Implementation of the Danube River Basin Management Plan – Action 5 and Action 7

Association Justice & Environment
20 December, 2013

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List of abbreviations

BAT	Best Available Technique
DRB	Danube River Basin
DRBD	Danube River Basin District
DRBM	Plan Danube River Basin District Management Plan
DRPC	Danube River Protection Convention
EC	European Commission
EU	European Union
EU MS	European Union Member State
GEF	Global Environment Facility
JAP	Joint Action Programme
Non EU MS	Non-European Union Member State
EU WFD	European Union Water Framework Directive. 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. 1–73.
ICPDR	International Commission for the Protection of the Danube River
IPPC Directive	Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control. OJ L 24, 29.1.2008, p. 8–29
Nitrates Directive	Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources. OJ L 375, 31.12.1991, p. 1–8
Overview Report	Interim Report on the Implementation of the Joint Program of Measures in the DRBD. ICPDR - International Commission for the Protection of the Danube River, 2012.
Regulation 648/2004	Regulation (EC) Number 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents OJ L 104, 8.4.2004, p. 1–35.
Regulation 259/2012	Regulation (EU) Number 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. OJ L 94, 30.3.2012, p. 16–21.
UNDP	United Nations Development Programme
UNOPS	United Nations Office for Project Services
UWWTD	Council Directive 91/271/EEC of 21 May concerning urban waste water treatment. OJ L 135, 30.5.1991, p. 40–52

Executive summary

In the following chapters we are studying and comparing the rules on protection of waters in Germany, Czech Republic, Austria, Slovakia, Hungary, Croatia, Bosnia-Herzegovina, Montenegro, Romania, Bulgaria, Moldova, Slovenia and Serbia. We focus first of all on the rules ensuring protection by territorial means, i.e. establishing water protection zones, stripes or any other forms of territorial protection (together: water protection territories). In addition to that we examine two major sources of pollution of waters: local solid waste and local fluid waste – in both cases we concentrate on small scale, flexible solutions and on the regulating, organising, managing roles of the local municipalities.

We have started our project with a detailed country analysis in one pilot country, Hungary and thereafter, based on our experiences here we have put together research questions with explanations and background materials and recruited our research team with the ambition of having a well-known environmental lawyer from all the Danube countries.

As concerns the overall methodology of our survey we have performed a *system analysis*, i.e. we have tried to reveal all the relevant elements of our administrative laws and regulations and map out their possible interrelationships.

We have found that quite several laws and regulations in the field of water management law, environmental and nature protection law, public health laws, several branches of agricultural administration and other laws target these issues from their specific angles. This is a mounting task – we just have made some initial steps in solving it – to evaluate the interplay of such parallel efforts of our laws.

Within this program we could undertake the following important parts of this work:

- compared the definitions the relevant laws and regulations provide for the different kinds of protecting territories alongside waters;
- revealed the planning measures in all the concerned fields of administration that could significantly influence the territorial protection of waters, such as water management planning, drinking water planning, nature protection and forestry planning and the local spatial (physical) planning procedures that might act as a summary for all the other plans;
- analysed the detailed laws of all the concerned branches of administration that have relevance for territorial water protection and arrived at the major points of substantial legal protection of such territories and also tried to trace back cross references, if any, amongst these laws and regulations;
- we have also examined the different administrative procedures, where the representatives of other branches of administration can take part in a joint decision-making procedure and the decisions in concrete cases of territorial water protection are brought.

In all aspects of our research we have met with a typical parallel activity from the side of all of the concerned branches of administration and their respective authorities and procedures. We are convinced that not the individual pieces of legislation but the whole system determines the effectiveness of the protection of our waters from overburdening amounts of nutrients and other polluting materials. We see plenty of strengths in the possibility of further reinforcing the cross references between and concerted efforts of these branches of administration, starting with regular exchange of information to performing joint monitoring and implementation efforts. Public participation in water related matters has a specific additional advantage in this compound situation: the members and organisations of the concerned communities are not at all interested in specific administrative procedures, rather they deal with the water management problems themselves their

communities are facing. This problem oriented, inherently systematic approach of public participation might mean an extraordinary help in protecting the sensitive territories of our waters.

1. Main findings

(*The definition of the protecting territories*) The definition of the legal institution of protecting territories of waterflows was a starting point for our research both in the Hungarian pilot phase and in the twelve country comparative research: these definitions determine the boundaries of the relevant substantial regulations, orient the legal practice with important interpretation tools and – in a fortunate case – establishes the common language for all the relevant branches of administrative law that have a say in protecting our waters.

In the 13 examined legal systems, the core elements of the definitions of water protection territories are the following:

- a certain *territory or stripe* around or alongside a water body (its extension is determined either by the law itself or by the relevant authorities according to the features given by the laws);
- the *aim of protection* can be: the protection against current and future negative impacts, avoiding the waters important for several protection purposes from leaking in nourishing materials, rain water runoff, soil erosion particles, fertilizers and pesticides etc. and also the good ecological quality, proper drinking water resources, habitats and species, recreation etc.;
- the possible *ways of their determination*: they themselves can be prescribed by specific legal provisions or established by the environmental/water management (and possibly other) authorities based on a discretionary power;
- and the *legal-administrative restrictions* introduced by the protection: the protecting territories might be subject to special constraints or responsibilities, including water protection, public health and forest management ones etc.;
- in close connection with the previous point an additional important element of the definition can be the *interrelationship* of the protection territories of waters with other protected lands, for instance with the networks of nature protection or of precious agricultural lands.

(*The planning of the protecting territories*) The decision-making circle concerning the protection of waterflows starts with planning. Relevant planning documents encompass national, regional and local spatial plans, river basin management plans and nature protection plans. It is very important that the developers of these plans communicate with each other and insert proper cross references into their respective planning documents together with the necessary legal harmonization efforts and institutional connections necessary to the smoothly harmonized implementation of the plans.

An outreach for other relevant plans, such as transport network planning, seems to be vital, too. The up-to-date *register of the protected areas* that is easily available for the professional and general public can also help the mutual informing and implementation of the relevant plans and legal rules. The respective national parts of the River Basin Management Plan for the Danube are the most important plans that establish riparian zones and coastal strips in order to maintain the good quality of waters.

This plan has to be brought into harmony with all the relevant nature protection plans, including Natura 2000 management plans and also with the regional forest management plans. Other forms of relevant plans include forestry and agricultural (nitrate) planning, while local spatial plans represent a kind of summary, focal point of all the different protecting goals that have their respective spatial dimensions. We have to take into consideration that in the procedure of designing and establishing the local spatial plans there are many stakeholder taking place, including the relevant authorities, too,

such as the environmental and the water management ones. Therefore in such a deliberative procedure, the interests of protecting the water flows nearby the planned extension of the settlements can be harmonized with the development needs of the local communities.

(*The size of the protecting territories*) The size of the protecting territories range between 5-10-15-20-50 meters from the shore line, with or without discretionary right to the authorities to tailor the actual width of the protection zone according to the local circumstances and specialties. The discretionary power might be bolstered with several guidances, rulebooks issued by the higher level authorities.

As an other sign of multidisciplinarity, these zones might form a system for several protecting purposes, with different rules of conduct. The distance between the protected water body and the edge of the protecting territory can be determined otherwise than in absolute meters even in the laws, too: the legislator can use the method of the calculated speed of the flow of polluting materials. In all cases, notwithstanding the calculation methods, when doubts raise, the precautionary principle shall be applied. In some cases, especially in water protection rules, the protecting territories are further divided into several zones where the level of protection is different.

(*Substantial rules on the protecting territories*) The plans on protecting territories shall be broken down into several levels of implementing legislation. In them, amongst others there are the following substantial rules

- the conditions for the determining of water protection zones;
- restrictions in use of the concerned lands, activities to be refrained from, action programs for proper handling the concerned lands;
- safety measures, such as installing and operating monitoring and controlling systems;
- rules on purchasing the land or compensating the owners/users in case the constraints and limitations of use are too stringent;
- the restrictions shall be introduced into the land register;
- Additional measures to be included into the decision might encompass site and problem specific guidelines, education of farmers, and the development of alternatives to the current farming practice;
- finally, proper sanctions shall be applied in case of non-compliance with the general and specific restrictions on land use or in other activities concerning the protecting territories (administrative, petty offence and even criminal sanctions).

An interesting, although controversial legal tool is the *ex lege* protection of certain water areas, where the protection is not subject to an individual decision but ordered by the law itself. While it seems to be a strong protection tool, in practice the implementation might face a serial of difficulties because of lack of proper details of the protection that cannot be determined on legislative level.

(*The process of assigning the protecting territories*) The first major question in procedures concerning the protection territories of waters is naturally the stakeholders to take place in these procedures. They can be in most of the cases: relevant authorities, water suppliers, municipalities, planning experts or organizations, concerned land owners, farmers, local communities and their organisations.

The procedural steps, however, are similar in all cases:

- interested water utilities, municipalities, scientific bodies or even NGOs might initiate the procedure or the water the management or other relevant authorities start it *ex officio;*
- at the onset of the procedures the authorities usually assign an expert body to develop the plans of determination of the protecting territories (in some cases a formal EIA or environmental supervision procedure is required);

- based on the study, the authority might consult or even negotiate with the other stakeholders above the plans and determines the borders of the protecting zone(s) together with the rules and restrictions within the zone(s), especially in connection with land use;
- several other procedural steps might follow this initial procedural phase and decision in the assignment phase, such as an approval from a higher level body or legal remedies applied by the concerned stakeholders;
- as a feed-back in the decision-making circle, the result of the procedure of determining the protecting zone might be entered into several levels and kinds of planning documents, too.

Naturally, the decision needs continuous implementation activities, too, such as monitoring and sanctioning in case of infringement of the established borders and economic, agrarian, construction etc. behaviour rules. Local communities and NGOs might play an important role in continuous monitoring as the "thousands of eyes and ears of the authority".

(*The elements of the local level waste management systems*) Local waste management systems in most of the countries are divided into systems serving households and also waste management services for local industrial plans. Our research has focused on the first one, because of this having strong local relevance, while the industrial waste is usually managed by large nationwide systems.

We note, however, that in certain occurrences waste from local services (e.g. restaurants), from smaller construction activities etc. can wholly or partly share the management routes of the local household waste. A third branch of waste management highly relevant for water protection, yet overlooked quite frequently is the responsibility of cleaning of street roadways, squares, driveways, parks and other parts of the areas intended for public use.

Runoff waters from these public places represent a serious threat to living waters. The system of relevant solid waste management sector shall also contain the rules and the practice on littering at public places and abandoning waste in natural places, not seldom at river banks. Preventing, detecting and sanctioning illegal disposal and dumping of wastes require serious resources and also creative approaches, such as inclusion of water police or highway patrols and the high level of awareness and contribution of the local communities and NGOs, as well.

(*The role of the municipalities in local waste management*) Municipalities have a serial of comparative advantages to the central government in organising local waste management activities: flexibility, cheaper procedures, knowledge of local geography and economy, closeness to the regulated communities and the possibility for being controlled by and having cooperation with them – just to mention some.

At the negative side there are some factors, too, however, such as the small financial means and the biased, sometimes patriarchal way many of the municipalities wear their mixed roles ranging from the local strategic planning agent and regulator, through certain administrative supervision entitlements, to a contracting party (on several possible sides of the local solid waste management spectrum).

Anyway, since the advantages overwhelm the disadvantages, in most of the examined countries the local municipalities organize the largest part of the management of household waste and the equivalent parts of waste from local industry, they collect fees and issue local waste management plans and local ordinances in order to implement higher level waste management laws and also to fill in their gaps. Municipalities might also conclude long term agreements with utility firms, associations or can establish and run their own waste management enterprises.

(*Decreasing landfill waste*) In all EU member Danube countries there is a strong pressure to decrease the amount of waste to be landfilled. Selective collection might start even in the households and there are usually a middle level collecting stage at the settlements, called “waste yards”, local selective collection centres or any similar way, covering quite similar concepts.

Composting is usually supported, for instance with waste management fee reduction or, as a “natural” local activity, can be supported by lighter administrative control, too. Composting might take place at the households or jointly at the settlement level, too. In both cases, consultation and training shall be ensured by the municipality or by professional civil groups. In the past, in many countries in the region almost all municipalities operated one or more landfill sites, generally not constructed according to and equipped with technologies of modern waste management.

Since the accession of the majority of the countries to the EU the national waste management policy priorities are driven by the EU waste legislation. In Hungary, for instance 4.7 million tons municipal solid waste is generated per year and 85% of this quantity gets to landfills.

Landfill is still the most common treatment and disposal method of municipal solid waste, mainly for being not as expensive as recycling or incineration. The trends of the recycling of municipal solid waste are positive, since its proportion has increased since the EU accession.

The pilot country in this research, Hungary has made rapid progress towards diversion of biodegradable municipal waste from landfill. According to the provisions of the current legislation, waste can be placed only at those landfill sites, which are authorized by the competent environmental inspectorates. Those landfill sites which did not meet the requirements of the respective EU legislation were closed in 2009. Financed by the EEOP and co-financed by the EU funds the recultivation programmes of these closed landfills has already started and will also proceed in the development period of 2014-2020.

(*Local waste water treatment solutions*) With the exemption of the most developed Danube countries, there are elaborated special regulations on the waste water solutions for small local settlements or scattered households that cannot reasonably connect to the general sewage systems.

In such places usually the individual transport of waste water shall be organized in order to carry the waste water to the larger treatment facilities. In the poorer countries at the lower part of the Danube, wastewater cleaning coverage lags behind drinking water supply, in certain places only 50% of the population or less have access to public sewers. Interestingly, the technical development and flexible legal regimes of waste water management bring hope that with smaller scale solutions this discrepancy between the better off countries and the countries with poorer waste management systems would decrease.

We can count on the appearance of one or two new, intermediary forms of small and medium scale waste water treatment facilities that might be affordable even for the poorer nations. In several countries even at present a couple of dozens of households might use their own, modern local treatment solutions. Such solutions might not be subject to a too burdensome permitting procedure, a certification of the type of the applications might be enough for their operation. Even larger communities around a couple of hundreds of households might decide that their waste water shall be handled separate from the regional sewage treatment systems.

(*Alternative ways of small scale local waste water treatment – a complex solution*) Depending on the environmental conditions, on the requirements of water management in the given territory and on the technical conditions, there are three main types of the individual wastewater collection and

treatment facilities: domestic wastewater treatment facilities, domestic wastewater treatment units and domestic closed wastewater containers. Once the amount of the waste water at a settlement makes it possible, nature friendly sewage treatment methods shall be given priority.

The general principles and interface with the other relevant fields of administration are: sewage sludge shall be used in agriculture, energy or in any alternative way as far as possible – landfill depositing is just the last resort. All the municipalities shall develop a local sewage treatment program, with proper evaluation of the situation of the status of their surface and underground waters and geological structures, the environmental, nature protection and social effects of the cleaning and depositing solutions selected, especially in connection with sensitive territories from water protection viewpoints.

The settlement sewage programs shall be brought into harmony with the local and regional spatial plans and environmental plans, as well. The possibilities of making use of the cleaned waste water locally shall be examined. Such plans, therefore, are usually subject to Strategic Environmental Assessment. In the same time, water without cleaning and rough sludge without proper treatment cannot be used for agricultural purposes. Sewage water sludge according to this regulation cannot be stored even transitionally on arable lands.

(*The role of the local municipalities in waste water treatment administration*) Even if there are quite a couple of viable local solutions for waste water handling, the major permitting and controlling responsibilities lie at the central or decentralized water management authorities rather than at the municipal authorities. Local municipalities therefore have much less role in local waste water management than in the management of solid waste of local origin.

The water management authorities in several countries are assisted by the water utility companies that might even have some “quasi administrative” roles. This arrangement is explained by the higher level technical requirements the treatment of waste waters need and the higher level danger to the environment and public health they represent. The local municipalities therefore are less in the role of administrators, they can play, however, important roles of organizing local waste water services as permit holders under the control of the relevant central/regional authorities.

Yet, paradoxically, in countries where the water management systems are much less developed, the local municipalities might have certain administrative roles, too, in permitting and supervising waste water management. Even in such cases the local authorities may apply for technical assistance from the professional water management authorities of the State level or shall submit the priority cases to them.

2. Problems, bottlenecks, loopholes

(*definitions*) In several branches of administrative laws we have found almost a dozen of different definitions of the protecting territories of waters. It is quite natural that these definitions are different in many aspects, since the aim of the protection is different according to the respective features of the given branch of administration, even the direction of the protection can be established from the opposite sides of the question: some laws tend to start from the needs and specialities of the protected territories, others concentrate on the controlling of certain polluting or endangering activities.

Also the discrepancy in the definitions stem from legislative historical reasons, too: in many cases there are decade long differences in time of creating the relevant laws on the territorial protection of waters. The too big differences between the definitions is dysfunctional. In certain occurrences there are even basic elements of the definition can be absent, such as a clear description of the calculation of the

territory, the aim of protection, the ways of determination of the territories, the exact list of possible legal-administrative restrictions (and the possibility of compensation of the owners and users of the concerned lands) are missing from the legal definition of protecting territories.

(*the planning of the protecting territories*) Important individual plans, such as the River Basin Management Plan, Natura 2000 plans, regional and local (short and medium term) forest management plans and many others exhibit spectacular facts and valuable strategies – when we read them alone, themselves. As soon as we put them side by side, their poorly evidenced facts and empty promises become evident in many instances. Also, when we try to encounter the relevant actual legal provisions with the visions described in those plans, we frequently find that the plans are not properly broken down into the detailed regulations, they remain in many cases ad hoc improvisations from the lower level legislators.

(*substantial rules on the protecting territories*) The multiple level and compound protection of waters on territorial bases might mean an unreasonable burden on the owners and users of the concerned lands. Paradoxically, this might be the main reason of frequently experienced overlooking of these rules: if all the restrictions out of agricultural, water management, nature protection, public health etc. administrative laws were meticulously implemented, the use of such lands would be simply impossible. The other side of this problem is that the compensation rules seem to be inconsequential, nebulous, too.

(*the overall opinion of the country researchers taking part in the project*) Some of the countries with older and better elaborated water management infrastructure (such as Germany, Austria) seemed to be optimistic concerning the protection goals, while other countries, especially on lower parts of the Danube river raise serious concerns about the relevant legislation and its implementation. Most of the country researchers evaluates the complex problems of soil degradation, erosion, loss of natural sites and water pollution, eutrophication and express their concerns the state resources turned onto these purposes. The complexity of the issue at the table offers the possibility of using the resources and experiences of a wide network of authorities and professions for the protection of waters and water related ecological services, while this complexity in the same time might be confusing and can blur the responsibilities of the different stakeholders. Lack of social attention and proper funding are mentioned as primary hindrances of establishing effective protection territories for our waters. The sanctions, including the amount of fines inflicted on the intruders or those who overlook the behavioural rules of the protecting territories are evaluated inappropriate by a couple of researchers, too.

(*practical experiences of the country researchers*) In the practice, unfortunately, in several countries at most of the water streams the coastal vegetation is missing and arable lands extends until the waterfront. These circumstances influences the ecological status of waters negatively. The quality of surface waters is in the worst condition at those areas where coastal zones are extensively used, where no sufficient buffer zones exists and there are introduction to the surface waters from multiple sources.

(*the elements of the local level waste management systems*) While the first two elements of local waste management systems, household solid waste and that of the non-hazardous waste of small and medium sized local industry and the service sector seems to entail with less problems, the third branch of waste management the waste left on street roadways, squares, driveways, parks and other parts of the areas intended for public use represent a more difficult problem. Runoff waters from these public places represent a serious threat to living waters. Direct littering at public places and abandoning waste in natural places, not seldom at river banks also seems to be difficult to handle. These tasks are mostly

left to the local municipalities which in general lack the proper resources and expertise to handle such compound logistics.

(*abandoned landfill sites*) One of the main problems in the Danube region is and will be in the forthcoming years the high number of to-be-recultivated landfills and the questionable attainability of the necessary financial resources. Naturally, they represent a standing endangerment for the surface and underground waters in their vicinity.

(*illegal waste dumping*) For municipalities the limited number of landfilling sites and the illegal dumping of waste is an ongoing problem in the pilot country and elsewhere, too. There are not even reliable data on the exact number of illegal dumping sites but the number of these may exceed 1000 in Hungary, for instance.

(*local waste water treatment solutions*) In the poorer countries along the Danube river the so called water utilities scissors are wide open. Wastewater is, therefore, generally discharged untreated into watercourses in these countries or alternatively stored in poorly insulated septic pits at every households not having connection to the sewage system, representing serious threat to the underground water.

3. Suggestions, policy proposals

(*definitions*) There shall be a legislative template that ensures that all the relevant administrative laws that deal with the territorial protection of waters define the protecting territories in comparable terms. The ways of determining the territory, the clear expression of the aims of protection, the stakeholders and the procedure of the determination of the protecting territories and the set of possible substantial requirements and restrictions (together with compensation for the restricted activities, if any) shall be the minimum elements of these definitions. An advisable legal technique is to refer partly or wholly to other existing, well accepted and operating definitions in other branches of administrative law.

(*the planning of the protecting territories*) All the relevant plans should have cross references to each other and be communicated actively in several electronically available registers, homepages, sites etc. The regional and local spatial (physical) plans should act as focal documents for all the plans that have territorial relevance at the given level. Spatial planning is usually a complex, multi faceted procedure with the participation of all stakeholders, including the relevant administrative bodies, economic forces interested in developing the given region and the members and organisations of the concerned communities. If all the relevant water management, public health (drinking water protection), forestry, arable land and soil protection, agricultural management etc. plans find their way into the spatial plan of the given territory, it will be an added guarantee of their proper, concerted implementation, first of all because the elevated level of social attention and acknowledgement.

(*the size of the protecting territories*) In all cases, notwithstanding the calculation methods, when doubts raise concerning the size of the protecting territories, the precautionary principle shall be applied.

(*substantial rules on the protecting territories*) As we have already hinted in the problems' section, a clear, concerted regulation on the restrictions in use and on the burdens of the owners and users of the protected territories seem to be indispensable for the effective implementation of the protection plans and their broken down detailed rules. In addition to these the behavioural rules and restrictions concerning the lands on the protecting territories should be introduced into the land register system, in order to make them transparent for the real estate market. An other suggestion, based on the best

practices learnt in the project is that site specific guidelines should orient the activities of the stakeholders in connection with the protected territories, preferably on the basis of spatial planning documents. Finally, in implementation and monitoring the plans and rules of protection the participation of the organisations, groups and members of the concerned local communities shall play a decisive role, as the "thousand eyes and ears" of the relevant authorities. Naturally, public participation is especially worthwhile when it is properly informed and educated. The authorities should set up and implement capacity building plans in order to ensure these.

(*practical suggestions and good practices revealed by the country researchers*) Growing social and political attention should be paid to the complex problems of soil degradation, erosion, loss of natural sites and water pollution and eutrophication. At the stake is the serial of ecological services our waterflows ensure to our societies we have taken granted so far, healthy drinking water, water life, nature protection, agricultural uses of waters, just to mention a couple.

Good practical developments were revealed in the Hungarian pilot project, where according to the National Rural Development Strategy and to the Darányi Ignác Plan (DIP) the significant reduction in nutrient load burdening waters deriving from arable land cultivation and subsurface waters can be achieved by a considered restoration of the *mosaic pattern* of agricultural landscapes (e.g. establishment of boundaries, alleys, wood belts, riparian natural habitat zones and smaller ponds). The establishment of a sufficiently wide protection zone along waterways is one of the priority objectives of the DIP.

(*approaching the complex issue of territorial water protection in a systematic way*) A progressive legislative idea – that might be considered as the major point in this issue – would be to create multifunctional protection zones in one unified administrative procedure resulting in one concerted decision that serve several aims, including biodiversity, agricultural, soil and water protection purposes.

In such a compound legislative program, ranging from planning to detailed substantial rules, institutions especially assigned to this task, decision-making procedures, public participation etc. all the relevant administrative branches and professions should take place and should design the major legal elements (such as definitions, plans, substantial and procedural rules etc.) in harmony with their goals and could avoid duplication of efforts and wasting resources.

(*the elements of the local level waste management systems*) Preventing, detecting and sanctioning illegal disposal and dumping of wastes require serious resources and also creative approaches, such as inclusion of water police or highway patrols and the high level of awareness and contribution of the local communities and NGOs, as well. Naturally, capacity building is again an indispensable element of any well operating public campaigns against disperse waste problems.

(*abandoned municipality landfill sites*) The small, abandoned landfill sites shall be overseen by the environmental, the water management, the nature protection, the soil protection, the public health and several other bodies. They shall regularly monitor them – preferably alongside a concerted, multidisciplinary implementation schedule.

(*illegal waste dumping*) Due to the collection of waste within public works and campaigns like 'TeSzedd! Volunteer for a clean Hungary!' in the pilot country where many volunteers participate each year in cleaning up the environment, both in Budapest and in the countryside, cleaning land and water from waste, the number of illegal dumping sites are slightly decreasing. Local patriots, community groups should be encouraged to take part in such movements everywhere. Naturally, they should be

provided with the proper protecting equipment (gloves, dresses, boots etc.) and most importantly trained and overseen by experts from the waste management authorities.

(*local waste water treatment solutions*) There are initiatives in almost all Danube countries to decentralize the waste water treatment at an acceptable technical level. As the water prices rise the amount of waste water is declining, therefore the smaller, flexible, local cleaning solutions might turn out to be more reasonable both in economic and in environmental terms.

Flexible legal tools should accompany these new technical solutions, ranging from the so called general permitting to the permits issued to a certain technical solution, rather than the individual equipment. Local municipal authorities and the local municipality councils themselves might regain certain controlling and organising roles they lost in the time of modern mass treatment facilities, handled primarily be the central water management bodies.

SUMMARY OF THE TWELVE COUNTRY REPORTS

Milestone No. 5

Introduction

After finalizing the Hungarian pilot study, we put together the relevant questions for the country studies. We have approached researchers from twelve Danube watershed countries[1] and compared their situation and experiences as follows.

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;

a. Summary of findings concerning Question 1

Our research goal with Question 1 was to reveal the general legislative background for protecting territories along waters in the Danube countries. We have found that this legislative task is mostly solved by legal tools belonging to the field of environmental law and water management law. Within environmental law, nature protection and water protection laws (protection of bathing waters, fishery waters etc.) play the leading roles. Within water management law the drinking water protection rules are the most relevant ones. Several branches of agricultural law, mostly soil (arable land) protection and forestry laws can be important, but water game hunting and fishery rules can be mentioned, too. With smaller weight, however, other major branches of administrative law shall be taken into consideration, such as public health law, chemical safety law, spatial planning (construction) law.

The major principal rules can be found in parliamentary acts, while the technical level rules are given by lower level laws. We note that in some countries only the major principles exist, the detailed implementation level of rules is more or less missing, therefore the implementation of the principles is left to the discretionary decisions of the relevant authorities. Exceptionally, the legislative task of protecting territories of water flows can be decentralized to the municipal level (for municipal ordinances or similar norms). In addition to that, in federal countries there is a complicated interplay between the state and province (entity) levels.

b. Short survey of the country reports

- According to the German federal legal system, the three relevant laws are: the Federal Water Act, the Water Act of Baden-Wuerttemberg and the Bavarian Water Act.

[1] Fabian Stolpe, Germany; Vlastík Karlík, Czech Republic; Birgit Schmidhuber, Austria; Dana Marekova, Slovakia; Zeljka Leljak, Croatia; Muhamed Mujakic, Bosnia-Herzegovina; Srna Sudar, Montenegro; Catalina Radulescu, Romania; Plamen Peev, Bulgaria; Rodica Iordanov, Moldova; while Szilvia Szilágyi was responsible to make a research for Slovenia and Serbia.

- In the Czech Republic buffer zones and areas designated directly for protection of water quality, are included in laws about drinking water sources, and also in laws on areas designated for other purposes, but with potential to contribute to water quality, such as: surface waters used for bathing, protected areas for nature conservation etc.

- The Austrian Water Management Act regulates the protecting territories for water flows with the purpose of protection of extraction of water for human use. In addition to that, other sectorial laws integrate the protection of waters such as chemicals law, nature protection law and spatial planning legislation. Because of its federal state structure, in Austria de regulation is divided between the state and province levels, too.

- In Slovakia the water protection law (Water Act), the Nature protection act and the Act on fisheries contain relevant provisions that protect the waters by designating protecting areas.

- The Slovenian 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.

- In the Croatian law the most relevant rules are the Environmental Act and the Water protection act – however, they both encompass only the most general protection goals and principles and do not enter into the details of protection.

- In Bosnia-Herzegovina only the water management laws and their lower level, implementation rules regulate the issue of protection territories both on federal and on entity levels.

- In Serbia the 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 and in certain cases other ministries' responsibilities can be established, too.

- In Montenegro the Law on Waters and also the Law on financing water management are the major legislative sources for the protecting zones of waterflows, while water management planning plays also an important role. The Montenegro state research especially highlights the lack of proper lower level regulations on that issue, therefore there are no satisfying guarantees of the implementation of the principles set in the higher level laws.

- In Romania the bulk of regulation is done also by the general Water Law, but there is a specific secondary legislation: a governmental decree on the nature and size of sanitary and hydro-geological protection zones. Also the ministerial level regulation of the agricultural law on the

National Action Plan deals with reducing risks associated with the use of plant protection materials.

- According to Bulgarian legislation the main sources of legal regulation that establish protecting territories (buffer zones) for water flows are also the framework environmental act - Environmental Protection Act and the respective special pieces of primary and secondary legislation in the field of environmental protection and water management (protected zones out of sanitary purposes and drinking and household water protection are regulated in the Water Act). In addition to them legal norms from branches of law like nature protection (the Protected Areas Act and also the Biodiversity Act), health protection, town and territorial planning, forestry law (primarily the Forest Act that defines protecting forest territories) and agricultural law (Act on Protection of Agricultural law) can also be applied in this respect.

- In Moldavia the relevant fields of law are environmental protection laws, the law on natural resources (this 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), the law on the sanctions for environmental pollution and several other nature protection, water management and administration laws, including the law on drinking water, the law on water, especially laws dealing with floods. There is a specific law “on areas and water protection strips of rivers and water basins”.

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;

a. Summary of findings concerning Question 2

The definition of the legal institution of protecting territories of waterflows serves several purposes: determines the scope of any further regulations (object of the law) and orients the legal practice with important interpretation tools. A major element of the legal definition of the protecting territories is the aim of protection. Protection against current and future negative impacts, avoiding the waters important for several protection purposes from leaking in nourishing materials, rain water runoff, soil erosion particles, fertilizers and pesticides etc. The purpose can be not only negative (protection from something) but positive (protection of something), too.

The good ecological quality, proper drinking water resources, habitats and species, recreation etc. stand on this side of the definitions. The protection goals might encompass further, closely related items, too, such as protection from soil erosion or landslides in the vicinity of the waters. Naturally, the protection depends on a serial of physical factors, such as the shape of the watershed, geomorphological and soil types and also the presence of certain endangering factors. Another important element of the definition can be the interrelationship of the protection territories of waters with other protected lands, for instance with the networks of nature protection or of precious agricultural lands. Waterflows to be protected are usually qualified by their capacity of carrying water or serving a certain number of people.

The decision-making circle concerning the protection of waterflows starts with planning. Relevant planning documents encompass national, regional and local spatial plans, river basin management plans and nature protection plans. It is very important that the developers of these plans communicate with each other and insert proper cross references into their respective planning documents together with the necessary legal harmonization efforts and institutional connections necessary to the smoothly harmonized implementation of the plans. An outreach for other relevant plans, such as transport network planning, seems to be vital, too. An up-to-date register of the protected areas that is easily available for the professional and general public can also help the mutual informing and implementation of the relevant plans and legal rules.

The plans on protecting territories shall be broken down into several levels of implementing legislation. In them, amongst others the conditions for the determining of water protection zones, measures and restrictions to implement them, deadlines and procedures for making decisions on the protection of water sources shall be included. An interesting, although controversial legal tool is the *ex lege* protection of certain water areas, where the protection is not subject to an individual decision but ordered by the law itself. While it seems to be a strong protection tool, in practice the implementation might face a serial of difficulties because of lack of proper details of the protection that cannot be determined on legislative level.

b. Short survey of the country reports

- In Germany water protection zones are defined in the Federal Water Act. 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 purpose of water protection zones includes 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.

  In the individual cases the establishment and monitoring of water protection zones lies with the Upper Water Authority in cooperation with the Upper Agriculture Authority. Additionally, the public water suppliers play a part in the monitoring and control of water protection zones. The Federal Water Act defines the riparian buffer stripes: 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.

- In the Czech republic the definitions of protecting territories are sectoral. Surface waters used for bathing and also indicators of water quality for those areas are defined by Decree of Ministry of Health Care. For waters important for life and reproduction of natural fish populations, indicators of water quality and programs for their improvements are set up by Governmental Decree. Special protected areas for nature conservation of national as well as European importance are described in Landscape and Nature Conservation Act together with their buffer zones. The territorial system of ecological stability is an 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. These categories belong to the territory of the regulation of physical planning.

- In Austria protected areas are defined 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. The protected areas can be distinguished according to their protective purpose: extraction of water for human use, protection of economically significant aquatic species, protection of habitats and species (NATURA 2000) and waters in accordance with the Fish Directive, nutrient sensitive areas, bathing waters. The National River Basin Management Plan 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 environmental objectives for protected areas which have to be followed in the regulation and management of these areas.

- According to the Slovakian Water Act the protected area is defined as a collective term for the protection of drinking water, water intended for swimming, for life and reproduction of native species of fish and several water management purposes. The 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.

- Act on Waters in Croatia also enlists such areas where for the protection of water and aquatic environment additional protection measures are necessary. Such areas include sanitary protection zones of drinking water, 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 water habitats or species. In Croatia the register of protected areas shall be an integral part of the river basin management plan.

  The Ordinance on conditions of determining sanitary protection zones lays down the conditions for the determining of water protection zones, measures and restrictions to implement them, deadlines and procedures for making decisions on the protection of water sources. In the Croatian water protection system there are *ex lege* protected water areas, where the protection is not subject to an individual decision but ordered by a Governmental Decision. One of them is the water area of the river Danube – its entirely basin is determined to be a sensitive area.

- In Bosnia 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, geomorphological 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 inundated zone and land under water objects exist.

- The Law on Waters of Montenegro defines protected areas as main areas of land used or intended for abstraction of water for human consumption providing at least 10m3/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 same Law recognise the sensitive buffer zones around water supply sources and natural bathing sites and stipulates that physical planning documentation shall include the areas under special protection (sensitive buffer zones around water supply sources and natural bathing sites) and endangered areas (flood and erosion prone), pursuant to the provisions of this Law.

- In Romania the definition of the protecting zones is as follows: ”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;”

- In Bulgaria, according to the specific 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”. The Ministry of Environment and Water and the regional authorities conduct and implement the management and control in protected areas. The Nitrates Decree defines the vulnerable zones according to the EU Law.

  The most stringent rules concerning the quality of water are provided for in the drinking water protection legislation. The Decree on this issue sets standards and indicators for achieving this quality which serve as basis for monitoring of the quality of the water. 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.

  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.

- In Moldavia the specific Law on areas and water protection strips of rivers and water basins arranges 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. This 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. The Moldavian law on water protection territories 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.

Question 3 (technical details)

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

a. Summary of findings concerning Question 3

The size of the protecting territories range between 5-10-15-20-50 meters from the shore line, with or without discretionary right to the authorities to tailor the actual width of the protection zone according to the local circumstances and specialties. The discretionary power might be bolstered with several guidances, rulebooks issued by the higher level authorities. These zones might form a system for several protecting purposes, with different rules of conduct.

The individually determined width of the protecting zone can be broader, but also narrower than that of established by the law. Some legislator don't forget to regulate the length of the zone, too, which can be different (longer) for upstream from the protected river span and shorter for the downstream part of the zone. The distance between the protected water body and the edge of the protecting territory can be determined otherwise than in absolute meters even in the laws, too: the legislator can use the method of the calculated speed of the flow of polluting materials. In all cases, when doubts raise, the precautionary principle shall be applied.

The rules on signposting, fencing, maintaining of the protected territories also belong to this body of technical rules. Marking such zones shall take place not only on the spot, but in the relevant maps of authorities, too, such as those in the physical planning documents. For the especially valuable inner zones of protecting territories (typically for drinking water) the mere technical protection might not be satisfying, there shall be a sanitation guard service organized for frequent monitoring.

b. Short survey of the country reports

- According to the relevant German federal regulation, 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 discretional right to define "appropriate" buffer stripes, but they are not forced to do so. One of the state level laws 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.

- According to the Czech drinking water protection legislation, the protecting zones are universally 15 meter wide, while upstream there is a 200 meter, downstream 50-100 meter long protecting distance from the place of outtake.

- In Austria the principles of assigning protected areas nearby wells or water sources are laid down by the Highest Adminstrative Court: it defines the maximum size of a water protection area with the so called 60-day-limit - meaning this shall be the maximum flow rate till the water catchment for establishing a water protection area. The Highest Administrative Court also states that 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. A protected area is not clearly determined, if its geographical situation is not clearly identified and there is room for expansion variants.

- According to the relevant Slovakian laws the only kind of protected zones where the laws determine quantitative measures are the so called reference sites. Reference site consists of a stretch of water flow one kilometer above the designated river takeoff. It is marked by a visibly placed sign at one of the shores of the watercourse in a particular river kilometer.

- In Croatia 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.

- In Bosnia 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 category, 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.

- In Montenegro there is only a case by case determination of technical requirements for the areas under special protection (sensitive buffer zones around water supply sources and natural bathing sites) according to „The Rulebook on determining and maintaining zones and belts of sanitary protection of springs and limits in those zones", no regulation at the time being specifies the technical requirements for the „buffer zones"/protection zones of water flows.

- In Romania the dimensions of the protection areas are regulated in quite details: for water courses less than 10 m long, the width of the protection zone is 5 m; b10 and 50 m, 15 and more then 51, the width is 20 m. For regulated rivers, the width for courses less than 10 m long, 2m, between 10 and 50 m 3, more than 50 m, the width of the protection areas is 50 m. For dammed rivers, the protection area is the entire length of the dam-shore if it is less than 50 m.

- In Bulgaria the legislation on sanitary guarded zones 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 guard around the zone. The innermost belt is – I, the medium belt – II and outer belt -III. Around the belt I there is a fence and sign posts. The fence is at least 1.40 m high and the signs 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. For mountain rivers the frontiers of the belt I is 30 m from both sides of the river. The frontiers of the belt II are determined by the level of pollution and self-cleaning ability of the river, types of pollutants and specific local conditions. The frontiers of belt III 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.

- In Moldavia the dimensions of the protection areas of the river strips and water basins are as follows: 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. 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.

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.;

a. Summary of findings concerning Question 4

The first major question in procedures concerning the protection territories of waters is naturally the stakeholders to take place in these procedures. They can be in most of the cases: relevant authorities, water suppliers, municipalities, planning experts or organizations, concerned land owners, farmers, local communities and their organisations. The assignment of the protecting territories might take place by an individual administrative decision or by a general decision of legislative nature or even by a combination of these two.

The procedural steps, however, are similar in all cases: interested water utilities, municipalities, scientific bodies or even NGOs might initiate the procedure or the water the management or other relevant authorities start it *ex officio;* at the onset of the procedures the authorities usually assign an expert body to develop the plans of determination of the protecting territories; based on the study, the authority might consult or even negotiate with the other stakeholders above the plans and determines the borders of the protecting zone(s) together with the rules and restrictions within the zone(s), especially in connection with land use. A progressive legislative idea is to create multifunctional protection zones with one concerted decision that serve several aims, including

biodiversity, agricultural, soil and water protection purposes. Additional measures to be included into the decision might encompass site and problem specific guidelines, education of farmers, and the development of alternatives to the current farming practice. Naturally, compensation regimes shall also be introduced for those whose activities are seriously restricted in the name of the community interests attached to water protection. This issue might, however, be approached in different ways, according to far leading constitutional considerations.

Several other procedural steps might follow this initial procedural phase and decision in the assignment phase, such as an approval from a higher level body or legal remedies applied by the concerned stakeholders. As a feed-back in the decision-making circle, the result of the procedure of determining the protecting zone might be entered into several levels and kinds of planning documents, too. Naturally, the decision needs continuous implementation activities[2], too, such as monitoring and sanctioning in case of infringement of the established borders and economic, agrarian, construction etc. behaviour rules. Local communities and NGOs might play an important role in continuous monitoring as the "thousands of eyes and ears of the authority".

b. Short survey of the country reports

- In Germany a typical procedure of assigning a drinking water protection zone takes place in the following steps with the following stakeholders: concerned public water suppliers or municipalities initiate the procedure for the designation of water protection zones; a private hydrogeological planning office is hired for the compilation of documents, including criteria for the demarcation of the water protection zone, a situation-specific customized catalogue of prohibited or restricted acts within the planned water protection zone, information on land use and on special hazards in the groundwater catchment area, 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. Following these, 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.

- In the Czech Republic certain protecting zones are assigned by a normative act (e.g. sensitive areas concerning urban waste treatment, where all water bodies count to be sensitive, protection territory for bathing waters or waters significant for fishery, where indicators of water quality and programs of improvement are set by a Governmental Decree), while others by an individual administrative decision-making procedure (e.g. vulnerable areas concerning nitrate pollution of waters or Nature 2000 territories concerning waters and water related habitats and species).

[2] We need to add that several country researchers in our program have expressed their views that the measures taken in order to assign protecting zones for waters and their implement fall way below the expectable standards. These statements would need a more careful analysis that exceeds the limits of our research.

- In Austria the designation of Natura 2000 protected areas is carried out via legal ordinance by the competent regional government. These sites are incorporated into the register of protected water management sites when the maintenance or improvement of the water status is an important factor for their protection and also they will be entered into the national water quality monitoring programmes.

  The fish protection laws are also operating with protecting areas where the Ministry of Environment is competent to enact programmes 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” The monitoring of the parameters specified in the Directive is carried out within the existing national water monitoring programme.

- In Slovakia, there is a list of important water flows and water streams in total of 102 ones – their protection extends to their shores, too. In contrary to that valuable fishing waters are determined by the Ministry of Environment in an individual administrative procedure, based on the results of the ichthyologic survey and after negotiations with the users of the concerned territories and other stakeholders.
  The 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. As concerns the implementation of these rules, the representatives of water management authorities are generally satisfied with that (except the not proper cooperation between the water management and nature protection authorities), while the representatives of the relevant NGOs are much more critical, they do not see a complex, coherent implementation of the legal protection of the protecting territories.

- In Slovenia there are several types of pressures that have been identified as significant. 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).

- According to the Croatian experts for protection of water flows the territorial protection of water flows and their zones of protection in fact does not exist as a concept in Croatia, therefore there are no such laws and legal practice. The closest legislative-administrative tool is water management planning. The 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 the 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. The Water management authorities and the local governments shall brake down this general plan into more detailed plans, accordingly.

- According to the Bosnian law, the protecting zones stipulated by the relevant legal regulation in general terms are monitored by the Entity level Authority for Inspection. 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 are marked in spatial planning. According to the country reporter, the 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.

- In Montenegro the main authority responsible for water management is Ministry of Agriculture and Rural Development, with its departments and directorate for water management, while the water management institutional framework in the Country also include several agricultural, environmental, hydro-meteorological authorities. These

authorities would not establish protecting zones, but rather apply the water management and spatial planning legislations relevant for the protection of waters.

- In Romania the protection zones for the water supply installations are determined by the competent public health authorities. Demarcation of the protection zones is also done by The National Administration "Romanian Waters" together with the Land Cadastre Authority and the holders of the riparian lands. The implementation of the regime of several restrictions 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 waters are done through technical norms and specifications elaborated by water competent authority at central level. There are so called multifunctional protection zones that serve several biodiversity, agricultural, soil and water protection purposes. Protection areas established under the provisions of this national law effect seems to be a good solution for reducing the risk of contamination surface waters with plant protection products, but also for biodiversity conservation and the other noted purposes.

- In Bulgaria the designation and changes in the protected territories are performed 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 legal 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 relevant laws.

  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. 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 person authorized thereby appoints a commission which takes decision to grant or to reject the proposal.

  In case of favourable decision the Minister of Environment and Water issues a designation order for the protected area. 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 Act on Protected Lands. 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. The state register for protected territories is kept at the Ministry of Environment and Water.

- The Moldovan Law on the protecting territories of waters establishes the dimensions of the areas for water protection and 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; 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.
  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.

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.

a. Summary of findings concerning Question 5

Some of the countries with older and better elaborated water management infrastructure (such as Germany, Austria) seemed to be optimistic concerning the protection goals, while other countries, especially on lower parts of the Danube river raise serious concerns about the relevant legislation and its implementation. Most of the country researchers evaluates the complex problems of soil degradation, erosion, loss of natural sites and water pollution, eutrophication and express their concerns the state resources turned onto these purposes.

The country researchers usually included into the summary part of their reports the results of the interviews they performed in connection with the actual implementation of the laws on protecting territories of waterflows. Some of them have reached out to the topic of international cooperation concerning the protection decisions and their implementation. The complexity of the issue at the table offers the possibility of using the resources and experiences of a wide network of authorities and professions for the protection of waters and water related ecological services, while this complexity in the same time might be confusing and can blur the responsibilities of the different stakeholders. Lack of social attention and proper funding are mentioned as primary hindrances of establishing effective protection territories for our waters. The sanctions, including the amount of fines inflicted on the

intruders or those who overlook the behavioural rules of the protecting territories are evaluated inappropriate by a couple of researchers, too.

b. Short survey of the country reports

- In Germany, according to the interviewed representative of the competent water management authority the overall cooperation within the Danube River Basin District works quite well within and outside the country between Germany and Austria. The newer water management laws can better profitize from the experiences of the Water Framework Directive and the other relevant EU laws. Especially the new regulations on buffer stripes in Baden-Württemberg 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 that in the other concerned state, 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. Several major environmental NGOs in Germany are currently lobbying for the integration of stricter regulations on buffer stripes into the Bavarian Water Act.

- According to the Czech experts, despite all the relevant legal tools, the diffuse 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. The 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.

- The Austrian researcher summarizes her standpoints: there are 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. 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.

- The Slovakian overview of the relevant legislation suggests, that protection of water flows as such is not (except of general provisions) ensured sufficiently. The 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 flow as such (with the exception of the reference sites, but none has been declared in practice until now).

- According to the Croatian country researcher, the existence of so many different regulations which contain some parts of water management and some parts protection of water flows, makes difficult to understand who is responsible body for something 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, 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 located near the water sources (chemical industry, major roads, waste disposal, etc.) such prohibitions are often violated for profit.

  The 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, seems to choose a uniform plan with no real desire to improve the situation. 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 either with the procedure of adoption of such a plan or 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. 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.

- In Serbia the 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. 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.

- As a summary, the Montenegro report establishes that legislation in water sector is not fully harmonised with EU legislation and WFD. The current main legal act – the Law on Waters does not recognises buffer zones in water flows in accordance with EU and WFD standards, the program for developing Water Management Plans, not has been prepared yet, integrated Water Management Plans have not been prepared.
  The 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, the extension of sewage network in urban and rural areas and construction of WWTP, in sum, the long-term protection and conservation of water resources as national assets and their use according to the principles of sustainable development.

- The general opinion of the Romanian country researcher was 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.

- In Bulgaria 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.

- According to the Moldavian researcher, 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 the presence of a number of legal provisions on the definition and establishment of such areas shall be noted. 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 comprise concrete provisions regarding the general competences and obligations of central and local public authorities in this respect.

Milestone No. 3

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.

a. Summary of findings concerning Question 6

Local waste management systems in most of the countries are divided into systems serving households and also waste management services for local industrial plans. Our research has focused on the first one, because of this having strong local relevance, while the industrial waste is usually managed by large nationwide systems. We note, however, that in certain occurrences waste from local services (e.g. restaurants), from smaller construction activities etc. can wholly or partly share the management routes of the local household waste.

A third branch of waste management highly relevant for water protection, yet overlooked quite frequently is the responsibility of cleaning of street roadways, squares, driveways, parks and other parts of the areas intended for public use. Runoff waters from these public places represent a serious threat to living waters. The system of relevant solid waste management sector shall also contain the rules and the practice on littering at public places and abandoning waste in natural places, not seldom at river banks. Preventing, detecting and sanctioning illegal disposal and dumping of wastes require serious resources and also creative approaches, such as inclusion of water police or highway patrols and the high level of awareness and contribution of the local communities and NGOs, as well.

In all EU member Danube countries there is a strong pressure to decrease the amount of waste to be landfilled. Selective collection might start even in the households and there are usually a middle level collecting stage at the settlements, called “waste yards”, local selective collection centres or any similar way, covering quite similar concepts. Composting is usually supported, for instance with waste management fee reduction or, as a “natural” local activity, can be supported by lighter administrative control, too. Composting might take place at the households or jointly at the settlement level, too. In both cases, consultation and training shall be ensured by the municipality or by professional civil groups.

b. Short survey of the country reports

- The German Recycling Management and Waste Law regulates the responsibilities of local public waste management utilities. According to this, local public waste management utilities are responsible for the disposal and recycling of every kinds of solid waste from private households.

- Waste management plans in Czech Republic are created on three levels – national, provincial, and local. On local level any "waste producer" (including municipalities) with production of waste over 10 ton of dangerous waste or 1000 ton of any other kind of waste are also obliged to prepare such plans. The relevant authorities for establishment and operation of landfills are provinces. However, the municipality authorities have also certain competences for fines and other sanctions apart from the provinces and Czech Environmental Inspection (CIZP). In general municipalities have jurisdiction on inhabitants, while the provinces and CIZP on businesses.

  System of municipality sanctions can be also established by municipality decree. Everyone that qualifies not households 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. The local waste management system can also include composting. Recently, composting is legally supported by implementing a term "small facility for treatment of bio-degradable waste" (for handling up to 10 ton at the same time and up to 150 ton per year) – in a way that the approval and operation of such facilities are subject to less stringent regulations.

- In Austria 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). Waste collection and treatment activities have to be notified or even authorized by the waste management authority. 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. Some municipalities share such facilities with each other.

  Experts state that Austria has an elaborated waste management system and especially the selective collection works very well at local/community level. Mostly the Waste Management Associations entrusts the municipality with the selective collection of residual waste. 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.

- In Slovakia 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 it is proven to be unreasonable due to the technical conditions, size and economic considerations.

As concerns the practice of local level waste management, there are still many municipalities in Slovakia, which do not fulfill the legal requirements for waste separation. For example, bio-waste separation programmed 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.

- The majority of municipal solid waste (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) from the EU Waste Framework Directive. According to present trends, Slovenia is on track to fulfil the 50 % recycling target of the 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. 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.

- **The Croatian Act on Sustainable Waste Management** provides rules on separate collection of waste paper, metal, glass, plastics and textiles, and large (bulky) waste. According to these the 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.

  For smaller municipalities recycling might take place through a mobile unit (which is considered a recycling yard). In larger settlements there shall be one or more recycling yards in proportion to their size. There are, however, some problems with implementation of these requirements which occurred in practice. 54 local waste management by-laws are planned to be issued on the basis of the Act, some new, some amended, while it is not everywhere performed yet. Once they are not yet adopted, local governments cannot yet define clearly how to start with implementation of their obligations. The financial background of the

municipality obligations under the Act remains nebulous, too. Similarly, 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.

- In Montenegro, 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.). In accordance with the Law on Waste Management the new National Waste Management Plan/Strategy for the period 2014-2020 and its Action plan for implementation is under preparation.

  The priorities of the plan include the improvement of the status in the sectors of the environment and human health; harmonization with guidelines from other EU strategic documents; a comprehensive approach by analysing all sectoral policies related to issues of waste collection, transport and treatment and waste generation; and taking into account all specificities and restrains existing in Montenegro. In accordance with the Law on Self Government of Montenegro 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. 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. On the practical side it can be concluded that about half of the total amount of waste produced in Montenegro is disposed on sanitary landfills.

- The 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).

  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. 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.

- According to the Romanian law, the general aims of waste management are to protect the human health and the environment. Amongst the numerous general requirements the law stipulates that the individuals and the legal persons are not allowed to deposit any kind of waste near the waters - banks, riverbeds, wetlands and coastal areas.) The local administration as well as the individuals and legal persons also have to respect the provisions of the land use plans and urban plans regarding the landfills – household, streets, industrial waste.

  Apart from the environmental authorities several other public authorities have responsibilities regarding the environmental protection, too, including the authority responsible with economy and commerce is elaborating the policy regarding the recycling and recovery of industrial waste and the local authorities that are supervising the subordinated economic operators to prevent accidental emissions of pollutants, uncontrolled waste deposits and development of the reusable waste collecting systems.

  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 they activity and placement 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”. 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.

- The present 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. The Acton production and management of household wastes arrange for 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; adopting 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; organizing the collection and disposal of wastes, as well as those belonging to small producers, affects places for storage; preparing and maintaining the records of waste disposal sites; taking the necessary measures for the liquidation of unauthorized and uncontrolled dumps; informing 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.

Question 7 (municipal level bodies in waste management)

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.

a. Summary of findings concerning Question 7

Municipalities have a serial of comparative advantages to the central government in organising local waste management activities: flexibility, cheaper procedures, knowledge of local geography and economy, close to the regulated communities and the possibility for being controlled by and having cooperation with them – just to mention some. They organize the largest part of the management of household waste and the equivalent parts of waste from local industry, they collect fees and issue local waste management plans and local ordinances in order to implement higher level waste management laws and also to fill in their gaps. Municipalities might conclude long term agreements with utility firms, associations or can establish and run their own waste management enterprises.

b. Short survey of the country reports

- In the Czech Republic, according to the Waste Act, 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. The municipality has a duty to designate 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.

- In Austria each Provincial (Land) level Waste Management Acts contain the principle that the municipalities are obliged to provide for an orderly waste disposal regime (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 practice the collection and treatment of waste in big cities is carried out by the public institutions themselves whereas small municipalities waste collection is regularly outsourced to private operators – even more the waste treatment.

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

- According to the Croatian waste management law each city and municipality shall 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. The self-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.

- In Bosnia Herzegovina the local (municipal) authorities have the jurisdiction for the local waste management activities. 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.

- In Montenegro 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 the 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, include public water supply, waste water management and management of municipal waste.

- In Romania the waste management plans are issued at national, regional and local level. 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. There are regional and local management plans, too, following the prescriptions of the relevant laws. All the plans are being monitored and revised yearly.

- In Bulgaria the planning of waste management activities at local level is realized through municipal waste management programs. The mayor of the municipality draws up and implements the program for the territory of the relevant municipality following the timeframe, structure, objectives and estimates of the National Waste Management Plan. The program 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 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. 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. 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.

- In Moldavia 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. It can also be mentioned that the following legal provisions also determine certain obligations of local public authorities in the domain of waste management in the field of environmental legislation: the Law on environmental protection stipulates that the local public authorities of the districts, cities together with local authorities for environment and health protection supervise and coordinate activities municipalities and prices for storage and processing of industrial and household waste, construction and operation of wastewater treatment facilities; 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 amongst others soil pollution by fertilizers and pesticides.

Milestone No. 4

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;

a. Summary of findings concerning Question 8

With the exemption of the most developed Danube countries, there are elaborated special regulations on the waste water solutions for small local settlements or scattered households that cannot reasonably connect to the general sewage systems. In such places usually the individual transport of waste water shall be organized in order to carry the waste water to the larger treatment facilities. In the poorer countries at the lower part of the Danube, however, wastewater cleaning coverage lags behind drinking water supply, in certain places only 50% of the population or less have access to public sewers. Wastewater is, therefore, generally discharged untreated into watercourses in these countries or alternatively stored in poorly insulated septic pits at every households not having connection to the sewage system, representing serious threat to the underground water.

Interestingly, the technical development and flexible legal regimes of waste water management bring hope that with smaller scale solutions this discrepancy between the better off countries and the countries with poorer waste management systems would decrease. We can count with the appearance of one or two new, intermediary forms of small and medium scale waste water treatment facilities that might be affordable even for the poorer nations. In several countries even at present a couple of dozens of households might use their own, modern local treatment solutions. Such solutions might not be subject to a too burdensome permitting procedure, a certification of the type of the applications might be enough for their operation. Even larger communities around a couple of hundreds of households might decide that their waste water shall be handled separate from the regional sewage treatment systems.

b. Short survey of the country reports

- According to the German 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.

- In the Czech Republic small wastewater treatment facilities (for up to 2000 inhabitants) can be further divided into three categories: first, wastewater treatment facilities from 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); Second: 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; Third, 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 is regulated in Austria by the WRG and by numerous ordinances (e.g. Waste Water Emission Ordinance). In 2006 about 641 municipal wastewater treatment plants with a capacity from 2,000 EW_{60} have been counted by the Federal Environmental Agency. The total capacity of these plants was about 20.6 million EW_{60}. In municipal wastewater treatment plants around 1,064 million m^3 of wastewater 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. 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.

- The Slovakian 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 dispensed with if the expert assessment shows that there is no adverse impact on the environment.

- In Slovenia 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; secondary treatment in regions with a density greater than 20PU/ha. 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. 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. 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.

- According to the Croatian Act on Waters urban wastewater treatment means treatment of urban waste water by mechanical, physical, chemical and / or biological processes. The 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 person 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.

  As concerns the practice, many municipalities did not yet constructed a waste water system. Some of the planned solutions of these municipalities are: first, 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; second, 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; Third, wastewater collection will be solved by the sewer pipes placed in roadways of economic zones; Fourth, the construction of the unit for wastewater treatment plant with the highest degree of purification is planned; Fifth, 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 drain; Sixth, 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.

- In Serbia 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.

- In Bosnia-Herzegovina 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.

- According to the Montenegro researcher's wastewater management analysis 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; The recipient of the waste water in the northern and central regions, mostly in local waterflows, except two settlements where waste water is discharged into local sinks; In most municipalities there is a separate sewage system; Only four municipalities (three coastal Bar, Tivat and Herceg Novi and one central Niksic) has 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; Underdeveloped and inadequately maintained storm water sewerage leads to penetration of rainwater into sewers for sewage wastewater;

- According to the Romanian water management law the discharge of the waste water into groundwater, natural or accumulation lakes, puddles, ponds, except the decanting ponds is strictly forbidden. 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.

  A treatment of the waste waters is required 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. 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 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, those individual treatment processes are accepted that have no adverse effects on the environment,

such as stabilization lagoons, mechanical-biological treatment plant piece (which may include process disinfection).

- The Bulgarian 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.

  There are still many such settlements in Bulgaria not yet connected to any sewage 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. 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. 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.

  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 be placed at least 3 m. inside from the borders of the property. 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 in Bulgaria 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.

Question 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).

a. Summary of findings concerning Question 9

Even if there are quite a couple of viable local solutions for waste water handling, the major permitting and controlling responsibilities lie at the central or decentralized water management authorities rather

than at the municipal authorities. Local municipalities therefore have much less role in local waste water management than in the management of solid waste of local origin. The water management authorities in several countries are assisted by the water utility companies that might even have some "quasi administrative" roles. This arrangement is explained by the higher level technical requirements the treatment of waste waters need and the higher level danger to the environment and public health they represent. The local municipalities therefore are less in the role of administrators, they can play, however, important roles of organizing local waste water services as permit holders under the control of the relevant central/regional authorities.

Yet, paradoxically, in countries where the water management systems are much less developed, the local municipalities might have certain administrative roles, too, in permitting and supervising waste water management. Even in such cases the local authorities may apply for technical assistance from the professional water management authorities of the State level or shall submit the priority cases to them.

b. Short survey of the country reports

- In Germany usually waste waters have to be discharged into waste water facilities. Local public waste water companies are responsible to insure this. However, 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 the Czech law wastewater treatment facility is water construction in a sense of Water Act. They require permit for handling of surface waters, issued by "legal water authority". 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, the 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 has to monitored – at least twice a year, samples has to be taken and analyzed by accredited laboratory.

- In Austria 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..

- In Slovakia the competent State water administration bodies may impose measures to remedy damage caused to surface waters 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 permit 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. As concerns the practical implementation of these rules, according to the information obtained from the Slovak Environmental Inspection, the inspection of water abstraction aiming to control pollution is carried out by authorized laboratories. The producer of waste water is also obligated to conduct inspection. According to representative of the Inspection, their powers are sufficient.

- In Slovenia 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.

- In Croatia 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.

- In Bosnia-Herzegovina 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.

- In Montenegro the 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 on one hand and local governments provide for and regulate the activity of the public water supply and public communal and sanitation activities in their territory on the other hand. Local Governments establishes Public Utility Companies (PUCs) which are responsible for water supply and protection of waters from pollution. 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. and monitoring by inspection on local level and national level: ecological inspection, construction inspection.

- In Romania the **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) and the **water management permit** (the 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 are issued by The National Administration "Romanian Waters" (NARW).

  The water inspection is realized by the same authority. The water permits mentioned can be temporarily suspended, modified or cancelled. The 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.

  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 and depending on the final point of discharging (natural receptor or treatment facility.

- In Bulgaria 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.

  For the local wastewater solutions 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. 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 in case there is in place a water site use permit for wastewater discharge. The persons to whom have been granted rights to water site use are obligated to conduct self-monitoring. Other persons fall also into this category, 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 Bulgarian Nitrates Decree No.2.

Action 7: “To legislate at the appropriate level to limit the presence of phosphates in detergents”.

Milestone n°2: Policy response on the Overview Report

- REPORT -

Introduction

Nutrient pollution – particularly caused by nitrogen and phosphorus – may cause eutrophication[3] 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.[4]

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.[5] 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.

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.[6]

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.

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[3] 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.

[4] ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview*, p. 11.

[5] 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.

[6] ICPDR (International Commission for the Protection of the Danube River) (2009), *Danube River Basin District Management Plan, Part A – Basin-wide overview* p. 15.

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.

I. Introduction of phosphate-free detergents

I.1. Findings of the Overview Report[7]

The introduction of phosphate-free detergents is considered to be a fast and efficient measure to reduce nutrient emissions into surface waters.[8] 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.[9]

Scenarios calculated in the DRBMP show that a ban on phosphate-containing laundry detergents by 2012 and dishwasher detergents by 2015[10] 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**.

At the European level, the Water Framework Directive[11] (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

[7] 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.
[8] 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.
[9] ICPDR (International Commission for the Protection of the Danube River) (2009), Danube River Basin District Management Plan, Part A – Basin-wide overview, p. 59.
[10] Phosphate-Ban Scenario-Nutrients.
[11] 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).

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"[12] 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"[13] 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[14], 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 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

[12] ANNEX Via point 1. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds.
[13] ANNEX Via point 2. of Regulation 259/2012, limitations on the content of phosphates and of other phosphorus compounds.
[14] ANNEX 1 "Interim Report on the Implementation of the Joint Program of Measures in the DRBD". p. 1-7.

	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.

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:[15]

- 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.[16]

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.

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.[17]

[15] http://ec.europa.eu/environment/water/water-urbanwaste/
[16] http://ec.europa.eu/environment/water/water-nitrates/
[17] http://ec.europa.eu/environment/air/pollutants/stationary/ippc/index.htm

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.[18] 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[19] 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:

- 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;[20] 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[21] .

Regulation 648/2004 introduced the following measures:

[18] 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.

[19] 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.

[20] OJ L 215, 1.8.1998, p. 73.

[21] 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).

- 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,[22] 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,[23] 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 substances should, under their normal conditions of use, present no risk, or a lower risk, to humans and/or the environment. The REACH[24] 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.[25]

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

[22] OJ L 104, 8.4.2004, p. 1.

[23] 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.

[24] 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).

[25] Regulation 259/2012. Preamble, paragraph (3).

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.[26]

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 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.[27] These range from measures aiming at limiting pollution by imposing regulations or standards on companies, via the use of economic instruments, such as taxes

[26] Annex VIa to Regulation 259/2012.

[27] 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.

and charges, to policies employing economic incentives, in particular environmental taxation or voluntary agreements to reduce phosphate use in detergents. [28]

Recent approaches attempt to connect individual instruments such as regulatory instruments[29] by integrating existing measures into a comprehensive framework for sustainable development (market based instruments[30] and/or voluntary agreements[31]).

According to the JAP,[32] **a joint decision for a voluntary agreement**[33] on promoting the introduction and use of phosphate-free detergents to the market of the Danube countries should be formulated. 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. [34] 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.[35] **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. [36]

The UNDP-GEF[37] 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

[28] 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.

[29] Regulatory (administrative or directive-based) instruments specify the obligations of the various actors and define how certain activities shall be conducted.

[30] Market based, or economic instruments create positive or negative incentives for certain activities by adjusting the financial conditions of those activities.

[31] 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.

[32] 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

[33] With the participation of the detergent industry (AISE) and the ICPDR.

[34] ICPDR (International Commission for the Protection of the Danube River) (2007), *Joint Action Programme. Final Implementation Report*.

[35] WRc plc (2006), Recommendations for the Reduction of Phosphorus in Detergents. Final Report (Project number 14092-0), p. 8, p. 55.

[36] 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.

[37] http://web.undp.org/gef/aboutus.shtml

River Basin, has generated detailed data on phosphate concentration and eutrophication in the Danube. The final report[38] 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 European Commission in a Declaration on Water Protection.[39] **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.[40]

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[41] 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.

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[38] UNDP/GEF report at Danube River is available at: http://www.undp-drp.org/drp/activities_1-8_detergents.html

[39] http://www.icpdr.org/icpdr-pages/water_protection_declaration.htm

[40] 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)

[41] 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.

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.

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 1st 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[i], 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[ii]

1st and 2nd 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 1st degree are defined by the law (see table below), actual area and restrictions for 1st and 2nd degree zones are designed by "legal water authority"[iii].

Tab. 1: Minimal extent of 1st 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 1st degree zones, entry of persons or vehicles is forbidden. Scope and regulations for 2nd 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[iv]

Sensitive areas are based on directive 971/27/EEC concerning urban waste treatment. By Governmental Decree[v], 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[vi]

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[vii] 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[viii] are defined by Decree of Ministry of Health Care (in cooperation with Ministry of Environment)[ix]. Another MoHC Decree[x] 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**[xi], indicators of water quality and programs for their improvements are set up by Governmental Decree[xii].

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[xiii], 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**[xiv]. 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[xv]. 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, Wast 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[xvi].

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[xvii].

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[xviii]. System of municipality sanctions can be also established by municipality decree.

Generally speaking, waste managent 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[xix].

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[xx], 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)[xxi].

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[xxii]. They require permit for handling of surface waters, issued by “legal water authority” (see note [iii]). 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 fo more than 50 inhabitants or facilities not CE compliant has to monitored – at least twice a year, samples has 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[42] (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[43], 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 Laender, 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 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[44] and the Floods Directive[45] 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[46] (NGP), the National Flood Risk Management Plan[47] and the Austrian Water Information System (WISA) including a register of protected areas[48] 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[49]. Basically decisions are taken by administrative formal decision or by the adoption of an ordinance – the procedures are different accordingly.

[42] Federal Law Gazette I No. 215/1959 in its current version
[43] Federal Law Gazette I Nr. 102/2002 in its current version
[44] 2000/60/EC
[45] 2007/60/EC
[46] Art 55aff
[47] Art 55iff
[48] Art 59ff
[49] Federal Law Gazette I No. 51/1991 in its current version

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[50] (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[51], 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 environmental objectives for protected areas which have to be followed in the regulation and management of these areas.[52]

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.[53] Furthermore Austrian specific protected areas according to the Water Management Act[54] (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[55] (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	The administrative decision designating the protected area is to be seen	Monitoring is carried out via observation of the water extraction point.

[50] National River Basin Management Plan 2009: BMLFUW-UW.4.1.2/0011-I/4/2010
[51] Nationale GewässerbewirtschaftungsplanVO 2009, Federal Law Gazette II No. 103/2010
[52] Cp. NGP 2009, p. 14.
[53] NGP 2009, p. 26
[54] Art 34, Art 35 and Art 37 WRG.
[55] Federal Law Gazette No. 254/1976 in its current version.

	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) takes an administrative decision (*Bescheid*)	separately from the decision authorizing the water supply facility: It is a decision taken in the public interest of a safe and hygienic water supply[56] The administrative decision produces an in rem effect – changes of ownership do not have an effect on the decision.[57] 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.[58] The operator of the water supply facility is entitled to file a request for the designation of a protected area. 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	Monitoring measures for drinking water lie in 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)

[56] Cp. VfGH 14.06.1980, B 473/77.
[57] Cp. Oberleitner/Berger, WRG[3] (2011), § 34 Rz 9.
[58] Art 104/1 WRG

		administrative authorities (Art 139 Constitutional Act) 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)	
Aim to generally protect public drinking water supply (Art 34/2 Sanctuaries)	According to this provision the sanctuary is to be designated in the form of a Legal ordinance by the respective regional Governor ('Landeshauptmann'). In Some cases the MoE is competent. The governor may determine activities which are not allowed, need to be officially authorized or have to be notified in the respective area.	This legal ordinance is regularly enacted for the areal protection of groundwater resources.[59] 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.	In sanctuaries evaluations are carried out by GZÜV[60] measuring points. These points are illustrated in the NGP
Aim to ensure future drinking and process water supply (Art 35) According to this provision the protection of currently not used, but pro futuro usable water resources is required.[61]	Protected areas are designated in the form of a legal ordinance by the respective regional Governor ('Landeshauptmann').		

[59] Oberleitner/Berger, Oberleitner/Berger, WRG[3] (2011), § 34 Rz 12.
[60] Gewässerzustandsüberwachungsverordnung – GZÜV (Ordinance on the Monitoring of the Quality of Water Bodies)
[61] Oberleitner/Berger, WRG[3] (2011), § 35 Rz 1.

	The governor may determine activities which are not allowed, need to be officially authorized or have to be notified in the respective area. Same criteria as for the designation of sanctuaries.		
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[62]. 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

[62] 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.

implementing legal act is the Fischgewässer-VO[63] ('Fish Water Ordinance'). The ordinance defines in its Annex A certain protecting areas. The MoE is competent to enact programmes 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"*[64] 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 Adminstrative Court defines the maximum size of a water protection area with the so called 60-day-limit[65] - 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[66]. A protected area is not clearly determined, if its geographical situation is not clearly identified and there is room for expansion variants[67].

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 borderline (e.g. Art 2 Schongebietsverordnung Oberndorf[68]). The exact boundaries of the sanctuary

[63] 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
[64] Cp. Art 1/3 FischgewässerVO.
[65] Cp. VwGH 12.12.1996, 95/07/0055.
[66] VwGH 23.06.1972, Slg 8258
[67] VwGH 19.9.1989, 86/07/0046
[68] Sbg. Law Gazette No. 98/2003

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).[69]

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.[70] 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*).[71] 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;[72]

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.[73] Equally flood risks have to be evaluated and incorporated into the NGP as well as into a separate flood risk management plans.[74] 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 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

[69] Cp. Art 2 Schongebietsverordnung Oberndorf, et al.
[70] Art 55c/1 WRG
[71] Art 55c/3 WRG
[72] Art 55c/4 WRG
[73] Art 55d WRG
[74] Art 55h,i and j

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.[75] 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).[76] 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.

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.

[75] Art 55n WRG

[76] Oberleitner/Berger, WRG^3 (2011), § 55n, Rz 1.

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.[77] 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.[78]

The Laender exersice 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.[79] 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 is constituted of a chairman (mostly the mayor of the municipality), the executive committee, a director and an agency for administrative issues.[80]

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.[81]

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.[82]

[77] Schnedl, Umweltrecht im Überblick (2012), 162.
[78] Art 1 Waste Management Act (AWG), Federal Law Gazette I No. 102/2002 in its current version.
[79] Cp. Bundes-Abfallwirtschaftsplan 2011, p. 26.
[80] Interview with waste management expert – "die Umweltberatung".
[81] Interview with waste management expert – "die Umweltberatung".
[82] E.g. Styrian Waste Management Act

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.[83] The treatment (recycling and disposal) of the waste referred to above has to be ensured by the waste management associations.[84] 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.[85] The municipality has to make waste containers available.[86]

The citizens of almost all Austrian municipalities have the possibility to deliver various types of waste (e.g. paper, glas, plastics, textiles) to so-called recycling centers (*Altstoffsammelzentren - ASZ*). Some municipalities share such facilities with each other.[87] 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.[88]

d.) Organic Waste

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.[89]

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.[90] This plan has to be adopted by the regional government (then it has the legal form of an ordinance). The plan is to be

[83] Cp,. Art 6 Styrian AWG
[84] Art 6 para 2 Styrian AWG
[85] Art 7 para 5 Styrian AWG
[86] Art 9 Styrian AWG
[87] Organisatorische Aspekte der österreichischen Abfallwirtschaft - Endbericht. Wien. März 2009.
[88] Interview with waste expert s – Ecology Institute and “die Umweltberatung”
[89] Interview with waste expert – “die Umweltberatung”
[90] Cp. Art 15 Styrian AWG

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_{60} have been counted by the Federal Environmental Agency.[91] The total capacity of these plants was about 20.6 million EW_{60}. In municipal wastewater treatment plants around 1,064 million m^3 of wastewater 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.[92]

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.[93]

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)

[91] UBA, Abwasserentsorgung in Österreich: http://ww2.umweltbundesamt.at/umweltsituation/wasser/abwasser/

[92] Austrian Waste Management Plan 2011: http://www.bundesabfallwirtschaftsplan.at/

[93] Expert Interview: „die Umweltberatung“.

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).

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 water 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 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 m3, with a total capacity exceeding 200 m3 tanks each with a capacity greater than 50 m3,
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 m3 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 1st protection zone, which serves to protect the immediate proximity to the water abstraction or detention facilities, and the 2nd protection zone, which is used to protect water resources against threats from distant locations. To enhance the protection of drinking water sources 3rd protection zone may be determine. However, if the conditions for the 1st 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 takeoff. 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 regulations 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 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 organization 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 flow 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 in 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 so called Municipality programmed of waste, which is a management and planning tool for waste management of municipalities. The municipality is in charge to elaborate such programmed, 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 programmed 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 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 materials 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 area dedicated on the permanent crops 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 waters 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^2. 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:

- 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/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[94] 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[95] 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[96] 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.

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[97] 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.

[94] Water Act (ZV-1), Ur.l. RS, št. 67/2002.

[95] 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.

[96] Decree on the emission of substances in waste water discharged from urban waste water treatment plants Ur.l. RS, št. 35/1996.

[97] http://www.arhiv.mop.gov.si/fileadmin/mop.gov.si/pageuploads/zakonodaja/okolje/varstvo_okolja/operativni_programi/operativni_program_komunalne_vode.pdf

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.

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 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.).

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 they carried out and if 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 Sea water area. Water area of the Danube River is entirely basin of sensitive area. On the Adriatic Sea water 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 10m3 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 m3 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 - I Zone. 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 the 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 plans 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 mention 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 Eaters 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 shell 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. Ones 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 Croatian (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, they 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 km². 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 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 cathegory. 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 cathegory (in RS both cathegories) while cantonal ministries operate on 2nd level cathegory 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 stellements 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 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 colection, 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 inidividual cesspools and colective 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).

Authorites 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 km2
- **Population:** 660,000
- **Land under cultivation:** 517,153 ha (37.4% of the country)
- **Climate and soils:** highly variable and generally un favorable
- **Montenegro lies between**
- 18o20' and 20o21' east geographic length **and** 41o05' and 43o33' 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-alpic type. It is situated in mainly carst region, and due to its position a 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 recognize 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 gora 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 45000 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 m3 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 km2 or 52, 5%) and Adriatic Sea basin (6267 km2 or 47, 5%). The most important Montenegrin rivers of the Black Sea basin are: the Piva, the Tara, the Lim, the Ćehotina 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 Ćehotina, 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 Ćehotina, 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 pans, 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 ("Offical 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 ("Offical Gazzete", No. 65/08 from 29.10. 2008)

Plans:
Water management basline (2001)

Montenegro lacks legally defined water flow "buffer zone" terminology and principle. The main legal act – the Law on Waters ("Offical 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 defintion of different terms and principles of water management in the Country.The Water Law missies certain sub-law instruments for the implementation of all principles that its 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 10m3/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 bathing sites and in Article 33 is stated:

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

  The physical planning documentation shall include the areas under special protection (sensitive buffer zones around water supply sources and natural bathing sites) and endangered areas (flood and erosion prone), pursuant to the provisions of this Law.

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 areas under special protection (sensitive buffer zones around water supply sources and natural bathing sites) exists („The Rulebook on

determining and maintaining zones and belts of sanitary protection of springs and limits in those zones, "Offical 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 bellow). The main legal acts and plans/programs in water sector in the Country are Law on Waters ("Offical 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 ("Offical 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 ("Offical 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 restrains 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 filed in Montenegro (only 2 sanitary land filed exist in Montenegro, one in Podgorica, of the regional character and another on in Municipality Bar, also of a regional character). The Podgorica sanitary land filed is sued 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 the maintenance 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 in Podgorica (reconstructed) and Mojkovac, and ongoing activities exists 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) has 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;
- Un adequate 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, Oraška pit);
- 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 connections 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 establishes 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” for has been established for development and management of regional water supply system. In addition it has the competence to discharge and treatment of waste water 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 fileds)

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 wach 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 signes, 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 foreseen all necessary measure to prevent the pollution of the groundwater, lakes, therapeutical 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 complete;
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 prote4ction 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 p[rotection 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 substanţă, preparat sau orice obiect din categoriile stabilite de legislaţia specifică privind regimul deşeurilor, pe care deţinătorul îl aruncă, are intenţia sau are obligaţia 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, costal), 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 authorties – 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 by 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 they activity and placement 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 persons 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.

Te 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 1071996 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 teh 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 limits for substances in the water) and depending on the final point of discharging (natural receptor or treatment facility).

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[98] 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[99] while at the same time ensuring favorable status and development of ecosystems and wetlands[100]. It is important to underline the special legal regime of ownership over rivers in Bulgaria – according to the Water Act[101] „the river waters and the riparian lands[102]"are public state property, including the flood plain of the Danube river[103]. 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[104]. However, the definition of 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[105].

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

[98] Environmental Protection Act (EPA) (promulgated State Gazette No.91/2002, as amended, last amendment SG No.66/2013).
[99] EPA, Art. 37
[100] EPA, Art.35 (2), item1
[101] Water Act (WA) (promulgated SG No.67/1999, as amended, last amendment SG No.103/2013)
[102] WA, Art. 11(1), item1
[103] WA, Art.12(2)
[104] Protected Areas Act (PPA), (promulgated State Gazette No.133/1998, as amended, last amendment SG No.66/2013), Art. 7 (1)
[105] PPA, Art. 7 (2)

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.[106]

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[107] brought all buffer zones designated prior to that according to Biodiversity Act and Nature Protection Act under the regime of protected sites[108].

Other laws also bear relevance to the protection of waters like Forest Act[109] in Art. 5(2) defining as "protecting forest territories" also those ones for protection of water, or Protection of Agricultural Lands Act[110] which stipulates that the owners and the users of the agricultural lands shall be responsible for damaging the quality of surface and underground waters[111].

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".[112] The protected areas fall into the following categories: strict nature reserve, national park; natural monument; managed nature reserve; natural park and protected site[113] each of them with specific assigned use and regime of protection. From all 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.[114]

Protected areas are designated and modified by the Minister of Environment and Water[115]. The Minister aslo 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[116]. The Minister of Environment and Water issues a designation order for the protected area which states its legal grounds; primary objectives; category

[106] PPA, Art.21, item1
[107] Promulgated SG No.77/2002, as amended, last amendment SG No.66/2013
[108] Para. 78 of the Transitional and Final Provisions of the Biodiveristy Act, 2007
[109] Promulgated SG No. 19/2011, as amended, last amendment SG No.109/2013
[110] Promulgted SG No.35/1996, as amended, last amendment SG No.66/2013
[111] Art.5(2), item1
[112] PAA, Art.4 (1)
[113] PAA, Art. 5
[114] PAA, Art.8(1)
[115] PAA, Art.35
[116] PAA, Art.47

of the area, name, area distribution of forests, land tracts and aquatic areas and regime of the principal activities within the protected area[117].

The Ministry of Environment and Water and the regional authorities conduct and implement the management and control in protected areas[118]. 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[119]. 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[120]. 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[121]. 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[122].

The Nitrates Decree No.2[123] 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, 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[124] 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[125]. 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

[117] PAA, Art.39
[118] PAA, Art.46
[119] PAA, Art.50
[120] PAA, Art.11
[121] PAA, Art.13(1)
[122] WA, Art. 38 (10-(3)
[123] Decree No.2 of the Minister of Environment and Waters, Minister of Health, Minister of Agriculture and Food on on the protection of waters from pollution with nitrates from agricultural sources (promulgated SG No. 27/2008, amended SG No.97/2011.

[124] Art. 20 (1)-(2)

[125] Art.20 (3)

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[126]. 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[127] 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[128]. 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 unless they are subject to a more stringent regime[129]. 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[130]. 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[131]. 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[132].

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[133]. 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[134]. Art. 18(1),

[126] 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)
[127] Promulgated SG No.97/2000, as amended
[128] Art.2 (2)
[129] Art.5 (1)
[130] Art.10 (2), Art.11(1)
[131] Art.11 (2)
[132] Art. 16 (1) and (2)
[133] Art. 169 (3), item 1 of the Spatial Development Act (promulgated SG No.1/2001, as amended)
[134] Promulgated SG No.83/2004, as amended.

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[135]. 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[136]. 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[137].

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 environmental monitoring system. Decree No.1/2011[138] 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[139]. 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.[140]

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[141]. 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[142].

[135] WA, Art.149 (1)-(2)
[136] WA, Art.149a
[137] WA, Art.173(1) 1-2
[138] Promulgated SG No.34/2011, amended SG No.22/2013
[139] Decree No.6 on emission standards for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites.
[140] Art. 21.
[141] WA, Art.169c
[142] WA, Art.172

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[143].

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[144] 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 isI 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 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[145]. 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[146]. 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[147]. 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

[143] PPA, Art. 70, item 1

[144] 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)

[145] Art. 15 (1)

[146] Art. 16 (1)

[147] PAA, Art. 36

organizations concerned and other representatives of ministries, central-government departments, research and academic institutes are invited to attend the public discussion[148]. 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[149]. In case of favorable decision the Minister of Environment and Water issues a designation order for the protected area[150]. 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[151].

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 invited representatives of the municipalities, regional governors, local environmental and public interest organizations and other interested representatives of ministries, organizations, scientific and academic institutes[152].

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[153]. 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

[148] PAA, Art.37
[149] PAA, Art.38
[150] PAA, Art.39
[151] PAA, Art.40
[152] PPT, Art.37.
[153] Art. 39 (2)

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

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)[154]. 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[155].

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[156]. 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[157].

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[158].

[154] Promulgated SG No.53/2012, amended SG No. 66/2013.
[155] Art. 19 (3)
[156] WMA, Art. 22 (2)
[157] WMA, Art. 23(1)
[158] WMA, Art. 34

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 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[159]. 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[160]. 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)[161]. 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[162]. 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 recovery and/or final disposal, cleaning of public spaces, separate collection of household waste

[159] WMA, Art.126
[160] WMA, Art. 127, item 1 (a) –(b)
[161] WMA, Art. 133 (1)
[162] WMA, Art.142, item 1 (c)

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[163]. 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[164]. There are still many such settlements in Bulgaria not yet connected to any sewarage 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[165].

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[166]. 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[167]. For example, Spatial Development Act situplates that septic pits and temporary toilets could be built only if they comply with the sanitary-hygienic norms and should be placed at least 3 m. inside from the borders of the property[168]. 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

[163] WMA, Art.22 (3)
[164] WA, Art.46(4)
[165] Decree No.6/2000 for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites, Art.14
[166] Art.59, item 3
[167] SDA, Art. 87 (1)
[168] SDA, Art. 47(2)

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[169]. 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[170].

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) 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[171]. 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.

[169] Art.46 (1), item 3, (a)-(b)
[170] WA, Art.52(2)
[171] WA, Art. 79(1), item 3

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.

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 definitionsin 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 comprise 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*.Thelaw constitutes the basic legal frame for drafting the special normative acts and instructions on issues in the domain of environment protection.[172]
- *Law No.851-XIII of 29 May 1996on the ecological expertise and assessment of impact on the environment*. This law establish 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 1997on 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 1998on 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.[173]

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.[174]

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.[175]In turn the

[172]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.
[173]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.
[174] 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.
[175] 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.

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.[176]

Law No. 272 of 23.12.2011 on wateris 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 sourcesd on the evaluation, planning and participatory decision-making.[177]

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.[178]

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.[179] 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.[180]

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. The provisions of this law are applicable in respect of natural and natural persons, including the foreign ones.[181]

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 tothe 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.[182]

[176] 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.
[177] 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.
[178]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.
[179]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.
[180]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.
[181] 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.
[182] 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.

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.[183]

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.[184]

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.[185]

Besides the fact that this law establish the dimensions of the areas for water protection it providescertain 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;
- 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.[186]

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.[187]

[183]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.
[184]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
[185]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
[186]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
[187]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

- 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 promptinvolvement 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 de pending 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 Nistruriver 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 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.[188]

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.

[188]Government Decision nr.433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods.[On-line]:http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=343760.

(*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.

Currently the legal framework regulating the waste management issues includes:

- *Law No.1515-XII of 16 June 1993on environmental protection;*

- *Law No.851-XIII of 29 May 1996on the ecological expertise and assessment of impact on the environment;*

- *Law No.1102-XIII of 6 February 1997on natural resources;*

- *Law No. 1540-XIII of 25 February 1998on the sanctions for environmental pollution;*

- *Law No. 1347-XIII of 09 October 1997on production and household waste;*

- *Law No.1236-XIII of 3 July 1997on the regime of hazardous products and substances;*

- *Law No. 40-XV of 19 February 2004on 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 pollutionand 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 administrationand 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;[189]

- 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;[190]

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;

[189]Art. 9, par. c), 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.
[190] Art. 10Law 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

- 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.[191](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 1997on production and household waste. The current structure of rational/district councils do not include subdivisions that would ensure implementation of environmental policy, including waste 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.[192] 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.[193]

[191]Art. 6, par. a-k), Law No. 1347-XIII of 09 October 1997on production and household waste. [On-line]: http://lex.justice.md/index.php?action=view&view=doc&lang=1&id=311576.
[192]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
[193]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.

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”

- the Hungarian pilot study -

Milestone No. 1: Survey of the situation of buffer zones

Introduction – the system analysis of the relevant laws

Before putting together a questionnaire on the systematic analysis of the situation on buffer zones, we have surveyed the Hungarian legal system for the relevant legal institutions defining, determining and protecting buffer zones in the vicinity of living waters of the Danube Basin. Based on this more detailed pilot survey we proposed a draft set of questions for the national research partners from the Danube basin countries and submitted it to the body responsible for the report on the Danube River Basin Management Plan. The questions thereafter were sent to 12 country researchers who sent their detailed answers. In the resent study we introduce the pilot analysis that served the basis for initiating and performing a comparative analysis of the laws and practices of 12 Danube countries concerning the protection territories of waterflows.

As concerns the overall methodology of our national survey we have performed a *system analysis*, i.e. we have tried to reveal all the relevant elements of our administrative laws and regulations and map out their possible interrelationships. Such elements encompass legal institutions that contribute to the protection of water flows through establishing certain territories, zones or stripes where certain activities are prohibited or constrained, while other activities on these territories, such as maintenance and monitoring or best management practices are encouraged or even prescribed.

We have found that quite several laws and regulations in the field of water management law, environmental and nature protection law, public health laws, several branches of agricultural administration and other laws target these issues from their specific angles. This is a mounting task – we just have made some initial steps in solving it – to evaluate the interplay of such parallel efforts of our law. Within this program we have compared the definitions these laws and regulations provide for the different kinds of protecting territories alongside waters, we have also examined the different administrative procedures, where the representatives of other branches of administration can take part as so called co-authorities and also tried to trace back cross references, if any, amongst these laws and regulations. We are convinced that not the individual pieces of legislation but the whole system determines the effectiveness of the protection of our waters from overburdening amounts of nutrients and other polluting materials.

III. Water management and water protection laws

III.1. General rules of water protection in the Environmental Code

The basic rules of water protection are shortly summarized in the Environmental Code[194]. Water protection shall be extended not only to the river banks and shores, but also, amongst others to their assigned neighbouring lands that are under special protection[195]. Such areas include on one hand those areas that are sensitive to water cleaned in sewage treatment facilities or to nitrate pollution and the *protection zones* of ensuring the quality of drinking water, mineral water, spa, nature protection and

[194] Act LIII. of 1995 on the General rules of environmental protection
[195] Art. 18(1)

also waters serving sport and recreation[196] on the other hand. These protected lands of the second group shall be registered in the central environmental data base[197]. We see that the general principle of the protection of waters through the territories alongside them can be either functional or administrative. The first category is more general, allows for a discretionary decision from the authorities, the latter one is more special, formal, determined by a preliminary act that decided their extent and the rules of their protection.

An other principal level rule of the Environmental Code is that an environmental supervision[198] of those activities that are significant for environmental protection shall take place in a full range form in the cases when the activity takes place on a protected zone or on a protecting zone of nature protection, water protection or drinking water protection territories. In such cases the activity can be constrained or suspended fully or in part[199]. Environmental supervision is a legal institution that is similar to environmental impact assessment, but it is not targeted on planned, new activities but on existing, operated ones. We see that the environmental supervision is a tool for the protecting territories determined in a more formal ways. However, in principle this legal tool can be used also for sensitive areas not formally determined as protecting zones or stripes if the environmental authorities decide so, but it is not mandatory in all cases, as we have said, it is subject to the discretion of the authorities.

III.2. The definition of the protected territories

The Governmental decree on the River basin management[200] gives a general definition of the protected territories that is a collecting term for both the protecting zones and stripes and other protected territories. According to this definition such territories are determined by law or by a decision of an authority, with definite boundaries, where the targets of protection are especially the waters, aimed to human consumption and other use (e.g. bathing) and these territories are also for protecting water dependent sites or species in all instances with specific provisions and legal consequences thereof[201].

The Governmental Decree on the procedural rules of water management administration[202] use the term protecting territories and without specific definition provisions it identifies this term as a collecting term of the protecting territories and stripes[203]. We note that since this quasi definition is included in a sub-chapter of the Decree assigned to drinking water protection matters, the definition here, as concludes from the structure of the Decree, refers only to those surface waters that serve drinking water purposes directly or indirectly.

A specific term can be found in the Governmental Decree on the use of the flood territories, shore stripes and summer dams of rivers[204]. Starting out from the specific water management purposes of this act, it defines the protecting stripes as the stripes along the dams on their both sides in 10-10 meters width measured from the feet of the dams. The Decree introduces the notion of the protecting

[196] Art. 18(3) a)-d) and Art. 20
[197] Art. 18(4)
[198] Art. 74 of the Environmental Code – environmental supervision is an EIA like procedure for activities in their operation phase, either because their environmental (EIA) permits have expired or because data emerged about new environmental hazards in connection with them.
[199] Article 74(2) b) and 74(3)
[200] Governmental Decree No. 221/2004. (VII. 21.) Korm.
[201] Art. 2 s)
[202] Governmental Decree No. 72/1996 on experiencing the water management authority rights
[203] Article 9(1)
[204] Governmental Decree No. 21/2006. (I. 31.)

forest stripe, too, that is a forest stripe inside the above mentioned protecting stripes that serve first of all the protection of the dams from the work of the waves and ice[205].

According to the Water management act[206] protecting territory (including protecting stripe) shall mean the territory surrounding water utility facilities that use the surface water directly. The width of the zone shall be determined by the protection needs of the water use in question[207]. We have seen here again a drinking water and water utilities centred definition of the protecting territory. In general, we can conclude that the definitions of such territories tend to address several water management and environmental/nature protection features, in some cases even a mix of them.

Taking into consideration the general principles in the previous point, too, the core elements of the definitions of water protection territories are the following:

- a certain territory or stripe around or alongside a water body (its extension is determined either by the law itself or by the relevant authorities according to the features given by the laws);
- they themselves can be prescribed by specific legal provisions or established by the environmental/water management (and possibly other) authorities based on a discretionary power;
- serving the protection of waters or water dependent sites or species; and
- subject to special constraints or responsibilities, including forest management ones.

III.3. Planning of the protection

The Governmental decree on the River basin management[208] establishes the basic rules of the *river basin management plan*. Elements of this plan shall be especially the assignment and registration of protected territories, protecting zones and stripes[209]. The Governmental Decree on the maintenance of waters and public water facilities[210] contains specific provisions on reeds, establishing combined tasks for the water management bodies and for the environmental protection authorities. These tasks include forming a 5 years long *reed management plan*, in which the concerned territories are exactly delineated and the qualification of the reedy territory as well as the reed harvesting methods are established[211].

The Act on Water management[212] also contains a *planning responsibility, concerning the flood territories* along the major rivers. This plan is prepared by the minister responsible for water management and is promulgated in a ministerial decree and has to be brought into harmony with all the relevant nature protection plans, including Natura 2000 management plans and also with the regional forest management plans[213]. This latter planning regulation is a good example of the multidisciplinary legal efforts where water management plans shall be brought into harmony with at least the relevant plans of environmental and agricultural administrations.

[205] Article 1.11
[206] Act LVII of 1995
[207] Annex 1, Point 19
[208] Governmental Decree No. 221/2004. (VII. 21.) Korm.
[209] Art. 3(6) b)
[210] Governmental Decree No. 120/1999. (VIII. 6.) Korm.
[211] Art. 9 (9)-(11)
[212] Act LVII of 1995
[213] Art. 24(7)

III.4. Assignment of the protecting zones

In this sub-chapter we survey the procedure of assigning the protecting zones, i.e. who can initiate such procedure, who is the decision-making body and the contributing authorities, if any, also the content of such decisions and some additional issues, such as the remuneration or damage payment to concerned land owners or users and registration of the decisions into the land registration system.

The Governmental Decree on the procedural rules of water management administration[214] in its chapter on drinking water protection obliges the environmental inspectorates to assign protecting territories according to the request of the operator of the concerned water utility or ex officio[215]. In the decision the inspectorate shall arrange for the proper use of the concerned lands, including provisions, limitations and safety measures, such as installing and operating monitoring and controlling systems. In the cases when these limitations excessively hinder the use of the land, the respective water utility might be obliged to purchase it or to compensate the owner. These constraints and limitations of use of the lands shall be introduced into the land register[216]. In all of these procedures the environmental authorities shall involve the public health authorities as so called „co-authorities" with substantial rights to determine the content of the decision[217].

A more refined regulation on the civil law aspects of the assignment of the protecting zones can be found in the Water management act[218] according to which the transitional use of the stripes ashore by the water management authorities and bodies shall not entail with damage payment, while the damage in perennial plants, damage in pending fruits and damage in buildings (if legally built at the zone) shall be remunerated[219].

We note that several branches of law have different attitudes towards the issue of compensation of the owners and users of lands whose use is restricted because of their assignment as water protection territory. Some branches of law (typically the older ones with deeper social roots and higher prestige, such as water management) pay less attention to the individual interests infringed by activities defending such important social interests as the safety of our waters, while others (typically environmental and nature protection laws) tend to try to compensate all, which might mean too large financial burdens and hinder seriously the achievement of their functional goals.

III.5. Maintenance of the protecting zones

According to the Governmental Decree on the procedural rules of water management administration[220] the environmental inspectorate shall bring decisions on obliging all the interested parties to restore and maintain the protecting territories and strips. The Governmental Decree on the maintenance of waters and public water facilities[221] underlines the special role of reedy territories in protection of the water quality and also the solidity of the shores of the waters. Their qualification (as closed, rare or patchy), maintenance and use is the task of the state authority or other state owned body that is responsible for the management of the river bank. The water quality and nature protection

[214] Governmental Decree No. 72/1996 on experiencing the water management authority rights
[215] Art. 9(2) b)
[216] Art. 9(3)-(7)
[217] Governmental Decree No. 347/2006. (XII. 23.) Korm. on the Assignment of authorities for performing environmental, nature protection and water management authority and organising tasks, Article 32/D(2) a)
[218] Act LVII of 1995
[219] Article 25(1)
[220] Governmental Decree No. 72/1996 on experiencing the water management authority rights
[221] Governmental Decree No. 120/1999. (VIII. 6.) Korm.

purposes shall prevail the economic uses (reed harvesting). All of these activities are supervised by the environmental inspectorates[222].

We can conclude that our administrative laws pay less attention to the maintenance than the definition and assignment of the protecting territories – in a way they consider it to specific organisatory task to be solved by individual measures of the authorities, other state or private bodies and the land owners. However, as we have seen in the previous sub-chapter, the authorities when assigning a protecting territory would generally describe the responsibilities of the owners/users of the territory and regularly monitor their activities.

III.6. Expedited procedures in relevant water management cases

The Hungarian Government established a category of administrative law cases, called „cases of extraordinary importance" where the procedural deadlines are significantly shorter and in general the administrative bodies shall apply all their available resources in order to reach the best results within the quickest time (generally maximum 30 days, why the co-authority decisions shall be brought within 10 days). The first instance and second instance administrative bodies might have special position and entitlements in these cases (in some instances a central, specialised body handles even the first instance cases, which body's sole responsibility is to concentrate on the extraordinary cases) and their decision is to be implemented immediately without waiting the results of the second instance procedures. Notification of the concerned parties in these cases usually happens by billboard or similar mass communication ways unless it is extended in person during the procedure. Such extraordinary cases are established in separate governmental decrees such as:

- Governmental Decree on the river border guard system where all the water management procedures shall be expedited, especially the procedures for assignment of protecting territories and stripes[223]
- Governmental Decree on certain waste water treatment and pipeline investments. This decree enlists 10 smaller cities and their surrounding territories where the expedited procedures shall take place in all water management administrative cases, similarly to the previous point[224]. We note that in this decree the scope of expedited procedures are expanded to several other fields of administration law, such as nature protection, environmental protection, forestry management, soil protection, spatial planning, construction permitting, public health administration, technical safety regulations etc.
- Further regulations on waste water treatment and pipeline investments with similar provisions[225].

We note that expedited procedures here serve primarily social and economic purposes (such as the quick and effective spending of EU subsidies), while as their secondary effect, important water management and water protection goals, such as establishing protecting territories, will be served, too.

[222] Art. 9. (1)-(9) and (10)
[223] Governmental Decree No. 293/2013. (VII. 26.) Korm., Annex 1, Point 1
[224] Governmental Decree No. 250/2013. (VII. 2.) Korm., Annex 2, Point 1
[225] Governmental Decree No. 29/2013. (II. 12.) Korm., Annex 2, Point 1 – this decree arranges for expedited procedures in 281 settlements where the EU financial support is already decided and for further 26 pending cases;

III.7. Sanctions

According to the Petty Offence Code[226] a petty offence called water pollution is committed when someone infringes the provisions of a law, regulation or individual authority decision concerning protecting territory or protecting stripe of waters assigned for drinking water, mineral water or medical water usage, especially by running activity or use of their real estates against the constraints established thereof. In such cases, apart from the regular petty offence procedures, an on spot fine can be exerted by nature protection guards, competent officials of the catastrophe prevention authority, meadows guards or fishery guards[227].

We note here that even if the amount of sanctions under a petty offence legal regime are typically low, they target individual persons rather than organisations, therefore their social effects might be high.

IV. Drinking water protection

We find the most stringent water protection rules naturally in the drinking water protection legislation – representing a kind of bordering territory of water management and public health administrative laws. Even if they cannot be applied generally, the drinking water regulations might serve the protection of the living water flows with important methodological traits. Therefore it seems to be worthwhile to cast a short glance on this sector of water management law, too. We note here, that there is a direct overlap between drinking water protection and the protection of living waters in case where potable waters (after certain filtering and in some cases further handling) are gained directly from surface waters.

IV.1. The system of territorial protection in the water utilities' regulation and the relevant definitions

The governmental decree on Drinking water sources, prospective water sources and on the protection of water utilities serving drinking water supply[228] establishes a system of protection where the territorial constraints and prohibitions are part of a larger system. For public interest water utilities it is mandatory to assign a protecting territory or stripe, while for private utilities it can be done, too[229]. The protecting territory is divided to inner, outer and hydrological zones, according to the time a potential pollution would reach the abstraction site[230].

Protecting territory is defined in the Decree as a territory surrounding operating or planned water utilities (including surface water utilities, too) where there is a need for enhanced security. Exceptionally a protecting territory can assigned further from the utility, not even directly neighbouring its land. As we have seen, the protecting territory is divided into protecting zones, according to the grades of necessary protection, while the protecting stripe means in this field of law any stripe that directly borders a water storage or carrying device[231].

We note that these protecting territories are acknowledged by a very wide range of other laws, amongst others in the field of land use regulations or construction laws and entail with serious

[226] Act II of 2012 on Petty offences, on the petty offence procedures and registration
[227] Art. 251 (1) c) and Art. 251(2)
[228] Governmental Decree No. 123/1997. (VII. 18.) Korm.
[229] Article 1 (3)-(4)
[230] Article 2(4) and Annex 2 and 3
[231] Annex 1, Points 4-6

constraints in the use of these lands, apart from those specified in the drinking water protection Decree analysed here.

IV.2. Procedure and content of the assignment of protecting territories, further procedural rules of their maintenance

The protecting territories and stripes are to be assigned by a decision brought by the environmental inspectorate, taking into consideration not only the water management but also the environmental and nature protection rules, too. The procedure starts with a request from the operators of the utilities, where the format and content of the request is also given by the law in details. The decision on the protecting territory shall contain not only prohibitions (such as prohibition of construction and real estate transformation) but positive responsibilities of maintenance nature, too, such as fencing, sign posting, spreading out information leaflets to the concerned communities and also monitoring the status of the protecting territory in the regularity determined by the decision[232]. The decision shall be revised in every 10 years the latest[233].

The environmental inspectorate shall run an environmental impact assessment procedure before permitting the most significant planned activities on the protecting territories or in case of activities of smaller significance shall determine the necessary individual examinations as a condition of permitting the activities. In both cases the experts contributing to the assessment or examinations shall bear specific licences in the field of water and geology sciences. On the other hand, the owners of the protecting territories shall be notified about any relevant water management administrative procedures concerning their lands[234].

We would like to highlight the rich methodology of the protection of the territories assigned under this drinking water regulation. Such measures as establishing mandatory maintenance works and information of the general public about the purposes and ways of protection can be useful for the protection of water flows only because of their natural values, too. We have seen in Chapter I that the genera water management rules are flexible enough to allow for such measures.

IV.3. Limitations in the use of the protecting territories

While the conditions of use of internal protecting zones are so specific that might have less parallels with the general protection of natural water flows, some of the rules of outer zones can be a matter of interest for our topic:

- the slopes of the land in that zone shall be arranged in order to prevent precipitation water to flow towards the protected water body;
- roads on the protecting territory shall be designed in a way (with pitches) that prevents waters on the road from flowing into the protected waters;
- no road maintenance materials shall be stored on the span of the roads overlapping with the protected territory;
- a „stop is prohibited" traffic sign shall be valid for the whole span of the road on the protected territory and also traffic signs that exclude crossing by vehicles carrying dangerous substances;
- facilities, such as houses, sport and recreational buildings or factories shall apply drains that are leak-proof and are checked with overpressure probe;
- storage of liquid fuels or any kinds of chemicals in larger amounts is prohibited;

[232] Art. 8 (1)-(7)
[233] Art. 9
[234] Art 15 (1)-(6)

- within the protecting stripe of drinking water utilities there shall be no polluting objects or materials deposited. This latter prohibition encompass any other objects, too, that can ruin or damage the utilities[235].

Activities concerning agricultural plants shall be based on scientific measures taken into consideration of the type of soil and the water flows on that:

- animal husbandry is restricted to a limited number of chickens;
- grazing can be permitted only under controlled circumstances[236].

Annex 5 of the Governmental Decree determines further categories of restricted or prohibited activities on the protecting territories, such as constructions for dwelling, sewage treatment, landfill, cemetery, gardening, camping, bathing, sport courts, any industrial activities in connection with dangerous substances or hazardous wastes, composting, use of fertilizers and pesticides, grazing, watering with fluid wastes (even if cleaned), storage of animal carcasses, fish-husbandry, several transport and mining activities.

IV.4. Restrictions on exercising property rights on the protecting territories

While the owner of the water utility shall remunerate the owners of the concerned lands, there is no payment due for the damages in connection with ceasing activities that are prohibited by the laws about the protecting territories. Also the owners of the land are obliged to tolerate that the water management personnel enters into their lands and work on those, such as perform monitoring activities. All the restrictions on the concerned lands shall be noted in the land register system and also in the water management registration book. On the other hand, the owners of the concerned lands can apply for financial support for specific State funds, in order to cover their overall costs[237].

V. Spatial planning laws

V.1. Protection of the built environment and protection from the effects of buildings

While there are protecting zones and stripes in many other branches of administrative laws in our legal systems, focussing only on one legislative aim, the zones protecting the buildings of human dwelling have double face, as they are regulated in the Environmental Code[238]. While on one hand the Code declares the necessity of the protection of buildings from several disturbing and damaging effects by protecting distances and territories and the connected protecting measures[239], it also underlines the importance of the protection of nature and the general environment from the effects coming from the buildings themselves. Therefore, in the relevant spatial planning documents the expected environmental effects of the developments of buildings and blocks of buildings shall be gauged preferably in a separate environmental protection chapter[240].

[235] Article 6(1) c)
[236] ibid.
[237] Art. 15 (8)-(10), Art 16-19
[238] Act. LVII of 1995
[239] Art. 25 (1)-(2)
[240] Art. 27

The same dichotomy is missing from the Governmental Decree on the Basic methodological rules of spatial planning and construction[241] (hereinafter: OTÉK). While this decree contains a whole chapter on the protecting territories, they exclusively deal with the protection of the buildings from several kinds of disturbing, endangering or damaging effects, such as roads and highways and any activities that fall under catastrophe prevention laws[242].

V.2. Laws on local level spatial planning

The Governmental Decree on settlement development concept, on integrated settlement development strategies and on spatial planning tools and legal institutions[243] again represent a more balanced view than OTÉK, because in its Annex 4 and 5 they prescribe that the local municipalities when designing their settlement structure plan and their local construction ordinance respectively, shall take into consideration both the protecting territories and stripes that aims to defend the built environment and those territories, zones and stripes that are stipulated in any other higher level laws and regulations in order to protect the environment form the constructions. These latter provisions represent therefore an important guarantee that in the local spatial plans all the lands protecting several environmental, nature protection and water management interests shall be duly included.

We would like to highlight that the local spatial plans represent a kind of summary, focal point of all the different protecting goals that have their respective spatial dimensions. We have to take into consideration that in the procedure of designing and establishing the local spatial plans there are many stakeholder taking place, including the relevant authorities, too, such as the environmental and the water management ones. Therefore in such a deliberative procedure, the interests of protecting the water flows nearby the planned extension of the settlements can be harmonized with the development needs of the local communities.

VI. Waste water treatment and pipelines

Contrary to the previous chapters, where we have examined rules based on the protection of territory and waters („output side") , in this sub-chapter we enter into the discussion of the „input side", i.e. the relevant regulations on the major pollutants.

VI.1. General rules in the Environmental Code

Again we can start out from the rules of the Environmental Code[244] where there can be found a separate chapter titled „Dangerous materials and technologies". The Code stipulates: „when applying technologies entailing with environmental endangerment a protecting territory shall be assigned or a protecting distance shall be determined tailored according to the dangerous features of the source in order to decrease the level of endangerment". The Environmental Code even concerns with the issue of remuneration of those who suffer material harm owing to the assignment of these territories or distances. Interestingly enough, the legislator here dispatches the financial burden on punitive bases,

[241] Governmental Decree No. 253/1997. (XII. 20.) Korm.
[242] Article 38 (1)-(12)
[243] Governmental Decree No. 314/2012. (XI. 18.) Korm.
[244] Act LVII of 1995

stipulating that the expenses shall be born according to the ratio of responsibility of the concerned parties[245].

VI.2. Definition of the protecting territories in the waste water treatment law

According to the Governmental Decree on the General rules on activities and facilities for use, protection of and averting of the damages caused by waters[246] water protection territories are identical with the definition in the Governmental Decree on the water sources protection. This definition served first of all the protection of drinking water utilities in the mentioned decree, while the present decree focuses rather on the protection of natural surface waters[247]. This cross reference in the definitions refer to the fact that the term of protecting territories in the drinking water laws is more or less interchangeable with that of the protection of natural water flows.

VI.3. Intersection of protecting stripes and linear constructions

It is quite a specific issue, but can be important to extend our attention to the situations where some linear constructions, such as pipelines for carrying liquids (fuels typically) or information transmission cables are to be led above or below a water flow, because these situations involve the danger of serious water pollution in case of the rare occasions of accidents. In the cases when the crossing is designed below the river, the pipe has to enter into the soil in a way that it is already in 3 meters depth when reaching the outer border of the protecting stripe. A parallel leading of the pipe is not allowed even above the water[248]. No railway or road shall be designed within the protecting stipe. Any crossing that carries liquids shall be accomplished with specific valves in order to ensure that a closing down device can be accessible even in case of flooding[249].

We can conclude here that the pollutant side regulation of the protecting territories, zones or stripes of water flows can be effective, as well, because the legislator can determine the details of restrictions and other obligatory rules of protection in harmony with the technical and legal specialities of the polluting (endangering) activity.

VII. Laws on agricultural practices possibly endangering waters

A central piece of legislation of the topic of protection of rivers from overburdening with nutrients is the EU law based Governmental Decree on the protection of waters against nitrate pollution of agricultural origin[250] (hereinafter: the Nitrate Decree). A more detailed analysis of this decree can again put the issue of protecting zones and stripes into the broader context of a system of the protection of natural waters from several kinds of pollutants, including nutrients.

[245] Art. 29 (1)-(2)
[246] Governmental Decree 147/2010. (IV. 29.) Korm.
[247] Article 2 Point 40
[248] Annex 1 to Governmental Decree 147/2010. (IV. 29.) Korm., Points 1.3.1.5.1, 1.4.2 and 4.3.3
[249] Point 9.2.11
[250] Governmental Decree No. 27/2006. (II. 7.) Korm.

VII.1. Definitions in the nitrates decree

A line of definitions of the decree gives legal meaning to everyday agricultural terms and also to terms of chemical and biological sciences. *Eutrophication* means an acceleration of proliferation of algae and higher order plants in the water where they entail with unfavourable changes in the life and quality of waters[251]. This term is closely related to the term of *nitrate pollution* which means direct or indirect flow into the waters of nitrogen compounds of agricultural origin where they directly endanger human health, living species, water ecosystems, the use of waters and the aesthetic value thereof[252]. The *proper agricultural practice* is also defined here: a set of prescription of agricultural methods in order to prevent or mitigate the nitrate pollution of waters, especially concerning manure storage in animal husbandry plants, agricultural use of any manure and all the water protection aspects of any other agrarian techniques[253].

VII.2. Assignment of nitrate sensitive territories

The Nitrate Decree determines a double approach for assigning nitrate sensitive territories: first the competent authorities shall take into consideration the quality of the water in question, second, they also have to pay attention to a line of other factors, such as the environmental circumstances of the water and the soil in its vicinity, the use of the surrounding lands and also the relative success of the action program regulated in the Decree[254]. There are also several territories assigned by the law itself, i.e. no further administrative decisions needed in this respect (e.g. the major lakes of the country, karst underground waters, mining lakes and their shore stripe of 300 meters width)[255]. Water bodies serving drinking water purposes and their protection territories, zones and stripes are *ex lege* nitrate sensitive territories.

In the case of the definition and conditions of establishing of the nitrate sensitive territories we can see again the close interrelationship between the protection of drinking water sources (as a priority field of water management) and the living waters (as a priority field of environmental and nature protection)[256].

VII.3. Action program

Even if the approaches of territorial based protection of waters are different in the water management, public health, environment and agricultural administration, the basic structures the respective legislators use are quite similar. We have seen that the familiar definitions and some procedural elements appear in this latter field of law, too, and we can also see that the planning element is applied in the agricultural laws. A basic difference is, however, that while in the other sectors the planning procedure is typically bottom up, in the nitrate regulation there is a central plan whose rules shall be broken down to the local level.

According to the Nitrate decree, all those who run agricultural activity on nitrate sensitive territories shall act in concert with mandatory provisions of an action program and the proper agricultural practice included therein both determined by the minister responsible for agriculture in a piece of

[251] Art. 3 Point c)
[252] Point g)
[253] Point e)
[254] Art. 4(2)
[255] Art. 5(1)
[256] Art. 5(1) bb)

legislation promulgated in consent with the minister responsible for the environment[257]. The action program is for 4 year time span and both during its preparation and in evaluating of its implementation a due consideration shall be given to the status of the environment and the accessible scientific and technical data concerning nitrogen burdening.

VII.4. General rules of protection of waters against nitrate and other pollutions – the role of protecting territories

The Nitrate decree refers to the relevant drinking water protection territories and zones saying that no new animal husbandry facility can be established or any existing such activities shall not be extended on the protecting territory of water sources[258]. The Nitrate decree also refers to the flood protection rules saying that nitrate emitting facilities cannot be established or extended on the territory of flood reservoir and flood protection shore stripes, either[259]. A mixed nature regulation of drinking water protection and environmental/nature protection branches of administration is that no manure storing facility can be established within a 100 meters distance from any surface waters and also from underground drinking water sources. In all of these cases the environmental authority can establish smaller distance, too[260].

The Decree of the Minister of agriculture on Permitting, storing, commerce and use of agriculture production enhancing materials[261] (hereinafter: Decree on production enhancing materials) prescribes that storage facilities of such materials shall not be established at a place where the precipitation waters cannot be safely channelled and also on the protection territory of drinking water sources and flood protection zones, shore protection stripes and in a 300 m stripe around mining lakes[262].

A similar rule can be found in the joint decree of the Ministers responsible for public health, agriculture, environment and water management on the Conditions of production and commerce of biocide products[263]. The text of this decree, however is concerning a wider range of territories where storing poisonous and pesticide materials are prohibited: these are protection territories of any kinds of water utilities, territories endangered by floods and also by inland inundation, and also on all kinds of nature protection territories[264].

Also the decree of the agricultural minister on plant protection (pesticides) activities[265] prohibits any storage of pesticides as much as 1 km from the major lakes of Hungary, including the artificial Tisza lake and also from any parts of rivers that are assigned for bathing. This restriction does not concern small amounts below 25 kg. Any activities with any pesticides are prohibited, however within the protecting territories of water sources[266].

We can conclude that all important nutrient overburdening and pollutant factors that can endanger the water flows are covered by the Hungarian agricultural laws. These laws in the same time highlight the system nature of this regulation from an other angle: these burdening and polluting materials might endanger other important subjects of nature and environmental protection, too, therefore a

[257] Art. 6. and 7(1) – we note that at the time being the two issues, agriculture and environmental protection belong to the same ministry in Hungary
[258] Article 8 (2) c
[259] Article 8 (2) d
[260] Art. 8 (3)-(4)
[261] Decree No. 36/2006. (V. 18.) FVM
[262] Art. 10
[263] Decree No. 38/2003. (VII. 7.) ESzCsM-FVM-KvVM
[264] Annex 8, Point 5.12
[265] Decree No. 43/2010. (IV. 23.) FVM
[266] Art. 14 (1)-(3)

concerted regulation on the overall protection against leaking and polluting of these materials was necessary.

VII.5. Measures taken by the authorities

The agricultural activities shall be monitored by both the environmental inspectorates and by the soil protection authorities. Both of these authorities can apply severe measures in case of infringement of the rules of the Nitrate Decree, such as suspending, constraining or prohibiting the agricultural activity in question[267]. The operators of such activities can also be fined: the sum of nitrate polluting fine can range between 50 and 500 thousand HUF (170-1700 Eur) or can be a smaller amount in case of failure to further the proper monitoring data to the authorities[268].

According to the Decree on production enhancing materials the plant and soil protection authorities shall also regularly control the conditions of storage of any materials used for enhancing agricultural productions and can oblige the operator to amend the faulty activities, also with the strong legal tools of constraining or prohibiting fully the agricultural activity in connection with the enhancing materials[269].

VIII. Other sectors

Several other fields of our legal system contain some sporadic rules on the protection of water flows with the methodology of determining certain territories where certain activities are restricted or prohibited. Here we just shortly raise three typical examples, one from the territory of environmental law and two from the territory of agricultural administration.

VIII.1. Establishing landfills

In the ministerial decree on certain rules and conditions of landfills[270] there is no direct reference to the territories or stripes for the protection of the natural surface waters. However, there is a general rule that during the selection of the location of a landfill all the legislation concerning land development and spatial planning, nature protection, landscape protection and water protection rules shall be obeyed[271]. No landfills can be established on territories of sensitive underground waters, territories endangered by flood or inland inundation, nature sites, including protected territories and Natura 2000 sites and in places established by separate laws[272]. There is no doubt that this last reference, together with the quoted topical list encompasses all the above discussed drinking water and natural surface protection laws and regulations.

[267] Nitrate Decree Art. 10 (1)-(2)
[268] Art. 11 (2)-(4)
[269] Decree on production enchancing materials, Art. 13(1) c and 13(2)
[270] Decree of the minister of environment and water management No. 20/2006. (IV. 5.) KvVM
[271] Article 3(1)
[272] Article 3(3)

VIII.2. Forestry rules

According to the Act on Forests, on protection of forests and forest management[273] there are there groups of functions of forests: protection, public benefit and economic. These functions are determined in the several levels of forest management plans according to the features of the forest biotope and the public interests[274]. There are as many as 16 types of protecting forests, including forests serving nature protection, soil protection goals, landscape and genetic heritage purposes etc..[275] Three out of these functions are closely connected to water protection:

- the water protection function (helping to regulate the water household of the soil, protecting the quality and quantity of spring waters, protecting water reservoirs and all kinds of water sources)
- the shore protection function (protecting the flood dams and flood territories from the work of waves and ice, protecting the shores of channels, rivers, oxbows or lakes in any other ways)
- the water management function (also primarily in connection with floods, ensuring safe leading of flood waves)[276].

We see that even if the water management and shore protection functions of the forests are forming a rich system, they do not reach out to wider surroundings of waters. In spatial terms, these functions of the forests stops at the flood dams. However, in the case of the water protection function the width of the forest stripe shall be a matter of individual decision, according to the needs of the protected water bodies.

VIII. 3. Game management

In order to gain a full overview of laws containing rules about the protection of waters with a methodology based on territorial approach and on distances, we shall mention the Act on Game protection, game management and hunting[277]. This law refers to those specific laws and regulations that determine the protection of wetlands and water flows and underlines in harmony with them that during water game hunting the use of lead buckshot is prohibited on the protecting territories of the mentioned waters. Even in the cases when a specific stripe is not assigned, hunting with small shots can take place in the vicinity of waters only in a way that the shots shall not fall back on the concerned territory[278]

IX. Laws on good agricultural practices and on agricultural subsidies

Logically the agricultural subsidies presuppose the good agricultural practices, while we have to acknowledge that the subsidies depend on a lot of other factors, too, such as the development strategy of the Ministry responsible for agriculture and a line of economic-political considerations. These rules show that the two sides of river basin protection (territory based and pollutant based regulations) are very much interconnected: the more concrete rules on practices, restrictions and supports are often connected to some of the more general rules on the protection territories.

[273] Act XXXVII. of 2009
[274] Article 22(3) and (4) and Article 23
[275] Article 24 (2) Points a)-p)
[276] Ibid, Points e)-g)
[277] Act LV of 1996
[278] Art. 37(2)

IX.1. Proper Agricultural Practice

The Proper Agricultural Practice included in the Hungarian Nitrate protection decree[279] is mandatory for the concerned agricultural enterprises. Its major points are[280]:

- The amount of effective nitrogen substances in the organic manure cannot exceed 170 kg/ha annually, including the manure directly spotted by grazing animals and the amount spread out with waste water, waste water sludge and waste water sludge compost;
- The periods of spreading out manure is also determined by the Proper Agricultural Practice, in other times this way fertilizing is prohibited;
- Winter grazing is allowed only if the annual amount of manure is less than 120 kg/ha;
- In case of plantations, fertilizing with liquid manure and with manure is restricted if the land is sloping between 6%-17% accordingly;
- Fertilizers shall not get into surface waters: artificial fertilizers shall not be applied in a 2 meter stripe from water flows, organic fertilizers shall not be applied in a 20 meter distance from lakes and in 5 meter from other waters (except in small arable lands, where the protection stripe is only 3 meter) and in 25 meter from springs and drinking water wells;
- In nutrition management the nutrition supply of the soils, and the nutrition needs of the produced plants shall be taken into consideration;
- The manure shall be spread out evenly and shall be ploughed into the soil immediately;
- Storage of manure is subject to detailed rules, differentiated according to the use of it (fertilizing, composting, fermenting or bio-gas production), no manure storage can take place on water sources protection territories;
- No transitional manure storage can take place on lands with small water flows and lands with inland inundation and within a 100 meter distance from surface waters;
- Transitional manure storage shall not last more than 2 months.

The decree on the establishing of the system of conditions of „Proper Agricultural and Environmental Status" and „Proper Agricultural Management"[281] interconnects the topics of good agricultural practices and the rural development subsidies ensuing from several EU and national sources. Some elements of the Proper Agricultural Management seem to be additional to the EU based Proper Agricultural Practice described exemplary in the above bullet points:

- Exclusive use of permitted pesticides and harvest enhancing substances, also with full implementation of the rules concerning technology and of occupational rules
- No pesticides shall be stored within 1 km distance from the major lakes and bathing waters and from the protecting zones of water utilities
- Proper waste management of packaging materials
- Proper technical status of engines and machines used for spraying the pesticides[282]

The decree establishes the detailed rules of monitoring and controlling the Proper Agricultural Management, too.[283]

[279] Decree of the Minister of Agriculture and Rural Development No. 59/2008. (IV. 29.) FVM on the detailed rules of the action program necessary for the protection of waters against nitrate pollution of agricultural origin and about the order of data servicing and registration

[280] Art. 4-9

[281] Decree of the minister of agriculture and rural development No. 4/2004. (I. 13.) FVM

[282] Annex 2, Section 4

[283] Annex 4, Sections 3-4

IX.2. Good practices in agrarian planning documents

The Decree on the Hungarian Agrarian and Rural Development Operative Program[284] (Hereinafter: AVOP decree) refers to the Governmental Decision on the nitrate sensitive territories in the country[285] that determines a list of 1500 settlements that has soil types and other surroundings making them partly or wholly nitrate sensitive. Since according to the data of the National Agency of Statistics on these lands approximately 3.4 million m3 manure is produced, the most important task is decreasing the nitrate emission out of them[286]. The Water Protection Program of the AVOP Decree is based on the facts that around two third of the drinking water sources of the country is on sensitive soils, meaning that any surface pollution will sooner or later reach the water body. These as much as 700 sensitive water sources will require altogether 8 % of the territory of the country as their protecting territory. These protecting territories and within them their protecting zones (according to the different reaching time, similarly to the above discussed drinking water protection zones) are assigned under the water sources protection program of the Government started in 1997. The water sources protection program of the Government encourages the change of agricultural practices in an environmental friendly manner.

IX.3. Agricultural subsidies taking into consideration water protection territories

According to the decree on the detailed conditions of subsidies ensuing from the European Agricultural and Rural Development Fund[287] the goals of the agrarian-environmental subsidies are:

- to form a sustainable agricultural practice
- the amendment of the state of environment in connection with a proper production structure
- environmentally aware agrarian management,
- production of high quality alimentation and
- long term economic vitality and effectiveness of the agricultural enterprises.

The legislator is aware that the achievement of these goals on short run entails with extra expenses for the agricultural producers, therefore a subsidy system was established to even the playing field for the enterprises that undertake to develop into the direction of these goals[288]. In the procedure for evaluating the requests for subsidies additional credit points shall be given amongst others to those who run their agricultural activities on Natura 2000 territories, nitrate sensitive territories or protecting territories of sensitive water sources[289]. In addition to that there is a specific target program of agricultural-environmental subsidies that supports establishment of environmental friendly turf areas, in order to diminish the risk of water pollution of agricultural origin, as well as to eliminate risks ensuing from use of pesticides and artificial fertilizers and also the protection of sensitive water sources. The condition of the subsidy is that at least 1 ha of the territory concerned should belong to the protection territory all along the whole time of support[290].

The Governmental Decree on the detailed rules of making use of lands belonging to the National Agricultural Land Fund[291] uses a really broad definition of water protection territories, encompassing

[284] Promulgated by the Decree of the Minister of Agriculture and Rural Development No. 172/2004.
[285] Decision of the Government No. 49/2001. (IV. 2.) Korm.
[286] Point I.2.3.4.1 of the AVOP Decree
[287] Decree of the Minister of Agriculture and Rural Development No. 61/2009. (V. 14.) FVM
[288] Art 1
[289] Art. 35(4)
[290] Art. 71 (1)-(2)
[291] Governmental Decree No. 262/2010. (XI. 17.) Korm.

all the flood territories and the water sources protection territories, zones and stripes[292]. In all contracts concerning the making use of lands of the Fund (purchasing or leasehold contracts) the parties shall include data on if the territories subject to the contract belong to any territories under environmental or nature protection or water protection territories defined in the Decree[293]. In all cases when the contracted territories partly or wholly belong to a water protection territory, the contracting parties shall agree in the relevant responsibilities of the purchaser or leasee according to the relevant laws and regulations. Otherwise the contract shall be null and void, so we can consider the careful protection of water protection territories as one of the important conditions of enjoying ownership or usage rights above former State owned arable lands.

In both the laws on direct financial subsidies and on making use of the real estates of the National Agricultural Land Fund we can see the clear signs of system approach: the general agro-environmental, nature and water protection rules are brought into harmony with other important social and economic goals of the state agricultural policy.

IX.4. Negative subsidies taking into consideration water protection territories

While the proper agricultural practices, including a careful management of the territories belonging to the protecting territories, zones or stripes of waters are promoted first of all by including these viewpoints into the policies determining the access to these subsidies, the Act on the protection of arable lands[294] uses an other method, namely exempts certain agricultural activities from punitive fines if they belong to these mentioned water protection categories. The general rule is that any use of arable lands other than agricultural ones shall entail with a responsibility to pay land protection fee, while the operators shall not bear the responsibility to pay the fee in the cases when the use of lands from different purpose than agriculture happens amongst others because of establishing a protection territory for water sources as well as protection territory for sewage treatment facilities[295].

We note that this kind of negative subsidies represent an interesting legal technique and could turn out to be an additional effective incentive of the land users to keep an eye on the protection of water flows.

[292] Artic.e 1, Point i), that refers to Governmental Decree No. 123/1997. (VII. 18) Korm, as well
[293] Art. 34
[294] Act CXXIX of 2007
[295] Art. 21(3)

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.

- (*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.

Practical experiences concerning designation and protection of buffer zones and buffer strips in Hungary

In Hungary **riparian zones and coastal strips** are protected by the law and there are detailed regulation on the maintenance and protection of these territories. They serve primarily the purposes of protection against floods and the purposes of the maintenance and conservation of the water banks. Additionally these zones can be regarded as transitional zones between river banks, other surface waters and between other territories, like agricultural fields under cultivation.

There are also national legislative measures on the **protection of buffer strips along water courses** which aim the protection of surface waters, primarily from agricultural nutrient load (manure and fertilizers). Owners of the riparian real properties are obliged by law to maintain riparian zones in a good condition based on the requirements of the respective regulations. The riparian zones of rivers, streams, and creeks (small watercourses), drainage and irrigation canals, lakes, ponds, reservoirs, and oxbow lakes shall be used in such a manner that the owner (user) of the channel or bed may use them for occasionally carrying out channel or bed maintenance work and measurements, to the extent necessary for its tasks.

Hungarian strategic planning documents, like the RBMP for the national part of the Danube or the National Rural Development Strategy formulate recommendations and draw up the need for the establishment of buffer zones and buffer strips along surface waters. There are also projects already realized or under development which aim the protection of surface waters, the rehabilitation of protected areas and the restoration/establishment of buffer zones in the framework of the national implementation of the DRBMP.

Hungarian river basin management planning

The WFD aims to achieve 'good status' of surface waters and ground waters by 2015. According to the WFD 'good status' means not only water quality, but also the suitable water quantity and undisturbed status of water related habitats.

According to Article 13 of the WFD MSs produce RBMP for each river basin district. The RBMP is the major instrument to reach the above objectives. Since Hungary is situated within the heart of the

Danube Basin, the country is involved only in one river basin district. Danube-basin-wide issues are coordinated by the ICPDR.

The measures necessary to achieve the objectives are summarized within the RBMP. The RBMP provides all the necessary information available from water bodies, the results of the status assessment, problems and their causes that occur in the planning areas, furthermore which environmental objectives can be set, in addition to the technical, regulatory measures, financial aid and incentives which are needed to achieve these goals set forth.

The National River Basin Management Plan was adopted by the Hungarian Government on 21 May 2010 with the Governmental Decision Number 1127 of 2010. Due to formal legal mandate reasons the Governmental Decision was later repealed and the RBMP, with unchanged content, was newly adopted on 23 February 2012 with the Governmental Decision Number 1042 of 2012. Its appendices, background material and documentation are available on the www.euvki.hu and, www.vizeink.hu websites.

The RBMP is not an execution plan, but the conceptual and strategic plan and its findings: setting the foundation of a "good status" and “sustainable” state of water. It aims to optimize the overall measures (technical, regulatory and socio-economic aspects), which sets out the institutional responsibilities, and which continue to describe the basis and implementation of programs to be started.[296]

The RBMPs are adopted by Government Decisions, which cannot be considered as formal sources of law, as they do not create rights and obligations for individuals, but have legally binding effects only on public authorities. There is no legal instrument that formally regulates the legal effect of the RBMP; its legal effect is a consequence of its nature as a Government Decision. However, legal value is given to the RBMP by other laws that provide direct reference to the RBMP.

In particular, the law on water management stipulates that environmental objectives must be taken into account while planning and carrying out activities that concern the environment. The RBMP calls for the revision of legislation applicable to permitting procedures, in order to make sure that existing and new installations comply with the environmental objectives of the WFD. The RBMP considers the revision of the legislation applicable to permitting procedures as a necessary step for its implementation.[297]

The national part of the RBMP for the Danube notes, that in the past decades human interventions dominantly influenced the state of riparian zones and coastal strips, therefore the quality of waters as well. At most of the water streams the coastal vegetation is missing and arable lands extends until the waterfront. These circumstances influences the ecological status of waters negatively. The quality of surface waters is in the worst condition at those areas where coastal zones are extensively used, where

[296] http://en.neki.gov.hu/index.php?page=vizgyujto-gazdalkodasi-tervezes

[297] Commission Staff Working Document, Member State: Hungary, accompanying the document Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC) River Basin Management Plans, COM (2012) 670 final.

no sufficient buffer zones exists and there are introduction to the surface waters from multiple sources.

In order to mitigate the negative impacts on waters and to reduce the pollution of rivers the RBMP lists different measures inter alia in relation of riparian zones and coastal strips. These measures includes the development of already existing legislative measures on the protection of riparian zones and coastal strips and the development of buffer zones for the protection of waters (introduction of obligatory and voluntary measures, elaboration of compensatory and financial measures).

Agriculture production and agricultural water uses heavily influence the realisation of the environmental objectives determined in the WFD and in other connecting water management rules of law and reaching as well as maintaining the good status of waters. According to the National Rural Development Strategy[298] and to the Darányi Ignác Plan[299] (DIP) the significant reduction in nutrient load burdening waters deriving from arable land cultivation and subsurface waters should be achieved by a considered restoration of the mosaic pattern of agricultural landscapes (e.g. establishment of boundaries, alleys, wood belts, riparian natural habitat zones and smaller ponds). The establishment of a sufficiently wide protection zone along waterways is one of the priority objectives of the DIP. Similarly, at water sources protection areas, preference must be given to switching to different methods of land usage in order to facilitate sustainable water management.

Good agricultural practice and protection of waters

Council Regulation (EC) Number 73 of 2009 of 19 January 2009 (Regulation 73/2009) establishing common rules for direct support schemes for farmers under the common agricultural policy and establishing certain support schemes for farmers, amending Regulations (EC) Number 1290 of 2005, (EC) Number 247 of 2006, (EC) Number 378 of 2007 and repealing Regulation (EC) Number 1782 of 2003[300]in its Article 6 stipulates the requirements of the good agricultural and environmental condition. According to this Article, MSs shall ensure that all agricultural land, especially land which is no longer used for production purposes, is maintained in good agricultural and environmental condition. MS shall define, at national or regional level, minimum requirements for good agricultural and environmental condition on the basis of the framework established in Annex III, taking into account the specific characteristics of the areas concerned, including soil and climatic condition, existing farming systems, land use, crop rotation, farming practices, and farm structures. Annex III of the Regulation lists the conditions of the protection and management of water and requires the establishment of buffer strips along water courses.

[298] National Rural Development Strategy has been drawn up by the Ministry of Rural Development as the basic strategic planning document of rural development, providing an outlook until 2020, and was adopted by the Hungarian government in a resolution in March 2012.

[299] Darányi Ignác Plan was launched as the implementation programme of the National Rural Development Strategy, and is continuously being expanded by the addition of further measures to it. Beside measures related to rural development subsidies of the European Union, the Plan also incorporates programmes to be funded from the national budget, the modernisation of the legislative and regulatory framework, institutional reorganisation and shaping attitudes.
http://videkstrategia.kormany.hu/download/6/ae/40000/DIT2_angol_t%C3%B6rdelt_120910.pdf

[300] OJ L 30, 31.1.2009, p. 16–99.

Consequently, based on the above mentioned requirements of Regulation 73/2009, the establishment of buffer strips along water courses is a basic requirement of the 'good agricultural practice'. These minimal economic and environmental requirements are well known by the farmers also in Hungary as these are preconditions of subsidies financed from the European Agricultural Orientation and Guarantee Fund as regulated by the Decree of the Minister of the Agriculture and Regional Development Number 4 of 2004. (I.13.).

The requirements of 'good agricultural and environmental condition'[301] also include water-related aspects. Decree Number 50 of 2008. (IV.24.) FVM of the minister of agriculture and rural development on the system of a `good agricultural and environmental condition´ lists those detailed requirements which serve the purposes of protection of surface waters from the polluting consequences of agricultural activities and from nutrient load.

According to Decree Number 50/2008. (IV.24.) FVM Annex I. point 11. in order to protect water strips from agricultural pollution, it is prohibited:

- to dispense fertilizers in the strip of 2 meters measured from the coastline of surface waters
- to dispense manure in the strip of 10 meters measured from the coastline of standing waters and
- to dispense manure in the strip of 5 meters measured from the coastline of other surface water flows (this protection distance may be reduced to 3 meters if the field under agricultural cultivation is no wider than 50 meters and does not exceed 1 hectares).

However these requirements relates only to those waters which are indicated in the Land Parcel Identification System (LPIS; in Hungarian: MePAR). MePAR is the exclusive reference, land parcel identification and spatial information system of the agricultural and rural development subsidies, financed by EU and national sources.[302]It has to be noted, that the cultivation and other agricultural activities are not prohibited in these buffer strips, the restrictions only relate to manure and fertilizers.

Riparian zones and coastal strips

Government Decree Number 21/2006. (I. 31.) on the use and utilisation of high water river beds, riparian zones, wetland areas and areas endangered by piping waters as well as on the depreciation process of areas protected by summer dykes regulates the detailed obligations of land owners and the rights of bodies responsible for the management of water utilities regarding riparian zones.

These zones serve primarily the protection and maintenance of water beds and the undisturbed management of water facilities. The riparian zones of rivers, streams, and creeks (small watercourses), drainage and irrigation canals, lakes, ponds, reservoirs, and oxbow lakes shall be used in such a manner that the owner (user) of the channel or bed may use them for occasionally carrying out channel or bed maintenance work and measurements, to the extent necessary for its tasks.

[301] The framework for good agricultural and environmental condition is defined in Regulation 1782/2003 (the Common Rules Regulation). The specifics of good agricultural and environmental condition are defined at the level of MSs, and must protect soils, waters, ensure a minimum level of maintenance and avoid the deterioration of habitats.

[302] http://www.fomi.hu/portal_en/index.php/products-and-services/lpis-mepar-land-parcel-identification-system

According to the rules of the Act on water management[303] buildings or other structures may be located in these zones with the approval of the regional organ of the water administration. No compensation shall be due for damage incurred by the person or entity locating such buildings or structures without licence, unless the law provides otherwise.

The owner (user) of a riparian real property shall endure that the owner of the channel or bed, or the agents thereof,

- have access to the bank or shore through the real property;
- transport materials dredged during the implementation of their water management tasks, or necessary for carrying out their water management tasks, through the real property, or place the said materials, and the tools, equipment, and temporary facilities necessary for carrying out the work, on the real property;
- post, set up, and maintain the signs and facilities necessary for hydrographic monitoring, the marking-out of navigation channels, as well as for the fulfilment of other special tasks to the extent necessary for the fulfilment of their special tasks, taking into consideration the interests linked to the real properties.

A compensation corresponding to the extent of the above listed restrictions shall be due to the owner (user) of the real property. If the use of the real property, or the exercising of the rights over, or work in the profession or trade related to the real property becomes impossible or expensive to a considerable degree, the owner may request the expropriation of the real property.

According to the Government Decree Number 21/2006, in the case of the Danube the width of the riparian zone is 10 meters on both sides measured from the shoreline.

Projects for the restoration of riparian zones

There are several projects which aim the restoration of the degraded state of riparian zones and protection of the surface waters and the environment.

Hungary, even before the European Danube Region Strategy initiative, paid particular attention to development initiatives in the Danube region.[304] Already executed projects and projects still under development are mostly related to waste water and solid waste disposal, flood prevention, water management and transport issues. Improvement of water management and water quality in the Ráckeve-Soroksár Danube arm (RSD) is one of these large investment and rehabilitation projects.[305]

The RSD is significant recreation area with high priority, popular fishing water near Budapest with significant natural values. The water quality of the RSD is loaded with many problems. The impact of the nutrient load caused by the incoming cleaned sewage, and those without cleaning coming from

[303] Act LVII of 1995 on water management.
[304] http://www.hidrologia.hu/mht/letoltes/kiadvany_az_EDRS_kidolgozasanak_elokeszitesehez.pdf
[305] http://www.rsdpartisav.hu/index.php?option=com_content&view=article&id=193:az-rsd-projekt-elemei&catid=48:projektrol&Itemid=91

the bank side further increased the bad status of the river (increasing sludge, shallow water level, insufficient flows and water stagnation). In the past years, as a consequence, in many cases – mainly related to a lack of oxygen – water quality turned to a critical level which was accompanied by the death of fish, snail and shells, indicating that the branch of the Danube has reached its critical state of loading.

The action plan defined under the Government Decision Number 2022/2000. (II. 4.) on the improving of the quality of the water of the Ráckeve-Soroksár Danube specified several measures like:

- The improvement of the water flow of RSD;
- In order to improve the state of the Ráckeve-Soroksár Danube stream the removing of the sludge accumulated and settled and its extraction and placement is necessary according to the requirements of protection of nature, environment protection, health and safety, land development and land conservation;
- The development of the RSD monitoring system which is capable for the long-term observation of the underwater and surface water quality in order to reach a better state of the water;
- Creating the conditions for a necessary state support for the building of a sewage system for transfer of the communal waste contamination deriving from the recreation area and directly threatening the water quality;
- Considering the nutrition load of the RSD, by the involvement of the metropolitan municipality, the transfer possibility of the water deriving from the South Pest sewage plant to the Danube main stream must be investigated;
- Assessment and evaluation of the sources polluting the RSD, remediation of the pollution in the riparian zone and prevention of the further pollution.

The project is co-financed by the EU Cohesion Fund and by the Hungarian State from the financial resources of the New Széchenyi Plan.[306]

[306] The New Széchenyi Plan is the new economic development programme of the Hungarian government, launched in 2011.

Milestone No. 3: Survey of the situation on management of solid waste in small rural settlements

Our overall experience concerning the Hungarian waste management law is that there are very few regulations and provisions that would concern directly and specifically the needs and technical possibilities of the small scale rural settlements. However, in the decentralised municipality and local authority system the role of the municipality councils in local waste management planning, their role in determining the person and range of activities of the local waste management companies and administrative legal responsibilities of the majors' offices and the district offices of the central administrative bodies in waste management make altogether that the local needs might find their according ways of special implementation of the central waste management laws.

X. Relevant general rules of solid waste management

X.1 Principles of waste management relevant to small rural settlements

The Waste management act[307] (hereinafter: Waste act) introduces some general principles of waste management deducted from the most general principles of environmental protection and sustainable development. Some of these waste management principles are relevant for our topics such as the *proximity principle* and the *smallest possible pollution principle*. According to the proximity principle the network of waste management shall ensure that any waste can be utilized or neutralised in the nearest proper waste management facility where the most proper methods and technologies are available, taking into account also the general environmental circumstances, the economic effectiveness and the specialities of the waste to be handled[308]. The principle of smallest possible pollution is a principle of planning social and economic activities, where the investors or operators shall design their activities that ensure the smallest burdening and use of the environment, avoidance of endangerment and pollution of the environment, ensure also the prevention of waste or mitigation of its quantity or risk[309]. As such, these requirements of the principle of smallest possible pollution presuppose the most possible localized operations with the waste, where the best solutions of management can be applied right at the source.

We note here that *subsidiarity principle* is not directly mentioned in the relevant waste management laws, while, as we are going to see in many of the following sub-chapters, the essence of subsidiarity principle is very close to the content of these regulations.

X.2. The role of the local municipalities

Local municipalities are the major role players in organising waste management in small rural settlements. According to the Waste act, they are responsible for selecting and contracting with the local waste management public utility enterprises and also for regulating in a local ordinance:

[307] Act CLXXXV of 2012
[308] Art 3 (1) d)
[309] Art 4

- all the major issues of the orders and ways of local waste management services,
- rights and responsibilities of the stakeholders
- and even certain elements of the contracts with the waste management enterprises.
- The local waste management ordinances shall also encompass the rights and responsibilities of the owners of the real estates in the respective settlements[310].

We can see the proximity principle in operation when the legislator provides the local municipalities with a key role in the system of solid household waste management. They are the focal point of special local interests (e.g. at a holiday resort, where a part of the dwellers stays in the settlement only in certain periods of the year) and they are also responsible for the accommodation of the central waste management laws and plans into the local circumstances, naturally, within the frames of the national level laws.

X.3. Sanctions of illegal activities concerning local municipal waste

According to the rules of the Hungarian waste management law responsibilities for illegal activities concerning municipal waste can be of civil law or administrative law nature, i.e. we can speak of the financial (material) responsibility for abandoned or not properly handled waste and also of the responsibility in an organisatory-punitive sense. The Waste Act establishes the most general principles of civil law type responsibilities of all the persons who are in possession of solid waste and get rid of it with the infringement of the waste management rules. All possessors of waste shall use the assigned locations and ways of depositing or transferring their municipal wastes. As a secondary rule, the responsibility for wastes abandoned on a real estate will be born by the owner of the real estate, unless other persons with closer responsibility can be revealed.[311] In case the waste was abandoned on public places, the final, unconditional responsibility for handling it shall be born by the municipality, again, unless it can point out the persons more concretely responsible for the given waste[312].

As concerns the administrative legal responsibility for abandoning solid municipal waste on local scale or handle it illegally in any other ways, the Waste act determines mandatory activities (suspending, ceasing the wrongful activity, restoring the original status of a land etc.) and administrative fines[313]. The exact amount of fines and the details of procedure is regulated by a Governmental Decree[314], too.

X.4. Expedited administrative procedures for local waste management projects

As we have seen, the Hungarian administrative legal system has introduced an expedited procedure for those projects the Government qualifies as cases of extraordinary significance[315]. This specific legal tool is used in the waste management law, too, by three governmental decrees[316]. These decrees refer to projects on extending environmental friendly technologies in some large regions, together with raising the portion of reuse.

[310] Waste Act, Art 33(1) and Art 35, Points c) and e)
[311] Waste Act, Art. 61 (1)-(3)
[312] Art. 61 (3)-(5)
[313] Waste Act Article 84-86
[314] Governmental Decree No. 271/2001. (XII. 21.) Korm.
[315] See above in Chapter I.6
[316] Governmental Decrees No. 190/2013. (VI. 17.) Korm. and 72/2013. (III. 8.) Korm

XI. Specific rules on small scale operation in connection with local solid waste management

XI.1. Local activities of waste management public utilities

The Governmental decree on the conditions of running waste management public utilities[317] (hereinafter: Public utilities decree) delineates the circle of wastes this local service can deal with: mixed solid waste collected on the individual real estates, selective wastes collected individually or on the waste management islands, and wastes falling under special regulations, collected in the so called "waste collecting gardens". By extending the wastes to the public utilities local dwellers and small entrepreneurs fulfil their waste management responsibilities[318]. There are special provisions in the decree in order to minimize the amount of waste collected from local settlements, apart from encouraging selective collection, first of all the selection done by the public utilities themselves. Only the residual wastes shall be deposited at the local landfill[319].

We understand solid household waste management as local *per definitionem* even if the decree do not underline this feature. As we can see, there are activities within this collecting term that make sense only locally: such as the so called "waste islands", small local territories assigned by the local authorities in the public space for selecting household waste during its collection.

XI.2. Planning the local waste management activities

According to the Public utilities decree, all local public waste utility enterprises shall set up a waste management plan. The major items of these plans include:

- initiatives of selective waste collection, awareness raising, widening the circles of information of the dweller on selective collection;
- detailed procedures for enhancing the amount of collection of biodegradable wastes;
- handling hazardous wastes produced in the households, raising the effectiveness of collection at the individual houses;
- reuse of waste, including establishing reuse centres;
- decreasing the amount of organic waste at the landfills, including the plans for utilisation of biodegradable waste.

The plans prepared by the individual local waste public utility enterprises are collected and registered by the National Environmental and Nature protection and Water management Chief Inspectorate, and the Inspectorate prepares summary with general conclusions and suggestions for further refinement of the plans[320]. Again: even the waste management public utilities' plans are collected and analysed centrally, their basic features are inherently local: awareness raising, separate collection of biodegradable wastes at the households or during their collection etc.

[317] Governmental Decree No. 438/2012. (XII. 29.) Korm.
[318] Art. 3(2)
[319] Art. 9 (1)-(2)
[320] Public utilities decree, Art. 11 (1)-(3)

XI.3. Permitting local solid waste landfills

Our recent landfill regulations focus on larger, regional scope of solid waste landfills, therefore their rules are tailored to larger sizes and technical capacities. This is the leading feature of the Decree on the rules and conditions of waste depositing and landfills[321], too. The legislator's view was that water protection interests, amongst other nature and environmental protection goals can be served best with this line of regulation. Therefore, the decree stipulates that the possibilities of polluting underground and surface waters and geological structures shall be systematically evaluated and monitored in the procedure of assigning the place of the regional landfills[322]. The rules of monitoring also encompass regular measuring of the content of precipitation waters on the territory of the landfill. Regularity is determined by the environmental authorities, according to a table in the Decree[323]. If there is a surface water (even if it is only transitional) in the vicinity of the landfill, the inspectorate shall require its regular monitoring, too[324].

We can conclude here that the subsidiary logic of waste management is broken at the question of landfills. No wonder, in the past all the Central and Eastern European countries had bad experiences with neglected, hardly insulated and poorly managed small local landfills. Even if it is so, the small scale local elements shall be brought back at this point of the waste management system, too, through the local initiatives and activities concerning selective waste collection and decreasing the amount of waste, especially of organic waste.

XI.4. Composting and managing waste of biological nature on local scales and in small communities

In the spirit of the closing sentence of the previous sub-chapter, the Decree on the handling of bio-waste and the technical requirements of composting[325] deals with all the organic wastes of plant or animal origin which can be degraded on an *aerob* or *anaerob* way and also with community composting which activity is defined as an activity of a small community of dwellers whereas they jointly compost bio-waste ensuing from their own activities on a place nearby their living and also they use the ready compost for their own purposes[326]. Community composting is not subject to permitting, while the territory where community composting may take place is a subject to further regulations – at the present legal situation this level of regulation is the municipality ordinance on local household solid waste management. The only higher level rule is that bio-waste of animal origin cannot be handled by community composting[327]. All kinds of managing bio-waste shall pay a close attention to water pollution, they have to avoid leading precipitation waters into surface waters or endanger underground waters therewith[328].

We can conclude that these composting rules are really flexibly accommodated to the needs of the small local communities and in the same time serve well the overall waste management goals, too.

[321] Decree of the Minister of Environment and Water Management No. 20/2006. (IV. 5.) KvVM
[322] Annex 1, Point 6
[323] Annex 3, Point 2
[324] Annex 3, Point 2.3
[325] Decree of the Minister of Environment and Water Management No. 23/2003. (XII. 29.) KvVM
[326] Article 2 Point a) and h)
[327] Art. 4 (1)-(3)
[328] Annex 2, Point 1

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;

- (*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.

Practical experiences concerning the management of solid waste in small rural settlements in Hungary

General background

The Waste Framework Directive[329] (WFD) should have been transposed by MSs until 12 December 2010, repealing the old framework directive[330] and incorporating and repealing the Hazardous Waste Directive[331] and the Waste Oil Directive[332].

Due to the WFD, MSs must ensure that waste is recovered or disposed of without endangering human health and the environment and that the waste amount disposed of is reduced to a minimum by kind of measures and effective tools to minimise waste generation. It sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery, etc. It explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products.[333] Main principles of the WFD are re-use, recycling and recovery which shall be promoted and adopted whenever suitable in order to safe resources and to reduce the amount of waste.

The WFD provides a detailed clarification and differentiation of the waste hierarchy, introduces definitions, such as the end-of-waste status and by-products, specifies the classification of treatment operations and changes requirements for the preparation of waste management plans.

The Directive encourages waste reduction and gives a new dimension to prevention as MSs are obliged to draw up and implement waste management plans and waste prevention programmes no later than 2013.

In Hungary, Act Number CLXXXV of 2012 on waste (AW) is the main regulation in effect which transposes the relevant requirements of the WFD into the Hungarian legal system. Additional implementing regulations include inter alia Government Decree Number 439 of 2012 on the registration and authorisation of waste management activities and Government Decree Number 440 of 2012 on the registration and reporting requirements regarding waste.

In Hungary, the national authorities and bodies responsible for the implementation of the waste management legislation are Ministry of Rural Development and State Secretariat for Environmental Affairs, the regional inspectorates for environment, nature and water and the National Inspectorate for Environment, Nature and Water; the notaries of local municipalities and District Offices of County Government Offices and the National Waste Management Agency.

[329] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. OJ L 312, 22.11.2008, p. 3–30.
[330] Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste (Text with EEA relevance) OJ L 114, 27.4.2006, p. 9–21.
[331] Council Directive 91/689/EEC of 12 December 1991 on hazardous waste. OJ L 377, 31.12.1991, p. 20–27.
[332] Council Directive 75/439/EEC of 16 June 1975 on the disposal of waste oils. OJ L 194, 25.7.1975, p. 23–25.
[333] http://ec.europa.eu/environment/waste/framework/index.htm

The primary responsibility for environmental issues and for the implementation of European environmental legislation is delegated to the Ministry of Rural Development and the State Secretariat for Environmental Affairs. Within the Ministry, the State Secretariat is the central governing body for environment, nature protection and water affairs and it carries out the sectoral, expert management and regulatory tasks.

There are ten regional inspectorates at first instance, while the National Inspectorate works mainly as an authority at second instance. Its jurisdiction covers the whole of Hungary. The National Inspectorate is supervised by the Ministry. As first instance authorities the regional inspectorates issue permits for certain activities, give expert authority opinions, impose fines and penalties. Based on appeals or as a supervisory body, the first instance decisions by the regional inspectorates related to environmental issues are reviewed by the National Inspectorate. The authority work performed by regional inspectorates is coordinated and controlled by the National Inspectorate. Concerning transboundary environmental issues, the National Inspectorate coordinates international co-operation.

At the local level, as far as municipal waste building and site surveying procedures are concerned, the notaries of the local municipalities are in charge. Based on the regulations of Government Decree number 481 of 2013 (XII.17) regarding the appointment of authorities responsible for environment protection, nature protection and water protection activities, the notaries, as local environmental authorities are responsible for levying waste management fines in certain cases.

Appeals against decisions of the notaries of local municipalities may be submitted to the District Offices of County Government Offices organized at regional level.

The National Waste Management Agency (NWMA)[334] is a limited liability company, established by the Ministry of Rural Development, whose main tasks are to take part in the prevention of environmental pollution and waste generation, in addition to organising and managing waste collection and recovery.

NWMA is a non-profit organization, which was established by the Act Number LXXXV of 2011 on Environmental Product Charges. Since 2012, NWMA is the only body with the right to coordinate and control the selective waste collection in Hungary regarding products falling under the scope of the environmental product charge regulation. The NWMA is not an authority; NWMA's main task is to establish an organised selective waste collection system in Hungary for the public and private sector.

It is the obligation of the NWMA to prepare the National Waste Prevention Programme which is part of the National Environmental Protection Programme. Also regional waste management programmes and (as part of these programmes) regional waste prevention programmes shall be prepared.

The NWMA shall prepare a report on the implementation of regional waste management plans and regional waste prevention programmes at tree years. In this report the NWMA shall present the information on the quantity of waste generated, the situation of waste management, the conditions of waste management facilities, treatment of waste and effects on the environment of these in the planning area. Based on this information it presents the progression of planned measures and the possible need to modify the regional waste management plans or regional waste prevention programmes.

[334] http://www.szelektivinfo.hu/en/

Management of solid waste in small rural settlements

Based on the provisions of the AW[335] and on the provisions of Act Number CLXXXIX of 2011 on the local municipalities of Hungary[336] it is the obligation of local municipalities to organize the waste management system of the given settlement (irrespective of the size of the settlement, so this general obligation equally relates to small settlements as well).

The volume of generated municipal solid waste has decreased in Hungary year by year since 2006, while the volume of waste collected separately has grown over the same period (except for 2009).[337]

In the past, almost all municipalities operated one or more landfill sites, generally not constructed and equipped with technologies of modern waste management. Since the accession of the country to the EU the national waste management policy priorities are driven by the EU waste legislation.

In Hungary 4.7 million tons municipal solid waste is generated per year and 85% of this quantity gets to landfills.[338] Landfill is still the most common treatment and disposal method of municipal solid waste, mainly for being not as expensive as recycling or incineration. The trends of the recycling of municipal solid waste are positive, since its proportion has increased since 2005. The extent of incineration has remained almost unchanged since 2006.[339] Hungary has made rapid progress towards diversion of biodegradable municipal waste from landfill. Interim targets set for 2006 and 2009 by the Landfill Directive[340] were met with achieving a reduction to 66 % in 2006 and 46 % in 2009, mainly due to the significant increase of material recovery and due to an improved collection system of packaging waste.[341]

According to the provisions of the current legislation, waste can be placed only at those landfill sites, which are authorized by the competent environmental inspectorates. Those landfill sites which did not meet the requirements of the respective EU legislation were closed in 2009. Financed by the EEOP[342] and co-financed by the EU funds the recultivation programmes of these closed landfills already started and will also proceed in the development period of 2014-2020. One of the main problems in the forthcoming years will be the high number of to-be-recultivated landfills and the attainability of necessary financial resources. Currently altogether 70 landfill sites are operating in Hungary, which are in compliance with the respective environmental regulations and standards.

[335] Act Number CLXXXV of 2012 on waste, Article 33 Paragraph (1).
[336] Act Number CLXXXIX of 2011 on the local municipalities of Hungary, Article 13, Paragraph (1).
[337] Environmental report, 2011. Hungarian Central Statistical Office, 2012. Made by: Rural Development, Agriculture and Environment Statistics Department. p 50.
[338] Zoltán Orosz, István Fazekas: Challenges of Municipal Waste Management In Hungary. AGD Landscape & Environment 2 (1) 2008. 78-85.
[339] Environmental report, 2011. Hungarian Central Statistical Office, 2012. Made by: Rural Development, Agriculture and Environment Statistics Department. p 56-57.
[340] Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste. (OJ L 182, 16.7.1999, p. 1)
[341] European Environmental Agency: Municipal waste management in Hungary. February, 2013. p 6-7.
[342] The Environment and Energy Operational Program (EEOP, in Hungarian KEOP) was one of the 15 Operative Programs of the New Hungarian Development Plan (In Hungarian ÚSZT) 2007-2013, which related to the EU National Strategic Reference Framework (In Hungarian, NSRK).

For municipalities the limited number of landfilling sites and the illegal dumping of waste is an ongoing problem. There is no reliable data on the exact number of illegal dumping sites but the number of these may exceed 1000. Due to the collection of waste within public works and campaigns like 'TeSzedd! Volunteer for a clean Hungary!' where many volunteers participate each year in cleaning up the environment, both in Budapest and in the countryside, cleaning land and water from waste, the number of illegal dumping sites are slightly decreasing.

The AW modified and re-structured the national waste management legislation considerably. One important aspect of the changes effected the legal framework of the operation of waste management companies, especially those, working in the field of public waste management.

From 2013, only those waste management companies may compete on public procurement procedures of local municipalities, which are recorded and qualified by the NWMA. The waste management companies providing public service need permission for public municipal waste management service from the competent environmental inspectorate, need to have a contract with the municipality for public waste management service and shall be recorded by the NWMA.

In the same time only those companies can get permission to work in the field of public municipal waste maagement service which the general majority of votes in the management (by right of ownership) belongs to directly or indirectly to the local municipality (or association of municipalities).

From the 1th of January 2014, an other requirement entered into force within the AW, namely, that the company has to possess a non- profit legal status.

In Hungary, the medium- and long-term waste management goals are defined by the National Environmental Protection Programme (NEPP) and by the associated National Waste Management Plan (NWMP). The NWMP is prepared for six-year period of time, of which the first planning period 2003 to 2008 has already expired. The NEPP for 2009 to 2014 was adopted by Parliament by Parliament Resolution Number 96 of 2009 (XII. 9.). The NWMP for 2014-2020 has been adopted by the Governmental Decision Number 2055 of 2013. (XII. 31.).

The AW also introduced a new obligation in relation to the waste management planning, namely, that municipal waste management companies have to prepare their own waste management plans at least every 3 years. In this plan they have to present their proposed activities on collection, transportation and treatment, focusing on the aims derived from the related regulations and waste management plans already prepared at higher, national and regional levels. The plan has to be coordinated with the local municipality, submitted to NWMA and approved by the environmental authority.

<u>Abandonment, dumping or uncontrolled management of waste</u>

As mentioned above, the illegal dumping of waste is one of the main problems of local municipalities. Uncontrolled waste streams deteriorate the state of the environment and harm the soil, surface and sub-surface waters; in the same time generating significant expenditures for local governments. There

is a multi-level system applied in Hungary ranging from the administrative consequences to criminal penalties and aiming to drive back the level of illegal waste dumping.

According to the provisions of the AW[343] waste may only be discarded at the designated or for that purpose reserved places, without endangering the environment. The obligation to transport or treat the waste placed on the real estate in an uncontrolled manner or abandoned there, falls upon the owner or the previous holder of the waste.

In case the owner or the previous holder of the waste fails to perform its obligation or its identity cannot be established or its identity is established as someone that discarded waste by breaching the provisions of the AW, the obligations fall upon the real estate owner on whose real estate the waste was placed or abandoned.

In case the previous holder or owner of the waste abandoned in public areas or placed in an uncontrolled manner (including the waste falling under municipal sanitation duties) fails to meet its obligations regarding the transport or treatment of the waste, the local government shall provide the transportation and treatment of the waste by way of contracting the public service provider or other business association possessing a waste management permit. In case the local government provides the transportation and treatment of waste by way of concluding a waste management public service contract with the public service provider, this shall be listed among the content elements of the waste management public service contract.

The real estate owner, or the business association or public service provider shall be relieved of liability, in case the party that abandoned or unlawfully placed the waste on the real estate is identified by the real estate owner before the environmental protection authority, and the unlawful conduct is proven.

The environmental protection authority shall oblige the party that does not fulfil its obligations voluntarily, to provide the transport and treatment of the unlawfully placed or abandoned waste.

Fulfilling the obligation to keep clean public areas (required by the local government) shall not discharge the liability of the person responsible for the unlawful placement or abandonment of waste.

To ensure fulfilling the obligations set forth in the AW or in other laws, the environmental protection authority shall oblige the waste holder, the waste owner or the user of the environment

- to fulfil the duties laid down in laws or ordinances issued by the authorities and to bring the infringement to an end,
- to suspend or stop activities that are hazardous or harmful to the environment or cause environmental pollution, and to restore the former state,
- in case of environmental pollution, to take measures that reduce or stop pollution and exclude any environmental damage.

The environmental protection authority shall also restrict, suspend or prohibit any activities requiring an official permit but carried out in a manner deviating from the permit or without a permit, and any waste management activities harmful or seriously hazardous to the environment. The ruling may be declared enforceable with immediate effect, regardless of legal remedy.

The environmental protection authority may seize on site the tool or thing affected by the infringement, the vehicle used for transportation of waste, or any other thing that may be required in the authority proceedings as proof.

[343] Act Number CLXXXV of 2012 on waste, Article 61, Articles 84-86.

Anyone who

- violates the provisions of waste management legislation, directly applicable EU legal instrument or ordinances issued by the authorities,
- performs waste management activities bound to an official permit, registration or notification without an official permit, registration or notification, or in a manner deviating from them, or
- does not inform or inappropriately informs the environmental protection authority about the manufacturing or generation of by-products, or uses, distributes or stores waste as product or by-product,
- must pay a waste management fine imposed by the environmental protection authority.

The waste management fine shall not immunise from criminal liability and liability for misdemeanours or damages, furthermore from the restriction, suspension or prohibition of activities as well as from the obligations of taking appropriate protection measures and restoring the natural or former state of the environment. Non-appealable waste management fines shall be considered as public dues to be enforced officially.

As regards criminal penalties, Act C of 2012 on the Criminal Code[344] specifies the statutory definition of 'Violation of Waste Management Regulations'.

Based on this provision any person who:

- engages in the disposal of waste at a site that has not been authorised by the competent authority for this purposes,
- engages in waste management without authorisation, or by exceeding the scope of the authorisation, or engages in any other unlawful activity involving waste,

is guilty of a felony punishable by imprisonment for up to three years.

The punishment shall be for a felony imprisonment of up to five years if the crime is committed involving waste that is deemed hazardous under the Act on Waste Management.

[344] Act IV of 1978 on the Criminal Code, Paragraph 248.

Milestone No. 4: Survey of the situation on alternative collection and treatment of wastewater in small rural settlements

In this chapter we will analyse the several grades of possibilities of handling local waste water in small rural settlements, starting from the general rules and the major individual cleaning solutions serving a whole settlement, through facilities substituting public utilities to the smallest individual household dehydration solutions. We will see how this flexible system of multi-tiered solutions strives to ensure the consideration of the most important water protection and public health interests of the local communities.

XII. General rules of sewage water treatment and deposition

XII.1. Design and operation of sewage treatment network

The principle provisions of the Governmental Decree on the general rules of activities and facilities for utilisation and protection of water and prevention of damages caused by water[345] (hereinafter: Utilisation decree) stipulate that the sewage system of a settlement shall be designed with due care of the local specialities such as distances from and sensitivity of surface and underground waters. Large unified systems shall not be established unless all the technical, economic and environmental viewpoints support this solution. The decree warns against the so called public utilities scissors: whenever a settlement or a group of settlements jointly design their sewage systems they shall think of it as a unity system of the pipelines and the treatment capacities[346]. The level of treatment of the sewages shall be accommodated to the tolerance level of the waters receiving the treated water.

Once the amount of the waste water at a settlement makes it possible, nature friendly sewage treatment methods shall be given priority. The sewage sludge shall be used in agriculture, energy or in any alternative way as far as possible – landfill depositing is just the last resort[347]. All the municipalities shall develop a local sewage treatment program, with proper evaluation of the situation of the status of their surface and underground waters and geological structures, the environmental, nature protection and social effects of the cleaning and depositing solutions selected, especially in connection with sensitive territories from water protection viewpoints. The settlement sewage programs shall be brought into harmony with the local and regional spatial plans and environmental plans, as well. The possibilities of making use of the cleaned waste water locally shall be examined. Such plans, therefore, are usually subject to Strategic Environmental Assessment[348].

We note here that – contrary to the solid waste laws – according to the Hungarian sewage water regulations the main rule is the small and local management and large regional facilities can be established only under exceptional circumstances. Also in respect to sewage treatment and sludge management the long term, sustainable solutions are preferred in our law. Finally, it is important to underline that the responsibility to harmonize the local sewage plans with several other plans, and the SEA responsibility itself represent consequential system approach.

[345] Governmental Decree No. 147/2010. (IV. 29.) Korm.
[346] Utility decree Art. 18 (1)-(4)
[347] Art. 19 (1)-(5)
[348] Art. 20 (1)-(6) and Art. 23 (1)-(2)

XII.2. Individual sewage treatment

According to the Utilisation Decree, those settlements (or parts of settlements and other dwelled sites) that do not belong to the territories concerned by the National Sewage Treatment Program or their connection is not reasonable to the regular sewage systems, shall introduce individual sewage treatment solutions. The owners of real estates on such territories are responsible for the individual handling and safe deposition of waste waters[349]. These solutions can be: *cleaning fields* or *dilution basins facilities* established according to the provisions of the Utilisation Decree. This means that the Hungarian legislator applies here the legal technique of „general permitting", i.e. the operators shall not apply for individual permits but shall follow the rules of the Utilisation Decree. However, individual water treatment shall not be established if any other water protection rules, such as the rules of water sources and drinking water protection, rules of protection of karst territories or others exclude this solution[350]. There is a quantitative condition of these facilities, too: they can be applied only in cases when the cleaned water emission exceeds 500 m3 per year. Also the operator of the individual facility shall obtain an at least middle level education background relevant to waste water treatment activities and shall have a contract with the dwellers served by the facility[351]. We see that the individual sewage treatment facilities represent an intermediary level between the large sewage treatment networks and the last resort household solutions (public utility substitutions).

In the case when the individual sewage treatment facility is legally applicable, technical solutions shall be developed for enabling the water protection authorities to take samples from the effluent water. The authority can oblige the operator on regular monitoring too, unless it is not reasonable technically or economically (i.e. taking into consideration the size of the facility and the small community served by it)[352].

The simple, user friendly rules of the Utilisation Decree might ensure the proper operation of such individual treatment facilities: the operator shall check it every day only with human senses and initiate measures when odour, foam or other traits sign disorderly operation. However, the operator shall do the careful administration in connection with the whole amount of sewage sludge, because the water management authority might require the evidences of extending the sludge to a professional waste management facility[353]. The sludge is subject to the general rules relevant to all kinds of water treatment sludge regulated by the Governmental Decree on the agricultural use and handling of sewage waters and sludge[354]. Water without cleaning and rough sludge without proper treatment cannot be used for agricultural purposes. Sewage water sludge according to this regulation cannot be stored even transitionally on arable lands[355].

We note that while the rules on individual sewage treatment are flexible enough to accommodate to the local circumstances, they are taking into consideration all the long term, larger scale interests of water protection, too – this is the vested interest of the concerned local communities.

[349] Utilities Decree, Article 24 (1)-(2)
[350] Article 25 (1)-(3)
[351] Art. 28(2) and 28(4)
[352] Art. 26 (1)-(5)
[353] Art. 27 (1)-(4)
[354] Governmental Decree No. 50/2001. (IV. 3.) Korm.
[355] Art. 8 (1)-(2)

XIII. Small scale local household water treatment solutions

XIII. 1. Facilities substituting public utilities

Water management, concerning either the natural water flows or the facilities (dwells, pipes etc.) of the drinking water utilities system is a bordering field of environmental administration with public health. The Decree of the Minister of Health on the public health requirements of the solid and fluid wastes of the settlements[356] pays a special attention to the so called „*facilities substituting public utilities*". As the Decree defines them: they can be facilities or pitches positioned on an individual real estate, established in a water proof manner or otherwise, serving for collection, storage, small scale handling of waste water produced by territories not connected to the public sewage system[357]. Annex 1 of the decree enlists the factors that can enhance the dissolving and de-odouring of local fluid waste, first of all microorganisms and chemicals. Their operation shall be examined and consented by the public health authorities, especially concerning their toxicity, biological effects on the soil and their GMO free content[358].

The public health authorities' consent shall also be acquired for the operation of facilities substituting public utilities. For such consent the operator of such small scale waste water cleaning devices shall announce to the authority the number of persons (including visitors, in case of organisations) served by the cleaning system, the plans, the declaration from the designer, location, protecting territory around the facility and the water supply of the concerned real estates[359]. The district level public health authorities shall register such facilities together with larger waste water utilities. Apart from the basic data such as size, capacity, possibilities of approaching, environmental features, further important water related data are also collected and registered: distance from the nearest water flow, existence of insulating at the bottom and side of the devices and establishing a protecting forest stripe[360].

We note that some of spatial planning regulations, such as the Decree on local spatial planning tools[361] encourage the dwellers to apply individual substitutions of public utilities, together with environmentally aware energy solutions and use of renewable energy sources[362]. In harmony with that the basic general legislation on spatial planning, OTÉK included into its definition section the term facility for substituting public utility as a subsidiary building that helps the use and operation of a main building[363].

We note that the general public health law also regulates the facilities substituting public utilities. The Decree on the public health requirements in connection with municipality wastes[364] focusses on the emptying procedure of such facilities, stipulating that only a closed system, engine driven, dripping and spreading proof special machines shall do that work[365].

[356] Decree of the Minister of Health No. 16/2002. (IV. 10.) EüM
[357] Art. 2 c.)
[358] Annex 1, Points 1-8
[359] Annex 2, Points 1-7
[360] Annex 3
[361] Governmental Decree No. 314/2012. (XI. 8.) Korm.
[362] Annex 3, line 36
[363] Governmental Decree No. 353/1997. (XII. 20.), Annex 1, point 69 and 86
[364] Article 16/2002. (IV. 10.) EüM
[365] Art. 6(1)

XIII.2. Individual, closed sewage water storage facility, household dehydration

The Utilisation decree defines such facilities as one kind of facilities of substituting public utilities standing of one or more storage tanks or basins, closed and water proof serving for transitional, harmless collection of household waste water in places where a public utility sewage system is not available[366].

The simplest way of individual handling of household waste water is dehydration which is regulated by the general water management administration Decree[367]. The municipality authority (municipality clerck) shall grant a permit to the dehydration solution of handling of exclusively household origin waters not exceeding 500 m3 annually – only in the cases where sewage pipelines are not accessible or only available on excessive cost and the quality of the soil makes this solution possible. Water protection, environmental protection and public health viewpoints are to be considered, too in such permitting cases[368].

We see that the individual, smallest size and capacity sewage water management activities have a relative more stringent administrative control, compared to the medium size, small community devices. Even if this can be illogical at the very first glance, the technological and professional conditions of the medium size facilities allow a more lenient regulation, while the numerous, in many cases "last resort" individual solutions might really represent a serious danger to the safety of water flows and to public health, too.

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.

- (*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.

[366] Art. 2. Point 9
[367] Governmental Decree No. 72/1996. (V. 22.)
[368] Art. 24 (1)-(2)

Practical experiences concerning alternative collection and treatment of wastewater in small rural settlements in Hungary

General background

In the case of small rural settlements the local non-eligible or illegal waste water disposals can increase the pollutant load to waters. The EU Urban Waste Water Treatment Directive[369] (UWWTD) stipulates the MSs obligations regarding urban waste water collection and treatment in case of wastewater agglomerations above 2000 population equivalent (PE).

Government Decree Number 25 of 2002. (II. 27) on the National Municipal Wastewater Collection and Treatment Program contains the national implementation programme of UWWD, in harmony with the agreed derogation periods of EU-compliance, and taking into consideration the specific Hungarian requirements to protect the underground resources of drinking water supply. The main objectives and deadlines are the followings:

- Until 31 December 2010 – agglomerations with a population equivalent (PE) of more than 15000 must be supplied with sewage network and biological (2nd level) waste water treatment plant
- Until 31 December 2015 - agglomerations with a population equivalent of 2000 – 15000 the collection of waste water and at least the biological (2nd level) waste water treatment must be solved
- Until 31 December 2008 - agglomerations with a population equivalent of more than 10000 in sensitive areas: the sewage network, biological (2nd level) waste water treatment and 3rd level treatment (Nitrogen and Phosphorus removal) must be solved.

For agglomerations under 2000 PE load an Individual Wastewater Treatment National Feasibility Program was developed by Government Decree Number 174 of 2003 (X.28).[370] Decree Number 174/2003 stated that following 1 January 2006 new buildings can be established only with individual wastewater treatment unit if there is no canalisation.

Government Decree Number 26 of 2002. (II. 27) stipulates the rules for demarcation of wastewater agglomerations in relation to the Urban Canalization and Wastewater Treatment Implementation Program.

For projects implemented since 2007 the Environment and Energy Operational Program[371] assisted in the designing of tenders. The investments are typically co-financed at present and in the future

[369] Council Directive of 21 May 1991 concerning urban waste water treatment (91/271/EEC) OJ L 135, 30.5.1991, p. 40.

[370] Repealed by Governmental Decree 147/2010 (IV.29.) on the general regulations related to the activities and establishments serving the utilization, protection and mitigation of damages of waters.

371 The Environment and Energy Operational Programme (EEOP) was one of the operational programmes intended to serve the overall objective, horizontal policies and the six thematic and territorial priorities of the New Hungary Development Plan (NHDP) – the National Strategic Reference Framework (NSRF) in EU terminology - applicable to the European Union's budget projection period between 2007 and 2013.

combining the obligatory own resources, EU's grants and finance from the central budget. Many investments have already been completed or are in progress, other projects are under preparation and there are some places where the full planning, completion and implementation process remain a task to be done in the future.[372]

Status of wastewater treatment in Hungary[373]

96% of Hungary's surface water comes from the neighbouring countries. Due to this fact, the quality and quantity of the Hungarian water bodies depends greatly on the interventions of these countries. However, Hungarian industrial and agricultural pollution contributes to the contamination of these water bodies as well and untreated or not well treated sewage plays a great role in the pollution load of the water supply. Since more than 90% of drinking water comes from groundwater, its protection is a strategic task in Hungary.[374]

In Hungary the proportion of settlements with less than 2000 inhabitants is high (75.3%) and 16.9% of the population lives here.[375] The implementation of the EU UWWTD had a positive influence on urban wastewater treatment in Hungary; the proportion of population connected to wastewater treatment plants with at least secondary (biological) treatment technologies was 70%, primarily due to the implementation of a new central wastewater treatment plant in Budapest in 2010.

According to the regional analysis of the estimated proportion of population connected to wastewater treatment plants with at least secondary (biological) treatment technologies it can be concluded that the highest values are in Central Hungary (80%) and Western Transdanubia (77%), while the lowest in Southern Great Plain (54%). Regional disparities are caused by the regional distribution of wastewater treatment plants with at least biological treatment technologies.

Municipal liquid waste is waste water that is not treated by sewerage network and/or sewerage treatment plants, and according to the relevant legislation comes from:

- emptying waste water storage facilities belonging to buildings suitable for human residence,
- drainage and sewerage networks beyond public service,
- technological activities excluding production processes.

The volume of municipal liquid waste has continually decreased since 2005 along with the expansion of the sewerage network.

[372] http://en.neki.gov.hu/index.php?page=szennyvizelvezetes--tisztitas-nemzeti-szennyvizprogram

[373] Source: Environmental report, 2011. Hungarian Central Statistical Office, 2012. ISSN: 1418 0878 Made by: Rural Development, Agriculture and Environment Statistics Department, Budapest, 2012.

[374] Viola SOMOGYI, Viktória PITÁS, Endre DOMOKOS, Bence FAZEKAS: On-site wastewater treatment systems and legal regulations in the European Union and Hungary. In: Acta Universitatis Sapientiae, Agriculture and Environment, 1 (2009) 57-64.

[375] Viola SOMOGYI, Viktória PITÁS, Endre DOMOKOS, Bence FAZEKAS: On-site wastewater treatment systems and legal regulations in the European Union and Hungary. In: Acta Universitatis Sapientiae, Agriculture and Environment, 1 (2009) 57-64.

Alternative collection and treatment of wastewater in small rural settlements

In a continuation of the National Municipal Wastewater Collection and Treatment Program, Hungary aims to construct wastewater collection and treatment systems and facilities, including works for the treatment of liquid waste, extend and modernize existing wastewater treatment and wastewater collection systems, develop wastewater sludge treatment and recycling and, in the framework of diverse and comprehensive technical projects and accomplish „semi-natural" and „individual" wastewater treatment where sewerage is not justified by environmental or economic reasons.

In addition, at settlements or part of settlements in highly vulnerable areas without a sewer system, where professional, individual wastewater disposal is not an option, the Government of Hungary aims to ensure the transportation of adequate liquid waste (on road), treatment and development of utilization. Hungary also aims to reduce the generation of municipal liquid waste and improve and expand sludge treatment and utilization.

The development of the wastewater collection and treatment systems has to be in harmony with other infrastructure development investments (for example, development of rainwater collection systems), to avoid extra costs caused by repeated operations in the same area (for example, re-pavement). Selection among options – as long as they comply with legal regulations – is based on long-term cost efficiency.[376]

Decree Number 16 of 2002 (IV.10.) of the Ministry of Health on public health requirements with respect to solid and liquid urban waste shall be applied to the collecting, transport, pre-treatment, storage, utilization and neutralization of solid and liquid urban waste. The Decree determines hygienic requisites of waste treatment and of containers used for waste collection.

Building up sewage networks for the collection of wastewater is not the appropriate solution in all cases from economic and environmental point of view. Where the density of the population is very low, settlements with a small population or outlying areas with scattered buildings, farm houses, etc. individual wastewater treatment solutions are preferred. For these cases Governmental Decree Number 147 of 2010 (IV.29.) on the general regulations related to the activities and establishments serving the utilization, protection and damages of waters stipulates the main legal conditions for the establishment of individual wastewater treatment facilities.

Depending on the environmental conditions, on the requirements of water management in the given territory and on the technical conditions, there are three main types of the individual wastewater collection and treatment facilities: domestic wastewater treatment facilities, domestic wastewater treatment units and domestic closed wastewater containers.

From the above listed systems only the application of domestic wastewater storing containers has tradition in Hungary.[377] However the application of these raised in the last decades economic and

[376] Agnes Pandur: Hungary: Water and Wastewater Industry. The U.S. Commercial Service, 2010.
[377] Rural wastewater treatment in Hungary. Report prepared by the University of Debrecen, Centre for Environmental Management and Policy for Lakepromo Interreg IIIC Rural Sewage Treatment sub-project. Centre for Environmental Management and Policy University of Debrecen, August 2007.

environmental problems, like the illegal discharge of sludge collector trucks, the limited volumetric capacity of waste treatment and waste water cleaning units, the unaffordable transportation prices for the public etc.

The development of wastewater treatment systems of small rural settlements under 2000 PE load is a complex issue depending also on the available financial resources. In the absence of the respective deadline in the WWTD for the building up the wastewater collection and treatment system of these settlements, the implementation is expected in Hungary beyond 2015.

The practical implementation also highly depends on the priorities of the certain municipalities, as the elaboration of the Municipal Wastewater Treatment Programmes is the responsibility of the local municipalities, based on the environmental hydro-geological, demographic etc. conditions of the given settlement. The respective national legal regulations do not stipulate exact deadlines for the implementation of the Municipal Wastewater Treatment Programmes.

List of laws and regulations cited in the Hungarian pilot study

Act LIII. of 1995

Act LVII of 1995

Act LV of 1996

Act CXXIX of 2007

Act II of 2012

Act CLXXXV of 2012

Governmental Decree No. 72/1996. (V. 22.)

Governmental Decree No. 123/1997. (VII. 18.) Korm.

Governmental Decree No. 253/1997. (XII. 20.) Korm.

Governmental Decree No. 120/1999. (VIII. 6.) Korm.

Governmental Decree No. 50/2001. (IV. 3.) Korm.

Governmental Decree No. 271/2001. (XII. 21.) Korm.

Governmental Decree No. 221/2004. (VII. 21.) Korm.

Governmental Decree No. 21/2006. (I. 31.)

Governmental Decree No. 27/2006. (II. 7.) Korm.

Governmental Decree No. 347/2006. (XII. 23.) Korm.

Governmental Decree No. 147/2010. (IV. 29.) Korm.

Governmental Decree No. 262/2010. (XI. 17.) Korm.

Governmental Decree No. 314/2012. (XI. 18.) Korm.

Governmental Decree No. 438/2012. (XII. 29.) Korm.

Governmental Decree No. 29/2013. (II. 12.) Korm.

Governmental Decree No. 72/2013. (III. 8.) Korm

Governmental Decree No. 190/2013. (VI. 17.) Korm.

Governmental Decree No. 250/2013. (VII. 2.) Korm.

Governmental Decree No. 293/2013. (VII. 26.) Korm.

Decision of the Government No. 49/2001. (IV. 2.) Korm.

Decree of the Minister of Health No. 16/2002. (IV. 10.) EüM

Joint Decree of the Minister of Health, Family and Education, the Minister of Agriculture and Rural Development and the minister of Environment and Water Management No. 38/2003. (VII. 7.) ESzCsM-FVM-KvVM

Decree of the Minister of Environment and Water Management No. 20/2006. (IV. 5.) KvVM

Decree of the Minister of Agriculture and Rural Development No. 36/2006. (V. 18.) FVM

Decree of the Minister of Agriculture and Rural Development No. 59/2008. (IV. 29.) FVM

Decree of the Minister of Agriculture and Rural Development No. 61/2009. (V. 14.) FVM

Decree of the Minister of Agriculture and Rural Development No. 43/2010. (IV. 23.) FVM

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[i] Three type sof general regulations are cited here: laws, governmental decrees and ministerial decrees (issued by one or more ministries)

[ii] Water Act No. 273/2010, § 30

[iii] 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.

[iv] Water Act, § 32

[v] No. 61/2003, updated by Governmental Decree No. 229/2007, § 10

[vi] Water Act, § 33

[vii] Water Act, § 28, 28a

[viii] Water Act, § 34

[ix] Decree of Ministry of Health Care No. 259/2003

[x] Decree of Ministry of Health Care No. 464/2000

[xi] Water Act, § 35

[xii] Governmental Decree No. 169/2006

[xiii] Based on Art. 6 of Habitat Directive 92/43/EEC

[xiv] See Landscape and Nature Conservation Act No. 114/1992, § 17.1

[xv] No. 185/2001

[xvi] Wast Act, § 17

[xvii] Wast Act, § 34, Decree of Ministry of Environmnt No. 341/2008

[xviii] Waste Act, § 66 and following

[xix] Waste Act, § 41 and following

[xx] SEA procedure i expected to start in 2014

[xxi] Water Act, § 38.5

[xxii] Water Act, § 55 and following