation of waste must respect the separation of the different types of waste.

The reuse and recycling of waste are based on the separate collection of waste and are regulated by normative acts approved by the Government.

The operators ensuring the disposal of waste must use the best available techniques that are not implying excessive costs. They must respect the permit released for their activity and place the waste (location of incinerator, landfills). They are forbidden to dump waste or to dispose it outside the permitted locations.

The costs are supported by the polluter according to “the polluter pays principle”.

When the waste is dumped and the polluter is not known, then the local public administration will support the costs.

Any producer or holder of waste has the obligation to treat the waste or transfer this obligation to an economic operator specialized or to an operator public or private specialized in collecting the waste. They have to take the wastes only to authorized installation for the treatment of waste. All legal persons must have one person trained in waste management that is responsible with complying with the legislation regarding waste.

The authorities responsible with waste management have the obligation to ensure a network of disposal units and of waste recovery plants, for the mixed municipal waste collected from households and other producers. The best available techniques principle that are not excessively costly, applies. The network is connected to the EU Network. The waste must be disposed or recovered in the nearest facility, but it does not mean that

Romania must provide such installation for all types of waste.

Regarding the biowaste, the population is encouraged to compost it individually in households. The biowaste must be collected separately in order to be composted and fermented.

All units that are treating waste must obtain an integrated environmental authorisation issued by the competent environmental agencies.

The operators that are not subject to the obligation of obtaining the integrated environmental authorisation are mentioned in a registry managed by The National Environmental Protection Agency.

### **The Waste Management Plans**

They are issued at national, regional and local level, including a plan for Bucharest. At national level the plan is elaborated by the central public authority for environmental protection and it is approved through Decision of the Government.

The regional plans are elaborated by the environmental protection agency together with the county councils from the region and are approved through the order of the central public environmental authority. The regional plans must be in line with the national plan.

The county plans including The Bucharest plan are elaborated by the county councils together with the environmental protection agency and are approved by the decision of the county council.

Order no 951/2007 approves the elaboration methodology of the regional and local management plans.

Elaboration and approval of the waste management plans are done with the respect of the SEA directive.

The plans are being monitored and revised yearly.

The competent authority for control and decision is the Minister of Environment and Climate Change. Other authorities are also competent: health Minister, Agriculture Minister, Labour, Economy, etc.

The control of the operators that are treating, collecting, transporting, etc are controlled by The National Environmental Guard regarding the origin of the waste, the nature, the quantity and the destination of the waste.

For violation of the norms presented fines can be applied to the individuals as well as to the legal persons, by the National Environmental Guard. The fine can vary between 1000 ron (250 eur) to 40000 ron (8800 eur). The fines are higher for the legal persons and smaller for the individuals.

Law no 211/2011 is also establishing offences related to import or transportation of waste.

The Deposits of the waste including household waste is regulated through Governmental decision no 349/2005. Order of Minister of Environment and Waters no 757/2007 regulated technical norms for establishing waste deposits.

There are also regulations for packaging waste, collecting electronic equipments, batteries, used oils, etc.

In this system it is not applied collecting separately the paper, metal plastic and glass, and there are several landfills excepted from the obligation provided by the Governmental Decision no 349/2005.

### **Questions suggested for the international comparative research on the issues of Milestone No. 5 based on the survey of the system of the related Hungarian laws and regulations**

- *(local waste water treatment solutions)* Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

The water Law no 107/1996 provides a definition and general principles for the waste water:

“Water from domestic social or economic activities, containing pollutants or residues that alter the initial physical, chemical and bacteriological characteristics and rain waters flowing on polluted land” (Annex 1 of the Law).

The main principles regarding the treatment of the waste waters are:

The right to use the surface or groundwater includes the right to discharge the wastewaters into the water resources (art.9 para 1).

The discharge of the waste water into groundwater, natural or accumulation lakes, puddles, ponds, except the decanting ponds is strictly forbidden (art 16 letter d);

All users of waters must strictly respect the discipline and technical norms regarding the activities that are using water and discharging waste water as well as the stations and installations processing water quality (art 17 letter c).

Violating the provisions of the water permits regarding the discharge of the waste water into the water resources is a contravention (art 87 para 4). The sanction is a fine between 10000 ron (aprx 2200 eur) and 40000 ron (aprox 8800 eur), smaller for individual and higher for legal persons.

A proper water treatment is defined into the Governmental Decision 188/2002 regarding approval of the norms for the discharge conditions into the aquatic environment of the waste waters: a treatment of the waste waters through any process or systems that allows the receptors to comply with the relevant quality objectives established through the technical norms and the water permits in force.

The waste waters treated must be reused with the approval of the competent authority according to the origin and the intended use, if the negative impact over the environment is reduced to the minimum (art 6 of GD 188/2002).

According to art 3 Annex 1 from GD 188/2002, for agglomerations with more than 10000 inhabitants, collecting the waste waters must be done through sewage system and advanced water treatment facilities

The agglomerations using sewage systems and water treatment facilities must be established and shown into the county land use plans. In these plans will be also included the area where individual water treatment facilities are needed (art 4 para 1 GD 188/2002).

If installation of the sewage system is not justified because it is not producing any benefit to the environment or because excessive costs would be needed, individual systems will be used with the condition to ensure the same level of environmental protection. The urban plan will take this into consideration (art 4 para 2 GD 188/2002). The individual systems can only be sealed septic tanks, not septic tanks so that the waste waters are collected and taken to a treatment facility. In general there are accepted those individual treatment processes to ensure a quality effluent which have no adverse effects on the environment, such as stabilization lagoons, mechanical-biological treatment plant piece (which may include process disinfection).

The agglomerations with more than 10000 inhabitants must use sewage systems until 31 December 2013. Until 31 December 2018 agglomerations with 2000 – 10000 inhabitants must also use sewage systems. There deadlines can be modified by the Minister of Environment.

All holders of houses collective or individuals or where socio - economic activities are organized, whose waste waters can't be treated separately, have the obligation to connect to the sewage systems of the localities, respecting the procedure and conditions stipulated in the technical norms given by GD 188/2002, Annex 1 or 2. (art 6 para 1 GD 188/2002)

If these users are already using individual systems for collecting the waste waters (sealed septic tanks, absorbing wells) they must take all necessary measures for decommissioning along with the connection to the sewage system (art 6 para 2).

The treated waters discharged into the natural receptors must not contain: -- pollutants with high toxicity provided in Tabel 2 of GD 188/2002 and also in specialized studies.

- Materials in suspension over the maximum limits
- Substances that can produce turbidity, foam or change of the organoleptic properties of the receptors compared to their natural status
- The waste waters coming from infectious disease hospitals, nursing TBC institutions, biological preparations - serums and vaccines - curative or preventive health facilities or from breeding units and slaughterhouses cannot be discharged into the receptors without specific disinfection according to the technical norms. The disinfection measures are periodically certified through analysis released by the territorial public health inspectorates.

According to art 9 from Annex 3 of GD 188/2002, to protect the water resources from pollution:

- It is recommended to use the waste water and nutrients for fertilising and watering the agricultural and forest areas with the agreement of the holders of the land and the permission of the competent authorities and according to the nature of the cultures, the permission of the territorial public health inspectorate.
  - Ensuring the sealing of all deposits is mandatory; possible seepage and rainfall waters that drain from these deposits must be collected and treated so that they comply with the provisions of this regulation.
- *(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

The Governmental Decision no 188/2002 defines the water permits:

- **water management approval** – the technical – juridical act issued for the financing and execution of the new investments, developing, modernization and refurbishment of the existing installations or technological processing and execution of public interest works build on water or connected to water
- **water management permit** - technical – juridical act issued for the commissioning or exploitation of the new objectives or of the existing objectives, build on water or connected to water



These permits are issued by The National Administration “Romanian Waters” (NARW) according to The Order of the Minister of Environment no 799/2012. The NARW is divided into 11 Basin Administration, each sub having several county subdivisions named Basin Water Directions or Water Management Systems.

The water inspection is realized by The National Administration “Romanian Waters” (NARW).

The water permits mentioned can be temporarily suspended, modified or cancelled according to the situation described in Order of the Minister of Environment and Water Management 15/2006.

For exceeding the maximum permissible concentrations of pollutants of wastewater discharged The NARW can apply penalties according to the provisions of the Emergency Governmental Ordinance no 107/2002.

According to art 8 GD 188/2002, monitoring of the treated waste waters is the obligation of the providers/operators of the public sewage systems and/or urban or industrial water treatment facilities and of any direct discharges in natural receptors. They are reporting the results of the monitoring (concentration and load of pollutants, the amount of treated waste water discharged and information related to the performance of the treatment facility) to the Basin Water Directions or Water Management Systems.

The NARW is the responsible authority for The Integrated System of Water Monitoring in Romania, where waste water constitutes a subdivision.

Directions Basin Water / Water Management Systems county and loading concentration of pollutants discharged and the amount of wastewater treatment technology performance information

The treatment facilities are projected or modified so that the control points established allow representative sampling from the influent and effluent station or final effluent treated before discharge to the natural receptor

Monitoring of urban or industrial waste waters is done according to the provisions of GD 188/2002 described in art 10 Annex 1 of GD 188/2002.

The natural receptors where waste waters are being discharged is monitored through The Integrated System of Water Monitoring in Romania by NARW (GD 188/2002).

The discharge of the waste water into the sewage system or in the treatment facilities is done according to the permission given in writing by the operator of the public services that is exploiting and administrating the sewage network, as well as according to the contract regarding the use of the public services concerning water supply and sewage system. For the users with high risk of pollution the water management permit is also needed. For the infectious disease hospitals, nursing TBC institutions, biological preparations - serums and vaccines -curative or preventive health facilities or from breeding units and slaughterhouses, a permit from the territorial public health inspectorate is also needed.

Determination of the conditions of discharging waste water into the sewage systems of the localities without treatment facilities, is done by the operators of the public services that is exploiting and administrating the sewage network according to the provisions of GD 188/2002 (provides maximum



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limits for substances in the water) and depending on the final point of discharging (natural receptor or treatment facility).



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HUNGARY'S RENEWAL

## Bulgaria

### General legal background

**Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;**

According to Bulgarian legislation the main sources of legal regulation that establish protecting territories (buffer zones) for water flows are the framework environmental act - Environmental Protection Act<sup>96</sup> and the respective special pieces of primary and secondary legislation in the field of environmental/nature protection and water management. In addition legal norms from branches of law like health protection, town and territorial planning, forestry law have their application in this respect. We will review shortly the main provisions related to the subject of the analysis.

The protection and use of water and water bodies is regulated as a general principle and national policy in the Environmental Protection Act. The protection of water and water bodies shall ensure the balance between abstraction and natural recharge of waters, and preservation and improvement of both surface and ground waters<sup>97</sup> while at the same time ensuring favorable status and development of ecosystems and wetlands<sup>98</sup>. It is important to underline the special legal regime of ownership over rivers in Bulgaria – according to the Water Act<sup>99</sup> „the river waters and the riparian lands<sup>100</sup>“are public state property, including the flood plain of the Danube river<sup>101</sup>. According to Art. 116 of the Water Act “all waters and water sites shall be protected against depletion, pollution and damage, with a view to maintaining the appropriate water quantity and quality and a healthy environment, conserving the ecosystems, preserving the landscape, and preventing economic damage, including achievement of good chemical and ecological status of the surface waters; achievement of good quantitative and chemical status of ground waters; reduction of the need to treat water prior to the use thereof; and provision of development of aquatic ecosystems and the terrestrial ecosystems associated therewith.”

The protected areas’ regime pursuant to Protected Areas Act is applied to all types of territories regardless of the ownership of the forests, land tracts or aquatic areas<sup>102</sup>. However, the definition of

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<sup>96</sup> Environmental Protection Act (EPA) (promulgated State Gazette No.91/2002, as amended, last amendment SG No.66/2013).

<sup>97</sup> EPA, Art. 37

<sup>98</sup> EPA, Art.35 (2), item1

<sup>99</sup> Water Act (WA) (promulgated SG No.67/1999, as amended, last amendment SG No.103/2013)

<sup>100</sup> WA, Art. 11(1), item1

<sup>101</sup> WA, Art.12(2)

<sup>102</sup> Protected Areas Act (PPA), (promulgated State Gazette No.133/1998, as amended, last amendment SG No.66/2013), Art. 7 (1)

prohibitions and restrictions on activities within the inner circle of the sanitary guarded zones part of protected territories is pursuant to the provisions of the Water Act<sup>103</sup>.

The principle of protection of water and water bodies and their adjoining territories is based on their functionality and specific use of the water body in question. This principle of interplay between the functional use and respective zoning of protection is expressed clearly in Art. 119a of WA which stipulates that water protection zones are: 1) the water bodies and the sanitary guarded areas for waters intended for household and drinking water supply and of mineral waters; 2) the zones with bathing waters; 3) zones wherein the waters are nutrient-sensitive, including: (a) vulnerable zones; (b) sensitive areas; 4) the areas designated for the protection of economically significant species of fish and other aquatic organisms; 5) the protected areas and zones designated for the protection of habitats and biological species where the maintenance or improvement of the status of waters is an important factor in the protection thereof. Another example related to protecting water in the zones of protected areas is that in national and natural parks polluting waters and grounds with household, industrial and other waste is prohibited.<sup>104</sup>

In Bulgarian legislation buffer zones or strips along rivers and water bodies could be the territories around the protected areas (according to Protected Areas Act(PAA)) or those with special status as e.g. sanitary guarded areas of water sources and facilities for drinking and household water supply, of mineral waters according to the Water Act. The Biodiversity Act<sup>105</sup> brought all buffer zones designated prior to that according to Biodiversity Act and Nature Protection Act under the regime of protected sites<sup>106</sup>.

Other laws also bear relevance to the protection of waters like Forest Act<sup>107</sup> in Art. 5(2) defining as “protecting forest territories” also those ones for protection of water, or Protection of Agricultural Lands Act<sup>108</sup> which stipulates that the owners and the users of the agricultural lands shall be responsible for damaging the quality of surface and underground waters<sup>109</sup>.

## 1. Scope of regulation

**Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;**

According to Protected Areas Act protected areas are “dedicated to the conservation of biological diversity in ecosystems and of the natural processes occurring therein, as well as of typical or remarkable non-living natural features and landscapes”.<sup>110</sup> The protected areas fall into the following categories: strict nature reserve, national park; natural monument; managed nature reserve; natural park and protected site<sup>111</sup> each of them with specific assigned use and regime of protection. From all

<sup>103</sup>PPA, Art. 7 (2)

<sup>104</sup> PPA, Art.21, item1

<sup>105</sup>Promulgated SG No.77/2002, as amended, last amendment SG No.66/2013

<sup>106</sup>Para. 78 of the Transitional and Final Provisions of the Biodiversity Act, 2007

<sup>107</sup> Promulgated SGNo. 19/2011, as amended, last amendment SG No.109/2013

<sup>108</sup>Promulgated SG No.35/1996, as amended, last amendment SG No.66/2013

<sup>109</sup>Art.5(2), item1

<sup>110</sup>PAA, Art.4 (1)

<sup>111</sup> PAA, Art. 5

types the highest level of protection is assigned to the strict nature reserves. The parks of national significance, listed in Annex 1, and the nature reserves, listed in Annex 2 to PAA, which serve to meet public needs of nation-wide importance, constitute exclusive state property.<sup>112</sup>

Protected areas are designated and modified by the Minister of Environment and Water<sup>113</sup>. The Minister also elaborates strategies, plans, programmes, bills and secondary legislative acts for development of the protected areas system and for building the protected areas system. He commissions preparation of management plans of national and natural parks and sends them to the Council of Ministers for endorsement; as well he commissions the preparation of and endorses the management plans for any protected areas<sup>114</sup>. The Minister of Environment and Water issues a designation order for the protected area which states its legal grounds; primary objectives; category of the area, name, area distribution of forests, land tracts and aquatic areas and regime of the principal activities within the protected area<sup>115</sup>.

The Ministry of Environment and Water and the regional authorities conduct and implement the management and control in protected areas<sup>116</sup>. At regional level the directors of the regional authorities of the Ministry of Environment and Water implement or organize the management of the protected areas; organize the elaboration of management plans; apply the management plans in the protected areas constituting exclusive state property and implement the physical security therein; as well as organize monitoring of the quality of environmental media (including water) and penalize offenders in the cases as provided for<sup>117</sup>. The owners and users of any forests, land tracts and aquatic areas within a protected area are obliged to observe the regimes established according to the procedure established by PAA, by the designation order for the protected area and by the management plan of the said area<sup>118</sup>. Any sites within protected areas shall be constructed, maintained and used in accordance with the regime of activities according to the procedure established by PAA, by the designation order and by the management plan of the protected areas, the spatial-development plans and schematic designs, without prejudice to the requirements under other laws<sup>119</sup>. When water protection or protection against water-related damage and loss requires so, or in any case of satisfaction of state or municipal needs that cannot otherwise be satisfied, it is permissible to appropriate any private property or any existing water development facilities after an advance and equivalent indemnification according to procedure established by the Public Property Act<sup>120</sup>.

The Nitrates Decree No.2<sup>121</sup> on the protection of waters from pollution with nitrates from agricultural sources aims at reduction of pollution of waters from nitrates and prevention of further pollution. It is a very important piece of legislation given the intensive agriculture taking place in Bulgarian plains,

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<sup>112</sup>PAA, Art.8(1)

<sup>113</sup>PAA, Art.35

<sup>114</sup>PAA, Art.47

<sup>115</sup>PAA, Art.39

<sup>116</sup>PAA, Art.46

<sup>117</sup>PAA, Art.50

<sup>118</sup>PAA, Art.11

<sup>119</sup>PAA, Art.13(1)

<sup>120</sup>WA, Art. 38 (10-3)

<sup>121</sup>Decree No.2 of the Minister of Environment and Waters, Minister of Health, Minister of Agriculture and Food on the protection of waters from pollution with nitrates from agricultural sources (promulgated SG No. 27/2008, amended SG No.97/2011.

including the Danube plain. It establishes criteria for defining waters (surface and ground waters) as “polluted” or “endangered from pollution” and the vulnerable zones. It transposes into Bulgarian legislation the provisions of Nitrate Directive 91/676/EEC. It defines *eutrophication*, *polluted waters* (with more than 50 mg nitrates/litre) and sets requirements to good agricultural practices to be applied by the farmers voluntarily. Beside the three ministries that have issued the Decree the river basin directors are also competent authorities for implementation of the decree. The vulnerable zones according to the Decree No.2<sup>122</sup> are designated as a result of the monitoring which planned by the river basin directorates and carried out by them and by the Ministry of Health according to the requirements of Decree No.9/2001 for the quality of water intended for household and drinking supply. The self-monitoring of waters is carried out in the vulnerable zones by the persons with activities that pollute or might pollute waters<sup>123</sup>. The designated vulnerable zones are reassessed every 4 years.

It is important to note that the Minister of Agriculture and Food together with the Minister of Environment and Waters adopt with order programmes of measures for limiting and prevention of pollution with nitrates from agricultural sources. These programmes are obligatory to implement by the farmers in the vulnerable zones. In addition, the Minister of Agriculture and Food adopts programmes for education and information of farmers about the good agricultural practices.

The most stringent rules concerning the quality of water are provided for in the drinking water protection legislation and namely in the Decree No.9/2001 of the Minister of Health, Minister of Regional Development and Public Works and of the Minister of Environment and Water, for the quality of water intended for household and drinking supply. The provisions of the Decree aim at protection of human health from the harmful effects of drinking water pollution, setting requirements for its quality and safety. The water supply companies need to take all necessary measures to ensure the supply to the population of safe and clean drinking water<sup>124</sup>. The Decree sets standards and indicators for achieving this quality which serve as basis for monitoring of the quality of the water.

Further the protection of water and ensuring its quality is ruled by the Decree No.6/2000<sup>125</sup> issued by the Minister of Environment and Water, the Minister of Regional Development and Public Works, the Minister of Health and the Minister of Economy on emission standards for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites. The Decree aims at prevention and/or discontinuance and reduction of water pollution of water bodies by hazardous and harmful substances within the scope of the Decree<sup>126</sup>. It applies to surface wastewaters discharged by industrial facilities and urban wastewater treatment plants. The wastewater discharge permits need to apply as a minimum standard the emission standards stipulated by the Decree. For transboundary waters subject to international conventions and agreements the requirements of those conventions and agreements and those of the decree shall be adhered to and again the more stringent rules apply. The emission standards for industrial facilities are those set by the Decree

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<sup>122</sup>Art. 20 (1)-(2)

<sup>123</sup>Art.20 (3)

<sup>124</sup>Art.3(1) of the Decree No.9/2001 of the Minister of Health, Minister of Regional Development and Public Works and of the Minister of Environment and Water (SG No. 30/2001, amended SG No.87/2007)

<sup>125</sup>Promulgated SG No.97/2000, as amended

<sup>126</sup>Art.2 (2)



unless they are subject to a more stringent regime<sup>127</sup>. For the urban wastewater treatment plants the sewerage systems shall be operating in accordance with the requirements of the Decree set in Annex No.3, “A”. for secondary wastewater treatment or equivalent of such treatment<sup>128</sup>. For discharge of wastewaters from agglomerations located above 1500 m. above the sea level the treatment could be simpler given that there won’t be adverse impacts on the environment<sup>129</sup>. Special emission standards for some substances and indicators for quality of wastewater are set for some industrial sectors according to Annex No.5. These special emission standards are determined by the competent authority in the wastewater discharge permit<sup>130</sup>.

The design, construction and maintenance of buildings affecting protected territories are regulated by the provisions of Spatial Development Act in order to protection of these territories and zones<sup>131</sup>. The Act defines protected territories as “territories with special territorial-development protection” thus putting high standards to construction and development in these territories in accordance with specific requirements concerning protected territories. The same act provides for protection of waters and establishment in the territory development plans of sanitary guarded zones around water sources.

The operation of landfills poses another risk of polluting of surface and ground waters and this problem is addressed in the Landfill Decree No.8/2004 of the Minister of Environment and Water<sup>132</sup>. Art. 18(1), item 1 stipulates that landfills should be located and designed in a manner that does not lead to pollution of surface and ground waters.

Waters, water sites and water development systems and facilities are managed on the basis of river basin management plans. The plans are open to public participation and need to be consistent with other plans within the scope of the relevant territorial level, including functional-region development plans, spatial-development, forest-management, park-management and other such plans<sup>133</sup>. The protection of the quality of the waters is addressed by the management plans which determine environmental objectives; waters intended for household and drinking water supply; water protection zones and programmes of measures<sup>134</sup>. Water quantity and quality is assessed and forecast by water body and under the criteria established by Water Act(WA) - at the basin level - by the Basin Directorates and at the national level - by the Executive Environment Agency and the National Institute of Meteorology and Hydrology with the Bulgarian Academy of Sciences<sup>135</sup>.

The Republic of Bulgaria participates in the development and coordination, jointly with other States, of policies, programmes and strategies for the protection of transboundary waters on the basis of the principles referred to in WA.

The monitoring of waters and water protection zones is implemented under programmes approved by the Minister of Environment and Water and developed by the Basin Directorates in accordance with the specificity of the water bodies and the characteristics thereof and it is part of the national

<sup>127</sup> Art.5 (1)

<sup>128</sup> Art.10 (2), Art.11(1)

<sup>129</sup> Art.11 (2)

<sup>130</sup> Art. 16 (1) and (2)

<sup>131</sup> Art. 169 (3), item 1 of the Spatial Development Act (promulgated SG No.1/2001, as amended)

<sup>132</sup> Promulgated SG No.83/2004, as amended.

<sup>133</sup> WA, Art.149 (1)-(2)

<sup>134</sup> WA, Art.149a

<sup>135</sup> WA, Art.173(1) 1-2

environmental monitoring system. Decree No.1/2011<sup>136</sup> of the Minister of Environment and Waters for monitoring of waters sets the procedure and conditions for planning of monitoring and establishment of networks for monitoring of waters in every district for basin management in the country.

The monitoring of the discharge of wastewaters to determine whether the emission standards are met is set by Decree No.6, chapter V<sup>137</sup>. The indicators and substances contained in the wastewaters subject to regulation of the Decree are set by accredited laboratories in accordance with the Bulgarian standards or if such do not exist according to methods defined by the Minister of Environment and Water. The procedure of monitoring and the frequency of sampling are provided for in the wastewater discharge permit.<sup>138</sup>

For water protection zones the monitoring programmes have to be supplemented by observations related to the specificity of the zone, and these zones characterized as water bodies at risk have to be included in the programmes for operational monitoring of surface waters and ground waters. The monitoring of these zones shall continue until the environmental objectives set out in the river basin management plan are achieved for the particular water protection zone<sup>139</sup>. The Ministry of Environment and Water and the Ministry of Transport, Information Technology and Communications shall establish and maintain the part of the Water Monitoring Network relating to the River Danube<sup>140</sup>.

According to the PAA the park security guards are vested with functions to guard the forests, land tracts and aquatic areas against illegal use and activities and to monitor the protection of waters and grounds against pollution with household, industrial and other waste<sup>141</sup>.

## 2. Technical details

**Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);**

As we have noted above buffer zones according to the Biodiversity Act have been re-categorized as protected sites. The PPA does not set any specific technical requirements of these buffer zones in general. On the other hand, Decree No.3 on the sanitary guarded zones<sup>142</sup> sets very detailed technical requirements for the zones around the water sources and installations for drinking-household water supply. The zones are divided into three belts/sub-zones under different level of security around the zone. The innermost belt is I zone, the medium belt – II zone and outer belt -III zone. Around the zone I there is a fence and sign posts. The fence is at least 1.40 m high and the signs

<sup>136</sup> Promulgated SG No.34/2011, amended SG No.22/2013

<sup>137</sup> Decree No.6 on emission standards for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites.

<sup>138</sup> Art. 21.

<sup>139</sup> WA, Art.169c

<sup>140</sup> WA, Art.172

<sup>141</sup> PPA, Art. 70, item1

<sup>142</sup> Decree No.3/2000 for the conditions and procedure of study, design, approval and exploitation of sanitary-guarded zones around the water sources and installations for drinking-household water supply and around the sources of mineral waters for healing, prophylactic, drinking and hygienic needs (promulgated SG No.88/2000)

are placed with warning "Attention! Water Protection Zone". The marking of the zones II and III is with signs 1.5 m high from the ground.

Of particular relevance for the rivers are the sanitary guarded zones around water extraction installations from rivers. In this case the belt I comprises territory along the river and the flood plain at least 500 m above the water extraction and 50 meters under it<sup>143</sup>. For mountain rivers the frontiers of the belt I is 30 m from both sides of the river. The frontiers of the II zone are determined by the level of pollution and self-cleaning ability of the river, types of pollutants and specific local conditions<sup>144</sup>. The frontiers of III zone are defined not more than 25 000 m upstream, as well as from both sides of the river above the place of the water abstraction installation.

### 3. Procedural rules

**Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;**

The procedure applied to planning and designation of protected territories is provided for in Protected Territories Act (SG 133/1998, as amended, last amendment SG 66/2013). The designation and changes in the protected territories are undertaken by the Minister of Environment and Water. Proposals for designation of national and natural parks may be initiated by ministries and central-government departments, by municipalities and regional governors, research and academic institutes and public organizations, and in respect of all other categories of protected areas, also by all natural and juristic persons concerned. All proposals need to be submitted to the Ministry of Environment and Water which, within one month, shall pronounce on the relevance thereof in conformity with the criteria specified in the PAA<sup>145</sup>. The Ministry of Environment and Water organizes a public discussion of any proposals for designation of national and natural parks, of strict and managed nature reserves. Representatives of the municipalities, the regional governors, the local environmental and public organizations concerned and other representatives of ministries, central-government departments, research and academic institutes are invited to attend the public discussion<sup>146</sup>. Within one year after submission of any proposal for designation of a national or natural park and within six months after submission of any proposal for designation of a protected area of any other category, the Minister of Environment and Water or a persons authorized thereby appoints a commission which takes decision to grant or to reject the proposal<sup>147</sup>. In case of favorable decision the Minister of Environment and Water issues a designation order for the protected area<sup>148</sup>. Upon designation of any national park or strict nature reserve on a proposal by the Minister of Environment and Water, the Council of Ministers submits before the National Assembly a draft of an Act to amend and supplement the PAA<sup>149</sup>.

The Ministry of Environment and Water organizes public hearing of the proposals for designation of national and natural parks, strict nature reserve and managed nature reserve. To the hearing are

<sup>143</sup>Art. 15 (1)

<sup>144</sup>Art. 16 (1)

<sup>145</sup>PAA, Art. 36

<sup>146</sup>PAA, Art.37

<sup>147</sup>PAA, Art.38

<sup>148</sup>PAA, Art.39

<sup>149</sup>PAA, Art.40

invited representatives of the municipalities, regional governors, local environmental and public interest organizations and other interested representatives of ministries, organizations, scientific and academic institutes<sup>150</sup>.

The documentation for the potential protected territory contains the legal grounds, maps, and a draft of the order for designation. In case the decision is in favour of establishing the protected territory, the order contains the ground, main aims, category, name, plan of the areas with forests, lands and water bodies, the regime of main activities in the protected territory<sup>151</sup>. The state register for protected territories is kept at the Ministry of Environment and Water.

In case of potential danger of destruction or harm to the territory intended to be designed as protected, the Minister of Environment and Water could prohibit and limit the use and construction in it for 2 years. Activity in violation of the regime set in the law, in the order for designation or in the management plan is sanctioned with fine for natural persons between 500 and 5000 BGN (app. 250 to 2500 EUR), with pecuniary sanction for legal person - between 1000 and 10000 BGN. If the activity is construction the fine is from 5000 to 20000 BGN (2500 to 10000 EUR) for natural person and from 5000 to 50000 BGN (2500 to 25000 EUR) pecuniary sanction - for legal person.

## Summary of findings

**Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.**

The legal provisions on protected territories of water flows are dispersed among the pieces of primary and secondary legislation. It could be expected that the implementation of such complex, large body of regulation will be a challenging task. The provisions stem from different branches of the law – environmental law, health law and planning law. The competent institutions under the law are also numerous though the main competences are vested in the Ministry of Environment and Water. The problem with coordination among the institutions horizontally and vertically and lack of capacity and expertise in the administration, especially in the local authorities, could create problems with implementation of the law. Often offences occur in small villages and towns where the information about and awareness of the need of protection of waters is not very high. The provisions on public participation are in place but could be more elaborated and even more applied in practice since in many cases the procedures are run in a formalistic way and the administrative decisions on the procedures could be detrimental to the inclusive participation and involvement of public and independent experts.

## 5. Local aspects of waste management

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<sup>150</sup>pPT, Art.37.

<sup>151</sup>Art. 39 (2)

**Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.**

Waste management in Bulgaria of household and construction waste is carried out at local level by the municipalities and the landfills are managed at regional level according to the territory a regional landfill is covering. The main law regulating waste management is Waste Management Act (WMA)<sup>152</sup>. Art. 19 of the WMA stipulates that “the mayor of each municipality shall organise the management of household and construction waste formed within the territory of municipality in conformity with the requirements established by this Act and the ordinance referred to in Article 22”. Among the duties of the mayor are: collection of household waste and the transport of said waste to landfills or other facilities and installations for the recovery and/or final disposal; cleaning of street roadways, squares, driveways, parks and other parts of the areas intended for public use; siting, construction, operation, closure and monitoring of landfills for household waste or of other facilities or installations for the recovery and/or final disposal of household waste; organising the collection, recovery and disposal of construction and demolition waste; separate collection of household waste within the territory of the municipality, at least for the following waste materials: paper and cardboard, metal, plastic and glass; the separate collection and storage of household biodegradable waste, including sites for the necessary elements of the system for separate collection of waste and its submission for composting or anaerobic decomposition<sup>153</sup>.

At municipal level waste management is regulated by a municipal ordinance on waste management. WMA sets in Art. 22(1) the scope and extent of powers vested in the municipalities – “Municipal Council shall adopt an ordinance establishing the terms and procedure for the discarding, collection, including separate collection, transport, reloading, recovery and final disposal of household and construction and demolition waste, including biodegradable waste, hazardous household waste and ordinary waste within the territory under its jurisdiction...”. Further the ordinance should contain provisions on requirements for sites for handing in of waste from paper and cardboard, plastic and glass, including the conditions for registration of sites, as well as the conditions for transportation of waste to sites<sup>154</sup>. The Bulgarian municipalities are divided into regions for the purpose of establishing regional systems for landfilling of waste. The municipalities included in each of the regions have to establish a regional waste management system consisting of a regional landfill and/or other waste treatment facilities<sup>155</sup>.

Bio-waste from the maintenance of areas for public use, parks and gardens is collected separately. Bio-waste, as well as from green-field sites pertaining to retail premises, industrial, business and administrative buildings shall be treated by composting or anaerobic decomposition in a manner ensuring the highest degree of environmental protection<sup>156</sup>.

The municipal mayor or an official authorised thereby exercises control over the operations relating to the generation, collection, including separate collection, storage, transport and treatment of household and construction and demolition waste; operations relating to landfilling of industrial and hazardous waste at municipal and/or regional landfills; compliance with the

<sup>152</sup>Promulgated SG No.53/2012, amended SG No. 66/2013.

<sup>153</sup>Art. 19 (3)

<sup>154</sup>WMA, Art. 22 (2)

<sup>155</sup>WMA, Art. 23(1)

<sup>156</sup>WMA, Art. 34



other requirements laid down with the ordinance referred to in the municipal ordinance. The illegal activities in violation of the waste management law are sanctioned according to the provisions of the WMA and the municipal ordinance. The competent authority or officials authorised thereby shall apply coercive administrative measures for the prevention and cessation of administrative violations under the Act<sup>157</sup>. For example, the Minister of Environment and Water may suspend operations related to the collection, storage, transport, recovery or final disposal of waste; or the operation of waste disposal or recovery facilities<sup>158</sup>. For administrative violations under the WMA there are fines imposed depending on the seriousness of the offence. The basic fine for discarding waste in places unauthorized for this purpose varies from BGN 300 to BGN 1,000 (150 EUR to 500 EUR)<sup>159</sup>. A pecuniary penalty of BGN 3,000 (1500 EUR) up to BGN 10,000 (5000 EUR) shall be imposed on any sole trader or legal person who or which does not ensure pre-treatment of sludge from septic tanks and from other such wastewater treatment facilities<sup>160</sup>. A mayor or official who fails to organise the separate collection and storage of household biodegradable waste, including sites for the necessary elements of the system for separate collection of waste and its submission for composting or anaerobic decomposition could be fined with a fine between 1400 and 4000 BGN (700 to 2000 EUR). The violations of the rules on local level are ascertained by a written statement by officials authorised by the mayor of the municipality and the penalty decree is issued by the mayor.

## 6. Municipal level bodies

**Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralised administrative bodies etc.) in regulating, organising, managing etc. the local waste management activities.**

The planning of waste management activities at local level is realized through municipal waste management programmes. The mayor of the municipality draws up and implements the programme for the territory of the relevant municipality following the timeframe, structure, objectives and estimates of the National Waste Management Plan. The programme is adopted by the Municipal Council of the municipality and its implementation is monitored by the Council.

In the WMA and the municipal administrative statutes the roles of the municipal authorities and units are clearly defined. Municipal council adopts municipal ordinance on waste management which should take into account the local circumstances. At the municipal administration there is a unit working on environmental protection and covering waste management. It could consist of one person or of a big team depending on the size and specifics of the municipality. In some municipalities there are inspectors who are vested with duty to control the application of the national and local legislation and to write up written statements for the violations found.

The waste management services could be provided directly by municipal enterprise but in most cases they are assigned to companies specialized in waste management services- collection of household waste and the transport of waste to landfills or other facilities and installations for the

<sup>157</sup>WMA, Art.126

<sup>158</sup>WMA, Art. 127, item 1 (a) –(b)

<sup>159</sup>WMA, Art. 133 (1)

<sup>160</sup>WMA, Art.142, item 1 (c)



recovery and/or final disposal, cleaning of public spaces, separate collection of household waste and others. The selection of the contractors and awarding of the contract follows the applicable procedure of the Public Procurement Act.

The public participation is guaranteed formally by the WMA. In case of drafting of municipal ordinance the municipal council shall publish on its website and subject to public consultation the draft of the ordinance<sup>161</sup>. The mayor is obliged to provide information to the general public on the waste management activities via the website of the municipality and in other suitable ways. In case he/she fails to do so, there is an administrative penalty provided in the law.

## 7. Local wastewater treatment solutions

**Please specify the levels of wastewater treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;**

The Water Act does not regulate in detail the wastewater treatment facilities in small local settlements. It only stipulates that discharge of wastewater could be carried out without permit beyond the limits of nucleated settlements and dispersed settlements and applicable to a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, provided that at least primary treatment of the wastewaters is done or for sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system<sup>162</sup>. There are still many such settlements in Bulgaria not yet connected to any sewerage system and use household level waste management options. The most common type of individual household facility in the Bulgarian villages and small towns without central sewage treatment system are septic pits.

For agglomerations with population equivalent less than 2000 the wastewaters which are flowing into the sewerage systems before being discharged into the water bodies shall be treated appropriately according to the immission standards for the receiving water body and the requirements of the Decree. Bulgaria shall achieve these standards by December 31, 2014<sup>163</sup>.

Nevertheless, we could find some regulation of the problem in the territorial planning law, and namely on the rules and norms for spatial development of different types of territories and developing zones, like the one that the strip of land to surround the pit is at least 2 meters<sup>164</sup>. In addition, we should note that all alternative wastewater treatment facilities should comply with the sanitary-hygienic regulations. In population centres and settlement formations with zones without sewerage the household waste water could be discharged in individual facilities for discharge and treatment of waters (watertight cesspits) meeting the technical and the sanitary - hygiene requirements<sup>165</sup>. For example, Spatial Development Act stipulates that septic pits and temporary toilets could be built only if they comply with the sanitary-hygienic norms and should

<sup>161</sup>WMA, Art.22 (3)

<sup>162</sup>WA, Art.46(4)

<sup>163</sup> Decree No.6/2000 for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites, Art.14

<sup>164</sup> Art.59, item 3

<sup>165</sup>SDA, Art. 87 (1)

be placed at least 3 m. inside from the borders of the property<sup>166</sup>. Conversely, if the septic pits or sewage facilities are not in compliance with the sanitary and health norms, the mayor of the municipality could require from the owners to remove, transform or repair them, even that the mayor could issue an order for removal of the facilities dangerous for the health and life of citizens or harmful in sanitary-hygienic aspect. We could conclude that it is at the administrative discretion of the authorities (mayor of municipality) to enforce regulations protecting public health and spatial planning provisions in public interest.

## 8. Legal control

**Please specify which authorities control the local wastewater treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).**

*Research tips: This question addresses the institutional and procedural side of the topic of the local wastewater treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of wastewater treatment and also that water management, environmental protection and public health rules are not always in total harmony.*

The permits for local wastewater treatment activities are issued according to the provisions of Water Act. Wastewater discharge is permitted into surface waters for design of sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements; and for operation of existing sites, including sewerage systems of nucleated settlements, dispersed settlements and resort settlements<sup>167</sup>. In some cases the permit referred to in Item 3 of Paragraph 1 of Art.46 of WA should be issued not according to the procedure established by the Water Act but according to the procedure established by the Environmental Protection Act for the issuance of an integrated permit. The local wastewater solutions are provided in Art. 46 (4) which stipulates that a water site use permit is not required in the cases of:

1. household wastewater discharge for works beyond the limits of nucleated settlements and dispersed settlements applicable to:

(a) a maximum diurnal water quantity not exceeding 10 cubic metres and a population equivalent of up to 50, and (b) provision of at least primary treatment of the wastewaters;

2. sites generating domestic-sewage wastewaters within the limits of nucleated settlements and dispersed settlements without a constructed sewerage system; the provisions of the Spatial Development Act shall apply to any such works.

The permits for wastewater discharge are issued by the competent Basin Directorate Director. Permits for use of water sites constituting parts of the River Danube, are issued by the competent Basin Directorate Director with the advance consent of the Minister of Defence and of the Minister of Transport, Information Technology and Communications<sup>168</sup>.

The authorities who control and sanction the activities of treatment of local wastewaters are the regional inspectorates of environment and water according to the Water Act (Art.188 (1), item 4)

<sup>166</sup>SDA, Art. 47(2)

<sup>167</sup>Art.46 (1), item 3, (a)-(b)

<sup>168</sup>WA, Art.52(2)

in case there is in place a water site use permit for wastewater discharge according to Art.46 (1), item 3 of WA. As a result of their controlling authority they could draw up a written statement ascertaining the violation and issue a penalty decree for imposing a fine if the violator is a natural person or pecuniary sanction if the violator is a legal person if there is violation of the conditions in the permit. Another sanction is withdrawal of the permit in case of violation of the conditions of the permit<sup>169</sup>. When the discharge is performed without an issued permit according to Art.46(1), item 3 of the Water Act then experts from the respective Basin Directorate are drawing up a written statement for use of water site use without permit.

The persons to whom have been granted rights to water site use are obligated to conduct self-monitoring according to the requirements of the Decree referred to in Item 14 of Article 135 (1) and under the terms and conditions in the permits issued for water quantity and quality and wastewater quantity and concentration of the pollutants emitted. The Decree No.1/2011 of the Minister of Environment and Waters on monitoring defines the persons who should carry out self-monitoring: e.g. the holders of permits for wastewater discharge; operators of installations and equipment under the conditions of the integrated permit; and the person obliged to carry out self-monitoring according to the Nitrates Decree No.2.

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<sup>169</sup>WA, Art. 79(1), item 3

## Moldova

**1. (general legal background)** Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws) of laws and regulations that establish protecting territories (buffer zones) for water flows;

*(scope of regulation)* Please specify the legal definitions of the protecting territories and also the legal rules on the procedures of planning, establishing, managing and monitoring such territories;

Research tips: Elements of the definitions you find can be enlisted similarly as we did in Sub-chapter I.2 and this can be added by a short list and description of the planning rules, and also with some details on the decisions on the parameters of the protecting territories (the decision-making body, the possible responsibilities, remuneration rules etc.).

*(technical details)* Please specify the technical requirements of the buffer zones (width, extension, management and protection measures, fencing, sign posts etc.);

Research tips: Meters, square meters, or any indirect ways of establishing protecting territories.

*(procedural rules)* Please specify the rules on planning and designation of the protecting territories, the authorities and other stakeholders taking part in the procedures etc.;

Research tips: This could be the more detailed point in the research and bridging it towards the practical implementation of the rules on protecting territories. Please describe shortly the authorities involved, participation of the stakeholders, different ways to start the procedures, collecting data and main content elements of the decisions. Please include into the discussion of procedural rules monitoring and sanctions and other legal consequences of non-compliance, too.

**2. (summary of findings)** Please give us your overall impressions on the effectiveness of the regulations on the protecting territories of water flows under your national legal system, including your evaluation of the elements of the relevant laws and regulations and their interplay.

Research tips: The interplay of the legal institutions in the relevant branches of laws, major elements missing from the system according to your professional opinion, effectiveness of the system – these could be the major points under this question. For non-EU countries the level of harmonisation with the EU Nitrate Directive and with other EU laws you consider relevant for the establishment and protection of buffer strips and zones along the rivers seems to be an important part of the report. Usually the beginning or the end (the preamble or the miscellaneous rules etc.) of the national laws mention the relevant EU laws that were taken into consideration by the legislator. Even without a specific mentioning, some content elements of your laws might directly or indirectly refer to the relevant EU law – for these content elements see Chapter 4 above. We underline again: this part of the question is applicable only to the non-EU country respondents.

The overall situation of the national legislation does not provide a unique/specific presence of a strict legal framework based on the establishment and regulation of areas for flood protection (natural disasters). On the other hand it is registered the presence of a number of legal provisions on the definition and establishment of such areas. The normative acts that establish a legal regime of

such areas provide a series of definitions in the preamble of the relevant laws. Also, in cases when there are laws that establish the general legal frame of a domain on the national level it comprises concrete provisions regarding the general competences and obligations of central and local public authorities in this respect. In this context, a classification can be made of the legal framework on water management and establishing territories /protective strips depending on the industry in which such provisions are identified:

#### **a) Environment Protection**

- *Law No. 1515-XI of 16.06.1993 on environmental protection.* The law constitutes the basic legal frame for drafting the special normative acts and instructions on issues in the domain of environment protection.<sup>170</sup>
- *Law No. 851-XIII of 29 May 1996 on the ecological expertise and assessment of impact on the environment.* This law establishes the goals, tasks and principles of impact on environment and also the basic rules regarding its organization and fulfilment.
- *Law No. 1102-XIII of 6 February 1997 on natural resources,* which establishes the legal framework for the settlement of the relations regarding the usage, protection and reproduction of the natural resources in order to ensure the environmental security and sustainable development of the country.
- *Law No. 1540-XIII of 25 February 1998 on the sanctions for environmental pollution.*

#### **b) Nature protection water management and administration laws:**

- *The Law No. 272-XIV of 10.02.1999 on drinking water.*
- *Law No. 272 of 23.12.2011 on water.*
- *Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.*
- *Government Decision nr. 664 of 12.10.1992 regarding the protection measures of the inhabited places from the areas exposed to catastrophic floods.*
- *Government Decision nr. 1213 of 23.10.2006 on the protection against floods.*
- *Government Decision nr. 1082 of 23.09.2008 on the approval of the Regulation regarding the financing the purchase of dwellings for the persons that were affected by the floods from July-August 2008.*
- *Government Decision nr. 433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods.*

**Law No. 272-XIV of 10.02.1999 on drinking water** offers a definition of the **area of sanitary protection** – a single territory that includes the water supply, constructions and plants for water supply with a special regime of activity and water protection.<sup>171</sup>

<sup>170</sup> Art 2, Law No. 1515-XI of 16.06.1993 on environmental protection. [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311604>.

<sup>171</sup> Art. 1, Law No. 272-XIV of 10.02.1999 on drinking water [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311640>.

This law settles the relations in the field of drinking water supply and establish the rules regarding the assurance of natural and legal persons with drinking water, on safe operation of water supply systems and its quality, and responsibility for violations in this area.<sup>172</sup>

Regarding the domain of management of drinking water on the national level the responsibilities of the Government are inserted in Art. 3, par. (1), Law No. 272-XIV of 10.02.1999 and one of the main responsibilities is the establishment of the tasks and rights of central speciality authorities and local public authorities in the domain of supply with drinking water.<sup>173</sup> In turn the central specialty and local public authorities have to organize the areas for sanitary protection of the resources of drinking water and control the measures for the protection of water.<sup>174</sup>

**Law No. 272 of 23.12.2011 on water** is a framework law on water management on the national level. One the main goals of the law is the establishment of a legal framework for management, protection and efficient usage of the surface water and groundwater sourced on the evaluation, planning and participatory decision-making.<sup>175</sup>

This law offers a definition of a term that by interpretation could be use/applied in respect of identification of the territories used for water management and eventual protection territories. In this respect can be mentioned the notion of **water fund land** - land under water, beds of water courses, lake basins, ponds, water reservoirs, marshes, fields where are located hydraulic structures and other structures of water service, land allocated for files deviation (from the sides) rivers, water basins, **canals/channels** and collector highways, and land used for the construction and operation of facilities that ensure satisfaction of drinking water, technical water, clean water, and other public needs.<sup>176</sup>

According to this law the efficient management of water resources of the Republic of Moldova is fulfilled on the bases of the Nistru basin situated on the territory of the Republic of Moldova and Danube-Prut basin and Black Sea situated on the territory of the Republic of Moldova.<sup>177</sup> Taking into account the fact that the district of the basin is the main unit for the management of the hydrographical basin and groundwater there were established two districts: a) district of Nistru basin; b) district Danube-Prut basin and Black Sea basin.<sup>178</sup>

**Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.** The present law settles the method of creating the areas for water protection and river strips in order to protect the water from rivers and water basins, the exploitation and protection system.

<sup>172</sup> Art. 2, par. (2), Law No. 272-XIV of 10.02.1999 on drinking water [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311640>.

<sup>173</sup> Art. 3, par. (1), pt. d). Law No. 272-XIV of 10.02.1999 on drinking water [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311640>.

<sup>174</sup> Art. 3, par. (2), pt. c). Law No. 272-XIV of 10.02.1999 on drinking water [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311640>.

<sup>175</sup> Art. 1, par. (1), pt. a) Law No. 272 of 23.12.2011 on water. [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=342978>.

<sup>176</sup> Art. 2, Law No. 272 of 23.12.2011 on water. [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=342978>.

<sup>177</sup> Art. 5, par. (1) Law No. 272 of 23.12.2011 on water. [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=342978>.

<sup>178</sup> Art. 5, par. (3) Law No. 272 of 23.12.2011 on water. [On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=342978>.



The provisions of this law are applicable in respect of natural and natural persons, including the foreign ones.<sup>179</sup>

The law offers the following definitions of the protection areas established in this domain:

- **Water protection area of the rivers and water basins**– territory afferent to the aquatic objective/zone with established dimensions set for the protection of surface waters against pollution, depletion and mire.
- **Riparian strip for water protection** – the territory with defined dimensions within water protection area intended for creating forest belts or grassing;
- **Protective forest belt** – forest belt along the aquatic objective intended to protect it of erosion and landslides.<sup>180</sup>

The law expressly establish that the protection area of the rivers strips and water basins include the floodplain river, the first terraces of upper meadow, edges and slopes of the main river banks, dingles and hollows that directly enters the river valley.<sup>181</sup>

The dimensions of the **protection areas** of the river strips and water basins:

- less than 500 meters along the river banks and from the edge of the river slope of the river bed on the sides;
- for creeks it is less than 15 meters on both banks;
- less than 1000 meters the width of the protection areas for Nistru, Prut and Danube rivers.<sup>182</sup>

The dimensions of the riparian strips for water protection are established depending on the length of the rivers:

- for rills and small rivers – less than 20 meters;
- for medium rivers – less than 50 meters;
- for big rivers – less than 100 meters.<sup>183</sup>

Besides the fact that this law establish the dimensions of the areas for water protection it provides certain technical requirements regarding the creation of such areas and its management:

- for water basins situated in riverbeds and, also, for river springs the width of river strips are established according to the length of the river and character of the corresponding slopes;
- the width of the protection river strip is established depending on the erosion activity, landscape character, peculiarities of using the river or water basin and the existence of the meadow marsh;
- on the rivers sectors with an intense process of forming the riverbeds the riparian strip for water protection is determined to meander belt;

<sup>179</sup> Art. 1, Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.[On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>.

<sup>180</sup> Art. 2, Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.[On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>.

<sup>181</sup> Art. 3, Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.[On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>.

<sup>182</sup> Art. 6, Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.[On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>

<sup>183</sup> Art. 7, par. (1) Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.[On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>

- over the dammed sectors of the river banks the boundary of the river strips joins the function of the dry slope of the protection dam against the floods;
- on the river sectors that are parts of the systems for the improvement of the width of the riparian strips for water protection is determined, depending on the particularities of construction and exploitation of the elements of these systems and requirements of the present law;
- for currents of waters or some parts of them, whose riverbeds were deepened and/or directed or was connected to the consolidated channels, tubes and other hydraulic structures, the width of the riparian strips is determined according to the length of the water current and character of the adjacent slope.<sup>184</sup>

The protective forest belts are formed in the limits of the riparian strip for water protection. More than that, it is compulsory on the sectors of the river banks and water basins affected by soil erosion. The width of the forest belts is established according rules inserted in Art. 9 of the Law.<sup>185</sup>

- There should be noted that in the respect of the efficiency of the national legislation is registered a general law (Law No. 440-XIII of 27.04.1995 on Areas and water protection strips of rivers and water basins) which provides a general framework on the regulation of legal protection areas in case of flood.
- As a remark on this law is the lack of any provisions for the established of an institutional system for the management of the domain on creation of protection areas and prompt involvement in exceptional situations.
- More than that, it seems that the approval of concrete measures and appointment of the relevant institutions is taking place ad-hoc depending on emergency cases.
- As a result, there are normative acts approved by the government regarding the elimination of possible risks or approval of the proper actions for the improvement of the situation after the floods:
- Government Decision nr. 1213 of 23.10.2006 on the protection against floods. By which were approved some measures regarding the elimination of the flood risk on the territories of Valeni and Cislita-Prut villages, Cahul district.
- Government Decision nr. 1082 of 23.09.2008 on the approval of the Regulation regarding the financing the purchase of dwellings for the persons that were affected by the floods from July-August 2008.

Also, there is a **Government Decision nr. 664 of 12.10.1992 regarding the protection measures of the inhabited places from the areas exposed to catastrophic floods**. According to this decision there was only adopted the list of the inhabited places situated on the banks of the Nistrur river and empowerment of concrete public authorities to fulfill a number of tasks in this respect.

As a result of the catastrophic floods from 2010 and 2011 years by the Government was adopted the **Decision nr. 433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods**. The provisions of the regulation are compulsory for natural and legal

<sup>184</sup> Art. 7, par. (2-7) Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins. [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>

<sup>185</sup> Art. 9, Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins. [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311668>

persons involved in projection, construction and exploitation of the dams for the protection against the floods and extend to the dams placed on the territory of the Republic of Moldova.<sup>186</sup>

**3. (local aspects of waste management)** Please specify the local relevance of legal provisions on specific waste management activities, such as selective collection, composting, landfill regulations etc.

Research tips: This question refers to the central level waste management rules of mostly substantial legal nature, referring to the general requirements of the management of the household solid waste. Within this issue, please pay attention to the flexibility of the rules, i.e. specify how far local specialities are taken into consideration in your national laws and regulations concerning household solid waste management;

*(municipal level bodies)* Please specify the role of municipality councils and the lowest level administrative bodies (municipality clerk, decentralised administrative bodies etc.) in regulating, organising, managing etc. the local waste management activities.

Research tips: This question refers to the organisational-procedural side of the local waste management activities. As such this has more relevance to the practical implementation of the waste management law. Municipality waste management planning, organising work (selecting, contracting the entrepreneurs etc.) and regulating/helping local communities' waste management efforts such as composting are the issues that belong to here.

*(local waste water treatment solutions)* Please specify the levels of waste water treatment facilities in small local settlements, ranging from the individual household dehydration devices to larger, community or settlement level solutions;

Research tips: Please specify the technical conditions under which such local waste water treatment facilities might legally operate, including size, location and water protection provisions. We do not have to deal here with the rules concerning the large scale sewage systems.

*(legal control)* Please specify which authorities control the local waste water treatment activities and what kind of legal tools they use (e.g. general permitting, self monitoring).

Research tips: This question addresses the institutional and procedural side of the topic of the local waste water treatment regulations. Please pay attention to the fact that the legal solutions might not logically follow the size and the level of waste water treatment and also that water management, environmental protection and public health rules are not always in total harmony.

The present Government policy of the Republic of Moldova on waste management consists in developing infrastructure and services necessary to effectively protect the environment at global, national and local levels from effects associated with the management of waste generated by citizens, enterprises and institutions.

Waste management in the Republic of Moldova is one the most difficult and unsolved issue both in terms of organization and legislation. In spite of presence of a number of legal acts and normative acts (almost 80) the legal aspects of waste management must be significantly improved, requiring both the legal and institutional restructuring.

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<sup>186</sup>Government Decision nr.433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods.[Online]:<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=343760>.

Currently the legal framework regulating the waste management issues includes:

- *Law No.1515-XII of 16 June 1993 on environmental protection;*
- *Law No.851-XIII of 29 May 1996 on the ecological expertise and assessment of impact on the environment;*
- *Law No.1102-XIII of 6 February 1997 on natural resources;*
- *Law No. 1540-XIII of 25 February 1998 on the sanctions for environmental pollution;*
- *Law No. 1347-XIII of 09 October 1997 on production and household waste;*
- *Law No.1236-XIII of 3 July 1997 on the regime of hazardous products and substances;*
- *Law No. 40-XV of 19 February 2004 on the ratification of the Stockholm Convention on Persistent Organic Pollutants;*
- *Government Decision No. 1296 of 20 November 2008 on the procedure of charging environmental payments for import of goods in the process of use, causes environmental pollution and for plastic and/or tetra-pack packages of import goods;*
- *Government Decision No. 637 of 27 May 2003, which approved the Regulation on the control of trans boundary movements of hazardous wastes and their disposal;*
- *Government Decision No. 1155 of 20 October 2004 on the approval of the National Strategy on reduction and elimination of persistent organic pollutants and the National Plan on the Implementation of Stockholm Convention.*

The main role in waste management at local level lies with local authorities. Unfortunately the outcomes of waste collection and disposal depend largely on their ability to organize this process and engagement of businesses and civil society in the accumulation of financial resources.

The current national legal framework arranges the cooperation in environmental protection of the central public administration authorities, including the jurisdiction and powers of local authorities, according to the Law no.436-XVI of 28 December 2006 on local public administration and the legislation on environmental protection. In this case can be mentioned the following legal provisions regarding the obligations of local public authorities in the domain of waste management according to environmental legislation:

**1) Law No.1515-XII of 16.06.1993 on environmental protection:**

- local public authorities of the districts, cities together with local authorities for environment and health protection: pt. c) supervise and coordinate activities municipalities and prices for storage and processing of industrial and household waste, construction and operation of wastewater treatment facilities, installation of equipment and devices for neutralizing the harm, preventing and combating landslides, erosions, salinization, compaction and soil pollution by fertilizers and pesticides, rational use of pastures, land distribution to ensure the necessary degree of afforestation, creation of forest belts and green spaces;<sup>187</sup>

<sup>187</sup>Art. 9, par. c), Law No.1515-XII of 16 June 1993 on environmental protection. [Online]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311604>.

- local public authorities of the village, town together with local authorities for environment and health protection: ensure the implementation of measures for prevention and combat the landslides, erosion, salinization, compaction and soil pollution by fertilizers and pesticides allocation of land for new targets, perennial plantings, massive irrigation which are admitted only upon authorization geological service;<sup>188</sup>

**2) No. 1347-XIII of 09.10.1997 on production and household wastes:**

- ensure in the subordinated territories the enforcement of the legislation on waste management;
- carry out economic and organizational coordination and regulation of activities of individuals and legal entities from the subordinated territories subordinated, in the domain of waste management in order to detect and return it into a high economic cycle;
- shall, in consultation with local authorities and environmental and health authorities, adopt decisions affecting land for waste disposal and construction (extension) for its processing and neutralizing, exercises the control over waste disposal and payment for environmental damage caused by waste production and consumption ;
- carry the merging funds of individuals and legal entities businesses located in the subordinated territories to environmental funds and the budgets of administrative – territorial units to finance the construction of new targets, expansion and reconstruction of existing targets, neutralization and disposal of wastes;
- conduct systematic records of organization, storage and processing of the waste in the subordinated territory;
- organizes the collection and disposal of wastes, as well as those belonging to small producers, affects places for storage;
- prepare and maintain the records of waste disposal sites;
- adopts, jointly with the Service of Civil Protection and Emergencies of the Ministry of Interior, measures for civil protection at the economic objectives generators of hazardous waste;
- take the necessary measures for the liquidation of unauthorized and uncontrolled dumps;
- promotes the legislation on waste management;
- inform the public on the status of storage, preservation and processing of waste in locality, area, involving the population in the collection of harmless waste and secondary raw materials.<sup>189</sup> (Art. 6, par. a-k)).

The main responsibilities of specialised central and local public authorities on management of production and household waste are determined in Law No. 1347-XIII of 09 October 1997 on production and household waste. The current structure of rational/district councils do not include subdivisions that would ensure implementation of environmental policy, including waste

<sup>188</sup> Art. 10 Law No. 1515-XII of 16 June 1993 on environmental protection. [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311604>

<sup>189</sup> Art. 6, par. a-k), Law No. 1347-XIII of 09 October 1997 on production and household waste. [On-line]: <http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311576>.

management within the administered area. At present the local administration responsibility of waste collection and transportation lies within the local waste collection services, this operates mainly in urban areas and only in some rural areas.

In respect of the environmental agencies and inspections it executes supervision and control over environmental compliance by local businesses, including waste management process. As a result, the State Environmental/Ecological Inspectorate has the task of exercising the state control regarding the respect of the laws and normative acts on issues concerning the environment protection and usage of natural resources.<sup>190</sup> The Regulation of the institution provides that the inspectorate supervise the compliance with regulations and environmental requirements, instructions, recommendations, rules for the use of natural resources norms for harmful substances and products, waste.<sup>191</sup>

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<sup>i</sup> Three type sof general regulations are cited here: laws, governmental decrees and ministerial decrees (issued by one or more ministries)

<sup>ii</sup> Water Act No. 273/2010, § 30

<sup>iii</sup> What is „legal water authority“ is described in § 104 an following of Water Act. In most cases, as well as here, it is so called „municipality with extended authority“ (in defined cases it has authority not only on its territory, but also on territory of surrounding communities. They are listed in Decree of Ministry of Internal Affairs No. 388/2002.

<sup>iv</sup> Water Act, § 32

<sup>v</sup> No. 61/2003, updated by Governmental Decree No. 229/2007, § 10

<sup>vi</sup> Water Act, § 33

<sup>vii</sup> Water Act, § 28, 28a

<sup>viii</sup> Water Act, § 34

<sup>ix</sup> Decree of Ministry of Health Care No. 259/2003

<sup>x</sup> Decree of Ministry of Health Care No. 464/2000

<sup>xi</sup> Water Act, § 35

<sup>xii</sup> Governmental Decree No. 169/2006

<sup>xiii</sup> Based on Art. 6 of Habitat Directive 92/43/EEC

<sup>xiv</sup> See Landscape and Nature Conservation Act No. 114/1992, § 17.1

<sup>xv</sup> No. 185/2001

<sup>xvi</sup> Wast Act, § 17

<sup>xvii</sup> Wast Act, § 34, Decree of Ministry of Environmnt No. 341/2008

<sup>xviii</sup> Waste Act, § 66 and following

<sup>xix</sup> Waste Act, § 41 and following

<sup>xx</sup> SEA procedure i expected to start in 2014

<sup>xxi</sup> Water Act, § 38.5

<sup>xxii</sup> Water Act, § 55 and following

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<sup>190</sup> Art. 26, par. (1), No.1515-XII of 16 June 1993 on environmental protection. [On-line]:<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311604>

<sup>191</sup> Pt. 10, Government Decision No. 77 of 30.01.2004 on the approval of the structure and Regulation of the State Environmental Inspectorate.[On-line]:  
<http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=296781>.