

## **ACTION 5 OF THE EU STRATEGY FOR THE DANUBE REGION**

MilestoneNo. 1:

**Survey of the situation of buffer zones**



Association Justice & Environment  
20 December, 2013



The project is supported  
by the European Union.

(VOP-1.1.1-11-2011-0001)



The Roadmap of Priority Area 4 of the EUSDR contains 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”. Hungary was identified as primary responsible actor for this Action (beside PA4 and the ICPDR) The Priority Area 4 of the EUSDR decided to make further assessment and studies to contribute and fulfil its duties concerning Action 5 of the Action Plan. In the Action Plan a special task was identified to send a questionnaire to the countries and based on the replies, to provide an assessment on the situation of the buffer zones. Based on the outcome of the questionnaire it became necessary to make further research and to carry out a complete assessment of the situation in all of the Danube countries. For this reason and partially based on Hungarian governmental funds, a contract with an international research organisation, Czech based Justice and Environment was concluded to prepare a complete research document analysing the situation in the Danube basin for the utilization of PA4.

This report has been prepared by Association Justice and Environment, on the request of PA4 of the EUSDR.

Author: Dr. Sándor Fülöp ([sandor@emla.hu](mailto:sandor@emla.hu))

National expert reports are prepared by:

Austria:	Birgit Schmidhuber (Ökobüro, <a href="mailto:birgit.schmidhuber@oekobuero.at">birgit.schmidhuber@oekobuero.at</a> )
Bosnia-Herzegovina:	Muhamed Mujakic (Law Institute B&H/Pravni institute, <a href="mailto:info@lawinstitute.ba">info@lawinstitute.ba</a> )
Bulgaria:	Plamen Peev (independent expert, <a href="mailto:peevplamen@yahoo.com">peevplamen@yahoo.com</a> )
Croatia:	Željka Leljak Gracin (Zelena Akcija – Friends of the Earth Slovakia, <a href="mailto:zeljka@zelena-akcija.hr">zeljka@zelena-akcija.hr</a> )
Czech Republic:	Vlastimil Karlík (Arnika - Nature Conservation Programme; Coalition for Rivers, <a href="mailto:vlastimil.karlik@arnika.org">vlastimil.karlik@arnika.org</a> )
Germany:	Fabian Stolpe (UfU – Independent Institute for Environmental Issues, <a href="mailto:fabian.stolpe@ufu.de">fabian.stolpe@ufu.de</a> )
Hungary:	Sándor Fülöp (EMLA – Environmental Management and Law Association, <a href="mailto:sandor@emla.hu">sandor@emla.hu</a> )
Moldova:	Iordanca-Rodica Iordanov (independent expert, <a href="mailto:r.iordanov@mkt.vox.md">r.iordanov@mkt.vox.md</a> )
Montenegro:	Srna Sudar (Regional Environmental Center, <a href="mailto:srna.sudar@rec.org.me">srna.sudar@rec.org.me</a> )
Romania:	Catalina Radulescu (Bankwatch Romania, <a href="mailto:catalina.radulescu@gmail.com">catalina.radulescu@gmail.com</a> )
Serbia:	Szilvia Szilagyi (EMLA – Environmental Management and Law Association, <a href="mailto:szilvia@emla.hu">szilvia@emla.hu</a> )
Slovakia:	Dana Marekova (Via Iuris, <a href="mailto:marekova@viaiuris.sk">marekova@viaiuris.sk</a> )
Slovenia:	Senka Vrbica (PIC - Legal Informational Centre for NGOs, <a href="mailto:senka.sifkovic.vrbica@pic.si">senka.sifkovic.vrbica@pic.si</a> )

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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

## 1 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, in separate studies<sup>1</sup> 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;

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<sup>1</sup>Under the headings Milestone No.3 and No.4

- 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.

## 1.1 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.

(*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 multidisciplinary, 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 series 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 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”.

## 1.2 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.

*(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.

### 1.3 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.

*(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.

## 2 Summary of the twelve country

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 and compared their situation and experiences as follows.

### 2.1 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.



- 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”.
- In Slovenia protected territories that include water flows are regulated in two general codes; first is Nature Conservation Act (act that is dealing with nature conservation law) and the other is Waters Act (act regarding water law). Most of these protected areas are then regulated in detail with specific executive governmental regulations (normally decrees).

## 2.2 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 areas are 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 entire 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 10 m<sup>3</sup>/day or serving more than 50 persons, including the sensitive watershed areas; areas susceptible to eutrophication or nitrates sensitive; areas designed for protection of economic imported aquatic sorts; areas for recreation and bathing; areas

for conservation of natural habitats or sorts which need good quality of water for survival and reproduction. The same Law recognise the sensitive buffer zones around water supply sources and natural bathingsites and stipulates that physical planning documentation shall include the areas under special protection (sensitive buffer zones around water supply sources and natural bathingsites) 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

ivers' 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.

- In Slovenia Article 79b of Waters Act is giving the definition of protected areas of surface waters. In order to guarantee surface water from pollution or other types of negative influence that might affect the quality of surface water, the government can determine protected areas alongside the water body and in the area of influence of surface water. In these areas it may restrict or prohibit activities that could jeopardize the adequate quality of surface water, or impose owners or other occupiers of land in the area to carry out or allow the execution of measures to protect the quality of surface waters. In the context of the protection regime the creation of a risk analysis can be carried out, which determines the degree of risk of harm on quality of water.

Activities that might threaten the quantitative or qualitative conditions of water sources in a protected water area may be restricted or prohibited in this area; alternatively, owners or other proprietors of land in the protected water area may be obliged to carry out or allow the implementation of measures to protect the quantity and quality of water sources. Owners of land located in a protected water area shall have the right to compensation for damages or compensation in kind pursuant to expropriation regulations if the use of this land has been rendered permanently impossible due to the restrictions and prohibitions.

## 2.3 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 discretionary 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 Administrative 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. Referencesiteconsists 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 bathingsites) 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.

## 2.4 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<sup>2</sup>, 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.

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<sup>2</sup>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 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).
- 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.

- 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 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 break 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.

## 2.5 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 legislations 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 flows 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.

## 3 Annex: Country Reports

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

*Buffer stripes:*

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

**Question 3:**

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

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

intervals of more than two years). Also the Water Act of Baden-Wuerttemberg makes some statements on the establishment of buffer stripes and contracts with land owners which are similar to those in the WHG and the Bavarian Water Act.

#### Question 4:

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

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

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

#### Question 5:

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

According to the interviewed representative of the competent authority in Baden-Wuerttemberg the overall cooperation within the Danube River Basin District works quite well. See also: ICPDR, Regensburger Vertrag (bilateral contract between Germany and Austria on water management in the Danube River Basin). Obviously, the Water Act of Baden Wuerttemberg is much newer (in force since 01.01.2014) than the Bavarian Water Act and therefore has integrated more requirements of the Danube River Basin Management Plan. According to the expert, the new Water Act of Baden-Wuerttemberg is a very exact implementation of the WFD. However, in this context it is important to keep in mind that the part of the Danube River Basin within Baden-Wuerttemberg is extremely small in

comparison to the Bavarian part. Especially the new regulations on buffer stripes in Baden-Wuerttemberg seem to be ambitious and they include specifications aiming at avoiding inputs of nutrients into water bodies. However, these regulations do not take effect until 2019, that means that they are more important for the second management cycle. So, there is currently a lack of experience on the effectiveness of these regulations. However, according to the expert's opinions, the ban of the use as farmland in an area of five meters from the shore will contribute to avoid nutrient inputs. Currently it is not clear, when the Bavarian Water Act will be renewed, but for the accordance with the requirements it would be definitely necessary, especially in the field of buffer stripes, and especially because the Bavarian part of the Danube River Basin is the biggest part of it within Germany. The "Bund Naturschutz in Bayern e.V." (Friends of the Earth Bavaria), other environmental organizations and the Bavarian Green Party are currently lobbying for the integration of stricter regulations on buffer stripes into the Bavarian Water Act.

## 3.2 Czech Republic

### **Buffer Zones**

Definition, legal framework<sup>3</sup>, technical details

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

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

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

### **Protecting zones of drinking water sources<sup>4</sup>**

1<sup>st</sup> and 2<sup>nd</sup> degree of protecting zones for drinking water resources of are designated for protection of sources with outtake over 10 000 cubic meters per year. Minimal extent of protecting zones of 1<sup>st</sup>

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<sup>3</sup> Three type sof general regulations are cited here: laws, governmental decrees and ministerial decrees (issued by one or more ministries)

<sup>4</sup> Water Act No. 273/2010, § 30



degree are defined by the law (see table below), actual area and restrictions for 1<sup>st</sup> and 2<sup>nd</sup> degree zones are designed by “legal water authority”<sup>5</sup>.

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

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

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

### **Sensitive areas**<sup>6</sup>

Sensitive areas are based on directive 971/27/EEC concerning urban waste treatment. By Governmental Decree<sup>7</sup>, all water bodies in Czech Republic are defined as sensitive areas. The indicators and limits for waste waters are defined also by governmental decree, and revised each 4 years. Currently valid is Decree No. 23/2011.

<sup>5</sup> What is „legal water authority“ is described in § 104 an following of Water Act. In most cases, as well as here, it is so called „municipality with extended authority“ (in defined cases it has authority not only on its territory, but also on territory of surrounding communities. They are listed in Decree of Ministry of Internal Affairs No. 388/2002.

<sup>6</sup> Water Act, § 32

<sup>7</sup> No. 61/2003, updated by Governmental Decree No. 229/2007, § 10

### **Vulnerable areas<sup>8</sup>**

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

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

**Protected areas for accumulation of water<sup>9</sup>** are designed to mitigate floods. Some restriction applied can also have positive impact on water quality – e.g. ban on mining or preservativ of forests.

**Surface waters used for bathing<sup>10</sup>** are defined by Decree of Ministry of Health Care (in cooperation with Ministry of Environment)<sup>11</sup>. Another MoHC Decree<sup>12</sup> defines indicators of water quality for those areas. If the water quality drops below these limits, the legal water authority can impose measures to remedy.

For **waters important for life and reproduction of natural fish populations<sup>13</sup>**, indicators of water quality and programs for their improvements are set up by Governmental Decree<sup>14</sup>.

**Special protected areas for nature conservation** of national as well as European importance are described in Landscape and Nature Conservation Act No. 114/1992, as well as their buffer zones. Lots of them include water courses and floodplains. In that context, is important to mention important rule<sup>15</sup>, that any plan or project with potential negative impact on Natura 2000 network cannot be realized (except in specific cases of overruling public interest), which concerns not only plans and projects located in these areas. In case of water and water-related habitats and species, Natura 2000 thus can be a powerfull tool to protection of the relatively big portion of surrounding catchment area.

Worth mentioning is also **territorial system of ecological stability<sup>16</sup>**. It is ecological network consisting of so called bio-centers, connected by bio-corridors. Very often, bio-corridors are in fact water courses and zones alongside them. Bio-centers and bio-corridors are not protected areas in sense of Lanscape and Nature Conservation Act, but they play important rule in physical planning and importantly, there are sources of funding for creating new ones. Improvement of ecological functions of landscape achieved by them can also contribute significantly to water quality improvement.

Recommendations, closing remarks

Despite all tools mentioned above, the difuse pollution from agriculture persists to be a significant problem in Czech Republic. In many places, current agricultural practices lead to extensive erosion and

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<sup>8</sup> Water Act, § 33

<sup>9</sup> Water Act, § 28, 28a

<sup>10</sup> Water Act, § 34

<sup>11</sup> Decree of Ministry of Health Care No. 259/2003

<sup>12</sup> Decree of Ministry of Health Care No. 464/2000

<sup>13</sup> Water Act, § 35

<sup>14</sup> Governmental Decree No. 169/2006

<sup>15</sup> Based on Art. 6 of Habitat Directive 92/43/EEC

<sup>16</sup> See Landscape and Nature Conservation Act No. 114/1992, § 17.1



transport of nutrients into surface waters. Solution would require changes in land use and methods applied by farmers – important improvement could be achieved by including a duty to designate some part of arable land for anti-erosion measures and measures for improvement of water retention in landscape into Cross-compliance for new financial period.

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

Basic law defining solid waste management in Czech Republic is Waste Act<sup>17</sup>. Municipalities play a key role in management of solid waste from households. Municipalities have a very flexible right to implement system of waste management on their territory with regard to local conditions by municipality decrees. For households, Waste Act set up only a duty to put their waste into places designated by municipality, and separate and give separated waste to further treatment according the system placed in by municipality<sup>18</sup>.

Municipality, not inhabitant, are by law considered to be “waste producer”, responsible for categorizing, collecting and handling waste, make records, create waste management plans and carry out control and monitoring. Municipality has duty to designated places for inhabitants to put waste, including special places for dangerous parts of household waste. Municipality has a right to implement by decree a waste management system, including systems of local fees for inhabitants. Waste management system can also include composting. Newly, composting is legally supported by implementing a term “small facility for treatment of bio-degradable waste” (for handling up to 10 tonnes at the same time and up to 150 tonnes per year) – for approval and operation such facilities, less stringent regulations apply<sup>19</sup>.

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

Competences for fines and other sanctions have municipalities, provinces and Czech Environmental Inspection (CIZP). Roughly speaking, municipalities inflict sanctions on inhabitants, provinces and CIZP on businesses<sup>20</sup>. System of municipality sanctions can be also established by municipality decree.

Generally speaking, waste management plans are in Czech Republic created on three levels – national, provincial, and local. On local level any “waste producer” (including municipalities) with production of waste over 10 tonnes of dangerous waste or 1000 tonnes of any other kind of waste<sup>21</sup>.

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

Currently, new national waste management plans is in preparation<sup>22</sup>, with many progressive elements, including program for prevention of waste production or methodology for municipalities for selecting most efficient separation methods.

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<sup>17</sup> No. 185/2001

<sup>18</sup> Waste Act, § 17

<sup>19</sup> Waste Act, § 34, Decree of Ministry of Environment No. 341/2008

<sup>20</sup> Waste Act, § 66 and following

<sup>21</sup> Waste Act, § 41 and following

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

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

Wastewater treatment facilities 5 to 50 inhabitants, called also household facilities. For installation of these facilities, certification for the type (not individual facility) is required. Facilities should also be CE compliant (in that case, operation does not require obligation for measurement of pollutant concentration in released water)<sup>23</sup>.

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

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

Wastewater treatment facility is water construction in a sense of Water Act<sup>24</sup>. They require permit for handling of surface waters, issued by “legal water authority” (see note <sup>iii</sup>). Facilities up to 50 inhabitants CE compliant do not require building permit – they had to be only announced to relevant building office. Other types of facilities require building permit, issued again by legal water authority.

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

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

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<sup>22</sup> SEA procedure is expected to start in 2014

<sup>23</sup> Water Act, § 38.5

<sup>24</sup> Water Act, § 55 and following

### 3.3 Austria

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

In Austria the competence for water protection legislation lies with the Federal state and the central law in this area is the Austrian Water Management Act<sup>1</sup> (WRG). This piece of legislation generally regulates protecting territories for water flows. It contains specific rules for the protection of areas for the extraction of water for human use in its Art 34ff.

Additionally other sectorial laws integrate the protection of waters in their respective provisions (the Waste Management Act<sup>1</sup>, several pieces of legislation in the field of chemicals law, Nature Protection Acts et al.). Within the scope of species and habitats protected under Union legislation (NATURA 2000) also the protection of water flows has certain importance – the matter is regulated under the Nature Protection Acts of the 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<sup>1</sup> and the Floods Directive<sup>1</sup> the WRG regulates the instruments and organization of public water management planning. In order to implement these instruments the WRG provides for the power to adopt ordinances in a quite unspecified way. Consequently the adoption of the National River Basin Management Plan<sup>1</sup> (NGP), the National Flood Risk Management Plan<sup>1</sup> and the Austrian Water Information System (WISA) including a register of protected areas<sup>1</sup> are set by the WRG.

The before mentioned procedures are to be treated according to the procedural provisions of the sectorial law, complemented by the provisions of the Administrative Procedure Act<sup>1</sup>. Basically decisions are taken by administrative formal decision or by the adoption of an ordinance – the procedures are different accordingly.

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

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

The National River Basin Management Plan<sup>1</sup> (NGP) is the central planning act for the management of waters. Art 55c WRG envisions the adoption of such a plan every six years by the Minister of Environment. According to administrative practice the NGP itself is not legally binding. Parallel to the adoption of the NGP an accompanying ordinance (NGP-V 2009) was enacted<sup>1</sup>, which leads to a partly legally binding plan – because it does not cover the whole content of the NGP. The Austrian NGP encompasses programmes of measures for the improvement of waters and the protection from future impairments, the prioritization, implementation and evaluation of mentioned measures with adequate instruments and the classification of waters. Based on the programmes of measures the designation of protected areas can be carried out. Additionally the plan contains a list of the environmental objectives for protected areas which have to be followed in the regulation and management of these areas.<sup>1</sup>

### b.) Legal definitions and basic procedure

The NGP registers protected areas, defining them as areas requiring the protection of surface water and groundwater or the conservation of water-dependent habitats and species on the basis of Union legislation.<sup>1</sup> Furthermore Austrian specific protected areas according to the Water Management Act<sup>1</sup> (WRG) are covered by its definition. The protected areas can be distinguished according to their protective purpose:

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

#### Ad 1.)

Legal definition/purpose	Competent authority	Procedural rules	Managing and Monitoring
Aim to protect drinking water supply facilities	In order to protect water supply facilities from contamination (§ 30 para 2) or against attacks on their productive capacities, the competent water	The administrative decision	Monitoring is carried out via observation of

<p>from contamination (Art 34 protected areas)</p>	<p>authority may prohibit special arrangements on the land/water management, prohibit the construction of certain facilities and determine appropriate reserves by administrative decision.</p> <p>The competent water authority (can be the district authority, the governor or the MoE) takes an administrative decision (<i>Bescheid</i>)</p>	<p>designating the protected area is to be seen 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<sup>1</sup></p> <p>The administrative decision produces an in rem effect – changes of ownership do not have an effect on the decision.<sup>1</sup></p> <p>Basically the water authority decides ex officio on the designation of a sanctuary - in the run of the permitting procedure of the water</p>	<p>the water extraction point.</p> <p>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)</p>
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		<p>supply facility this has to be checked anyways.<sup>1</sup></p> <p>The operator of the water supply facility is entitled to file a request for the designation of a protected area.</p> <p>Basically there is no legal standing or other party rights when adopting an ordinance. In certain cases an ordinance can be challenged by individuals, courts or administrative authorities (Art 139 Constitutional Act)</p> <p>In permitting proceedings affecting the sanctuary in some way,</p>	
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		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)	<p>According to this provision the sanctuary is to be designated in the form of a Legal ordinance by the respective regional Governor ('Landeshauptmann').</p> <p>In Some cases the MoE is competent.</p> <p>The governor may determine activities which are not allowed, need to be officially authorized or have to be notified in the respective area.</p>	<p>This legal ordinance is regularly enacted for the areal protection of groundwater resources.<sup>1</sup></p> <p>Basically there is no legal standing or other party rights when adopting an ordinance. The administrative authority acts upon its own motion and not upon request.</p>	In sanctuaries evaluations are carried out by GZÜV <sup>1</sup> measuring points. These points are illustrated in the NGP
Aim to ensure future drinking and process water supply (Art 35)	<p>Protected areas are designated in the form of a legal ordinance by the respective regional Governor ('Landeshauptmann').</p> <p>The governor may determine activities which are</p>		



According to this provision the protection of currently not used, but for future sustainable water resources is required. <sup>1</sup>	not allowed, need to be officially authorized or have to be notified in the respective area.  Same criteria as for the designation of sanctuaries.		
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**Ad 2.)**

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

**Ad 3.)**

The protection and designation of Natura 2000 sites falls under the nature protection competence of the Laender<sup>1</sup>. In nature protection issues each of the nine Austrian Laender is competent in legislative and executive matters. Basically the respective Nature Protection Act itself provides for the criteria when an area is to be protected. The designation of protected areas in compliance with the FFH Directives is carried out via legal ordinance by the competent regional government (e.g. Art 9/3 Lower Austrian Nature Protection Act). Natura 2000 sites are incorporated into the register of protected sites according to Art 59b WRG when the maintenance or improvement of the water status is an important factor for their protection.

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

The Fish Directive (2006/7/EC) sets obligations to establish programmes and measures to reduce water pollution and to achieve compliance with certain limit values set up by the Directive. The Austrian implementing legal act is the Fischgewässer-VO<sup>1</sup> ('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"*<sup>1</sup> The monitoring of the parameters specified in the Directive is carried out within the existing national water monitoring programme.

**Ad 4.)**

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

**Ad 5.)**

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

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

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

The sanctuary regulated in Art 34 para 2 WRG refers to bigger areas than the above mentioned provision. So any area beyond the “60-day-limit” may be designated as such a sanctuary. A sanctuary even may encompass some smaller water protection areas. The area is categorized in Zones (I, II and III) as already described above. The plot boundaries have to be specified in the ordinance designating the sanctuary – this may be done by indicating the architectural or natural reference points of the borderline (e.g. Art 2 Schongebietsverordnung Oberndorf<sup>1</sup>). The exact boundaries of the sanctuary are mapped in a proper site plan which is an integral part of the ordinance and is publicly accessible (at the seat of the relevant district authority, the regional government and the affected municipalities).<sup>1</sup>

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

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

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

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

The Austrian WRG provides detailed rules for the elaboration of the NGP – the last NGP was adopted in 2009, the next will be due by 2015. As already mentioned – the Minister of Environment shall adopt the NGP by ordinance and publishes the document on the Homepage of the Ministry of Environment. The plan has to be incorporated into the Water Information System (WISO) and made publicly available at the office of all nine Laender governments.<sup>1</sup> The Minister of Environment is responsible to coordinate the plan with effected foreign countries – in fact this task lies with the Commission on the Protection of Waters (*Gewässerschutzkommission*).<sup>1</sup> The procedures functions according to the following rules:

- A time and work plan is to be elaborated already 3 years before the adoption of the NGP; this plan shall include also public consultation measures;
- Two years before the adoption of the plan, an elaboration of an overview on the international and national river basin and on the most crucial water management issues for the respective river basins;
- Completion of a draft plan, one year before the adoption of the plan;<sup>1</sup>

The foundation of the NGP is the assessment of the baseline situation (*Bestandsaufnahme*) which is in the responsibility of the Minister of Environment and the regional governors, which will be incorporated into the WISO.<sup>1</sup> Equally flood risks have to be evaluated and incorporated into the NGP as well as into a separate flood risk management plans.<sup>1</sup> Art 55m WRG provides for public consultation provisions in the NGP elaboration process in the framework of a strategic environmental assessment (SEA). The background documents and the draft plans have to be made available for comments to stakeholders and the public in general – notification via newspapers and publication on the web, indication of deadlines for comments (6 weeks) and publication of all comments on the web. The comments shall be taken into account when adopting the plan. Apart from the environmental report, the draft plan has to be accompanied by a description of transboundary consultations and SEA procedures.

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

For the adoption of further water management plans which set the framework for future development consent of projects listed in Annexes I and II to Directive 85/337/EEC (EIA Directive) a strategic

environmental assessment is to be carried out as well.<sup>1</sup> The procedure set for the elaboration of the NGP (including public consultation and participation) has to be applied here. This provision shall cover the elaboration of regional programmes (Art 55g WRG) which are - as mentioned above - elaborated in concretization of the NGP and the designation of sanctuaries (Art 34 WRG).<sup>1</sup> In practice it is doubted that strategic environmental assessments are carried out for the two last mentioned plans.

- **Sanctuaries**

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

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

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

- **Water protection area**

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

**Summary of Findings:**

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

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.

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

In the protected fishing zone is prohibited

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

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

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

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



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

a) build or expand

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

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

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

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

Because the water sources for drinking water can also be an water flow, also this kind of protected area may cover protection of water flow as such. The Protection zones of water sources are determined by individual decision of a competent state water administration authority in individual administrative proceedings, based on the opinion of Health Protection Authority, to protect the yield and quality of health safety of water sources that are used. Decision determining protection zones of water source

determines also its boundaries and measures of protection to prohibit or restrict activities that harm or threaten the quantity and quality of water, or quality of drinking water sources, as well as technical adjustments to protect drinking water sources and other measures performed in the protection zone. Protective zones of water sources are divided into 1<sup>st</sup> protection zone, which serves to protect the immediate proximity to the water abstraction or detention facilities, and the 2<sup>nd</sup> protection zone, which is used to protect water resources against threats from distant locations. To enhance the protection of drinking water sources 3<sup>rd</sup> protection zone may be determined. However, if the conditions for the 1<sup>st</sup> protection zone sufficiently protect the yield, quality and health safety of drinking water sources, other protection zones may not be determined.

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

## **5. Reference sites.**

The reference site is a protected area to protect the original status of the water flow in a quality and quantity it would exist without human impact or with a minimal human impact. The reference site condition is the basis for the quantification of disturbance of the aquatic environment and the evaluation of surface water. The reference location shall be designated according to the state of watercourse, its shores and coastal zone, hydrological regime, land use, physical and chemical indicators of water quality with the presence of introduced species or intensive fish farming. In the reference site it is forbidden to carry out any activity that threatens the existing condition. In the river basin of reference sites it is forbidden to carry out any activity that undermines the existing condition, except for the implementation of activities under the Forest Act, the Act on the Protection of Agricultural Land.

Reference site consists of a stretch of water flow one kilometer above the designated river 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 regulation issued by the Ministry of Environment, which has, however, not yet been issued.

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

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

Water flows may also represent an important part of nature protected under the Nature Protection Act. Water flows may be declared protected areas by Government generally binding regulation, specifying the requirements for protection under the Nature Protection Act. Protection of Water flow may be

declared as a so called large protected area (protected area, national park), and so called small protected area (nature reserve, natural monument, protected area, protected landscape element).

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

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

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

**Practical information:**

As appears from the information obtained from the competent national authorities (Ministry of Environment, State Nature Conservation Authority, Slovak Environmental Inspectorate), legislative regulation of water flows is in their views 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 legislations suggests, that protection of water flows as such is not (except of general provisions) ensured sufficiently. Nature Conservation Act does not include special provisions that would protect the natural values of water flows. There are no provisions that take into account the specifics of the watercourse, in particular with regard to the fact that it is a linear formation. Similarly Water Act does not contain special provisions stipulating declaration of a protected area for the protection of water flows as such (with the exception of reference sites, but none has been declared in practice until now).

### 3.5 Slovenia

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;*

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 PIC:**

Protected territories that include water flows are regulated in two general codes; first is Nature Conservation Act (act that is dealing with nature conservation law) and the other is Waters Act (act regarding water law). Most of these protected areas are then regulated in detail with specific executive governmental regulations (normally decrees).

Nature Conservation Act (Zakon o ohranjanjunarave,Uradni list RS, št. 96/04 - uradnoprečiščenobesedilo, 61/06 - ZDru-1 in 8/10 - ZSKZ-B) is dividing protected natural areas into different internationally recognised categories(IUCN categories). The basic division is into largeand small protected areas. Large protected areas are: nature park, regional park and landscape park. These areas are the upgrading of another, basic nature protection network composed of much wider areas, such as ecologically important areas, Natura 2000 sites, and the outstanding abundance of valuable natural features. Small protected areas are: nature reserves and natural monuments. Protected areas and zones of influence shall be a constituent part of national spatial plans and spatial plans of local communities.The protected area shall be established by the Government or the competent body of one or more local communities.

State regulations regarding nature protection network:

- Decree on habitat types (Uradni list RS, št. 112/03, 36/09 in 33/13);
- Decree on ecologically important areas (Uradni list RS, št. 48/04, 33/13 in 99/13);
- Decree on special protection areas (Natura 2000 areas), (Uradni list RS, št. 49/04, 110/04, 59/07, 43/08, 8/12, 33/13, 35/13 - popr., 39/13 - odl. US in 3/14);
- Rules on the designation and protection of valuable natural features (Uradni list RS, št. 111/04, 70/06, 58/09 in 93/10);
- Decree on the categories of valuable natural features (Uradni list RS, št. 52/02 in 67/03).

Regulations regarding protected areas:

- Triglav National Park Act (Uradni list RS, št. 52/10) – the only Slovenian national park that is regulated with a national act.
- All others large or small protected areas are regulated with decrees or other executive acts on national or local level.

Special protected areas for water flows are regulated in Waters Act (Uradni list RS, št. 67/02, 110/02 - ZGO-1, 2/04 - ZZdrI-A, 41/04 - ZVO-1, 57/08, 57/12 in 100/13).

We know different types of protection zones:

- Protected water areas; are regulated in executive act “Rules on criteria for the designation of a water protection zone” (Uradni list RS, št. 64/04, 5/06 in 58/11);

- Bathing water area; are regulated in executive act "Rules on detailed criteria for identification of bathing water" (Uradni list RS, št. 39/08);
- Protected areas of surface waters; without a specific executive act;
- At-risk areas (flood area, erosion area, landslide area and avalanche area) are regulated in executive act "Decree on conditions and limitations for constructions and activities on flood risk areas" (Uradni list RS, št. 89/08)

Water flows are often protected as valuable natural features, protected water areas, bathing water area, protected areas of surface water or at-risk areas. So for need of this analysis only these are explained in detail.

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;*

*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.).*

#### **Answer PIC:**

##### **Valuable natural features**

The definition is given in Article 37 and on of the Nature Conservation Act. Valuable natural features shall be of national or local importance. Valuable natural features of national importance shall be the features of international or great national importance. The importance shall be established on the basis of expert evaluation criteria, comparatively for the entire State. The Government shall specify the categories of valuable natural features and the protection and development orientations for their protection. The minister shall designate valuable natural features and classify them into valuable natural features of national or local importance and shall prescribe in detail the protection and development orientations for the protection of a valuable natural feature. Valuable natural features shall be a constituent part of the national spatial plan and spatial plans of local communities. Valuable natural features may be the property of natural or legal persons and of the State or local community. No one shall treat valuable natural features in such a way that their existence is threatened. The act of protection shall lay down in particular:

1. the valuable natural feature, its extent and components;
2. the purpose of the protection;
3. the rules of conduct or protection regime and development orientations;
4. how to determine the manner of carrying out the tasks necessary to achieve the purpose of protection.

The act of protection of a valuable natural feature shall be adopted by the Government or a competent local community body. More detailed rules regarding valuable natural features are prescribed in state regulation »Rules on the designation and protection of valuable natural features«.

##### **Protected water areas:**

The definition of protected water area is given in Waters Act (Article 74 and on). In order to protect a water body used for obtaining or intended for supplying drinking water against pollution or other types of burden that could affect the health suitability or quantity of water, the government shall designate it as a protected water area. Internal areas within a single protected water area may have different levels of protection. The act of designation shall determine the following:

1. the boundaries of the protected water area;
2. the boundaries of internal areas;
3. the measures, prohibitions and restrictions in place in the protected water area and individual internal areas (hereinafter: water protection regime);
4. the type of use of the water body;
5. the specification of the relevant local community, if the water body is intended for the supply of drinking water;
6. supervision of the implementation of the prescribed regime.

A protected water area shall be specified in the water management plan (this is not a spatial planning act but a management plan of water flows). More detailed rules regarding this protected area are given in state regulation "Rules on criteria for the designation of a water protection zone".

### **Bathing water area**

The definition of a bathing water area is given in Waters Act (Article 77 and on). It shall comprise an area in which bathing water is located and which has the status of natural bathing area pursuant to regulations on protection against drowning, or which is normally visited by a larger number of people for bathing purposes and in which bathing is not prohibited. A bathing water area shall be designated by the government itself or at the proposal of a local community, subject to fulfilment of the criteria laid down in the regulation, adopted by responsible minister. The government shall lay down the obligation to implement monitoring of the quality of bathing water and the provider of this monitoring, and the measures to be taken in the event that the water does not comply with the prescribed parameters. A bathing water area shall be specified in the water management plan. More detailed rules regarding this protected area are given in state regulation "Rules on detailed criteria for identification of bathing water".

### **Protected areas of surface waters**

Article 79b of Waters Act is giving the definition of protected areas of surface waters. In order to guarantee surface water from pollution or other types of negative influence that might affect the quality of surface water, the government can determine protected areas alongside the water body and in the area of influence of surface water. In these areas it may restrict or prohibit activities that could jeopardize the adequate quality of surface water, or impose owners or other occupiers of land in the area to carry out or allow the execution of measures to protect the quality of surface waters. In the context of the protection regime the creation of a risk analysis can be carried out, which determines the degree of risk of harm on quality of water. Activities that might threaten the quantitative or qualitative conditions of water sources in a protected water area may be restricted or prohibited in this area; alternatively, owners or other proprietors of land in the protected water area may be obliged to carry out or allow the implementation of measures to protect the quantity and quality of water sources. Owners of land located in a protected water area shall have the right to compensation for damages or compensation in kind pursuant to expropriation regulations if the use of this land has been rendered permanently impossible due to the restrictions and prohibitions.

### **At-risk areas**

Article 83 and on of Waters Act defines at-risk areas as areas that shall be determined to ensure protection against the adverse effects of water. We know 4 different types or risks:

1. floods (flood area);
2. erosion of inland and marine waters (erosion area);
3. landslides or hillslides (landslide area);
4. avalanches (avalanche area).



At-risk areas shall be determined by the government, taking into account the natural capacities that might lead to adverse effects of water, the number of people potentially at risk, and the magnitude of possible damage to facilities, land and property. To protect against the adverse effects of water, land in an at-risk area may be classified into categories with regard to level of risk. Activities and encroachments in physical space on water and waterside land shall be prohibited that could put the stability of water or waterside land at risk; reduce protection against the adverse effects of waters; obstruct the normal flow of water, wash and flottage; render the viability and reproduction of water and waterside organisms impossible. To protect against the adverse effects of water, the state and local communities shall ensure the planning, construction and management of water infrastructure, in particular flood walls, retention basins, gravel barriers, facilities for establishing the bottom and banks, pumping stations and drainage of hinterland water, in at-risk areas. The state shall be responsible for the protection of settlements, public infrastructure and land against the adverse effects of waters. The scope of protection against the adverse effects of waters and the necessary measures shall be laid down in water management plans.

If the same territory has more than one protection regime under the Waters Act more stringent regime has to be used.

3. *(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.

#### **Answer PIC:**

#### **Valuable natural features**

Part of nature is determined as a natural value feature based on expert evaluation criteria by comparing its properties with those of other parts of nature. Natural values have to be determined in the special register with the following information: identification number, username, ranking on the natural value of national or local importance, brief description, definition of a category and geographical definition of the location with the Gauss-Krueger coordinates. Detailed rules regarding marking valuable natural features are given in state regulation »Rules on the marking of protected areas of valuable natural features« (Uradni list RS, št. 117/02 and 53/05). Other rules regarding designation are given in »Rules on the designation and protection of valuable natural features«.

#### **Protected water areas**

Detailed technical rules for defining protected water areas are given in "Rules on criteria for the designation of a water protection zone". The definition of the protected water area is based on several factors: (1) natural features of the water body and its feeder zones that protect water bodies from pollution or other negative impacts, (2) long-term significance of the water body for local and regional development, (3) conditions of the provision of drinking water and the requirements of the regulations governing drinking water, (4) estimation of actual and potential pathways of microorganisms along the flow of water to capture, (5) estimation of actual and potential pathways of chemical and physical pollutants downstream surface water and groundwater to capture, (6) risk of contamination due to environmental interventions, and (7) costs for the establishment of water protection regime and the costs for setting up the technology of preparation and purification of water taken from the body of water that is guarded by water protection regime. Water protection area shall not be less than the natural surface of the feeder zone, which is calculated as follows:  $P[m^2] = Q_0/Q_{nap}$ . The size of the internal areas depends



on the type of surface or groundwater body and on the characteristics of their feeder areas determined on the basis of the retention time of pollutant dilution of pollutants from input to capture or time for action.

Protected areas and bathing water areas must be designated. Protected water areas shall be designated by the provider of the compulsory local public service of supply of drinking water, with the exception of protected water areas for the use of mineral, thermal, thermo-mineral or other ground water for the production of beverages, in which case the holder of the water right shall have this obligation.

### **Bathing water area**

Detailed technical rules on determination bathing water area are given in state regulation »Rules on detailed criteria for identification of bathing water". Bathing water area is determined by surface water body or its part, where a large number of people is having a bath or is expected to have a bath, under several conditions like;

- Bathing is not in conflict with other use of water in the area,
- Swimming does not reduce the limits or prevents the implementation of existing water rights in the area,
- There are no waste water discharges in the area,
- Swimming does not have a negative impact on the operation of water infrastructure facilities,
- Operation of water infrastructure facilities does not pose a safety risk to bathers' health,
- The bank of a river, lakeshore or seashore has to be of a minimum length of 100m,
- overall width of the river bank or coastal land that is available for swimmers has to be at least 10m long. The designation of bathing water areas shall be ensured by the local community.

### **Protected areas of surface waters**

There are no specific technical details or rules regarding this protected area (in addition to what was answered on previous question).

### **At-risk areas**

Every type of at-risk area has different technical rules that are given in Water Act and subordinated executive acts like "Rules on methodology to define flood risk areas and erosion areas connected to floods and classification of plots into risk classes" (Uradni list RS, št. 60/07).

Flood areas shall be deemed to be water, waterside and other land where water occasionally flows out of the water land as a result of natural factors. Erosion areas shall be deemed to be land permanently or periodically under the influence of surface, deep or lateral water erosion, including areas which are: sources of wash (erosion points); under the influence of torrential waters (torrential course); composed of rocks prone to decay; under the influence of sea waves (cliffs). Determination of flood and erosion areas is based on an analysis of the geographical and geological characteristics of the area, hydrological data and characteristics of water flow.

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.;*

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;*

### **Answer PIC:**

In the process of adopting regulation that could have significant impact on the environment public participation has to be enabled under the Environment Protection Act (Article 34a). This article defines public participation in rulemaking. The draft of the act has to be displayed to public and public has the right to give opinions and comments on the draft rule for at least 30 days (that period could be shortened to 14 days). The authority shall examine public comments and take them into consideration and then publish reasons for the acceptance or failure to comply with rule making.

All protected areas shall be a constituent part of the national spatial plan and spatial plans of local communities.

### **Valuable natural features**

The act of protection of a valuable natural feature shall be adopted by the Government or a competent local community body depending on the national or local importance of the valuable natural feature. The official legal form of this act is not prescribed, but it is usually a governmental decree or ordinance of local community.

### **Protected water areas**

The act of designation protected water areas is adopted by the Government.

### **Bathing water area**

Bathing water area shall be designated by the Government itself or at the proposal of a local community.

### **Protected areas of surface waters**

The act of designation of protected areas of surface waters is adopted by the Government.

### **At-risk areas**

Flood and erosion areas shall be determined in the water cadastre. The procedure of determination is official, carried out by responsible ministry on the basis of expert analysis. There is no specific public participation in the process. At-risk areas have to be adequately taken into account in spatial planning acts.

## **3.6 Croatia**

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

- *(general legal background)* Please specify the levels (such as general codes, rules on detailed procedures, rules on technical details etc.) and types (branches of law such as agricultural, environmental, nature protection water management administration laws)

of laws and regulations that establish protecting territories (buffer zones) for water flows;

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

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

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

Croatian Act on Waters (OG No. 153/09, 63/11,130/11, 56/13) contains more detailed provisions regarding water protection. For example it determines in details what are the aims of the water protection such as following: to prevent further deterioration, to protect and enhance the status of aquatic ecosystems with regard to water needs, terrestrial ecosystems and wetlands directly depending on aquatic ecosystems; to better protect and improve the condition of the water environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of hazardous substances from the priority list, interruption or phasing out of discharges, emissions or spillage of hazardous substances from the priority list, to ensure a gradual reduction of pollution of groundwater and prevent its further pollution; to make a significant reduction in pollution of groundwater; to achieve the objectives of relevant international agreements, including those that are focused on eliminating pollution of the marine environment in accordance with the regulations that ensure the termination or phasing out of discharges, emissions and losses of hazardous substances from the priority list , with the ultimate goal of achieving values in the marine environment close to the core concentrations of substances which occur naturally and concentration around zero for synthetic substances, etc.

Furthermore, the Act on waters determines that water protection is achieved by adopting of specific implementing regulations determined by the Act, by monitoring of the status of water

quality and sources of pollution, by pollution control, by prohibiting discharges of pollutants into the water and the prohibition of other actions and behaviors that can cause pollution of the aquatic environment and the environment in general, by construction and management of buildings sewage and waste water treatment and other measures intended to preserve and improve the quality and usefulness of a dedicated water.

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

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

Research tips: Elements of the definitions you find can be enlisted similarly as we did in Subchapter 1.2 and this can be added by a short list and description of the planning rules, and also with some details on the decisions on the parameters of the protecting territories (the decision-making body, the possible responsibilities, remuneration rules etc.).

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

Protected areas - areas of special protection waters are :

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

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

Bodies or persons who issue the decision on determination and / or protection of water areas of must submit it to the Croatian waters within 60 days of the decision. The Act on Waters, Art 49 also defines **sensitive and less sensitive areas**. *Sensitive areas* are

areas in which to achieve the goals of water quality it is necessary to implement a higher level or a higher degree of wastewater treatment and *less sensitive areas* are areas where natural water features allow the implementation of a lower level or a lower level of wastewater treatment. The act of determining more or less sensitive areas is adopted by the Croatian Government.

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

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

There is an Ordinance on conditions of determining sanitary protection zones (OG No. 66/11) and it applies only to protection of water sources. This Regulation lays down the conditions for the determining of water protection zones which are used for public water supply, measures and restrictions to implement them, deadlines and procedures for making decisions on the protection of water sources. Sanitary protection zones can be identified if water research is carried out and 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 Seawater area. Water area of the Danube River is entirely basin of sensitive area. On the Adriatic Seawater area, all areas designated as eutrophic, areas designated for the abstraction of water for human consumption, and nature protection areas make sensitive area.

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

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

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



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

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

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

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

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



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

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

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

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

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

As for the sanitary protection zones - water wells - implementation is not working as it should. There is the local authority responsible, and Croatian 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, and 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.

### 3.7 Serbia

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

#### **Legal background and responsibilities**

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

In order to approximate the national legal background of water management with the EU law, and to fulfill international obligations a set of by-laws was adopted in Serbia between 2010-2012. These include



The project is supported  
by the European Union.

(VOP-1.1.1-11-2011-0001)



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.

### 3.8 Bosnia-Herzegovina

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, geomorfolological or biological relations which define water and water related ecosystems, basic riverbed of liquid water including isles, sunken land, abandoned riverbed which are occasionally flooded, swamps and defined inundiated zone and land under water objects exist.

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

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

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

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

### 3.9 Montenegro

#### Basic facts:

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

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



The rivers Piva and Tara form almost 40% of total water of the river Drina, with no more than 20% of its basin area. These rivers, with water of the Lim and the Čehotina, also from the area of Montenegro, participate with approx of 63% of the Drina flow at its mouth to the river Sava. The significant part of these waters flows into Adriatic Sea or Black Sea through neighbouring countries, like waters of: the Piva, the Tara, the Lim, the Čehotina, the Ibar and the Bileća Lake, which is partially situated and filled up from the territory of Montenegro; while waters of Skadar



Lake and the Bojana river are crossing or flow along the border of Albania. That is why these waters appear as trans-boundary and their use or constructions of facilities which can change their regime are treated as trans-boundary.

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

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

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

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

**Laws:**

1. Law on Waters ("OfficialGazzete", 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 ("OfficialGazzete", No. 65/08 from 29.10. 2008)

**Plans:**

Water management baseline (2001)

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

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

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

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

The Law on Waters (2007) recognise the sensitive buffer zones around water supply sources and natural 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, “Official Gazette”, No. 66/09, 2. 10. 2009).

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

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

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

09.2011) and Law on financing water management ("Official Gazette", 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 (Vodoprivrednaosnova) from 2001);
- Water Management Plans (planned but not exiting);
- River basin management plans (planned but not exiting);
- Master plan for disposal wastewater of Montenegrin coast and Municipality of Cetinje;
- Strategic master Plan for sewage and wastewater in central and northern part of Montenegro.

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

- The Montenegro legislation in water sector is not fully harmonised with EU legislation and WFD.
- The current main legal act – the Law on Waters ("Official Gazette", 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.

### 3.10 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 than 51, 20. For regulated rivers, the width for courses less than 10 m long, 2m, between 10 and 50 m 3, more than 51, 5 m.

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

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

Around reservoirs, between normal retention level and crown quota

Around dams, 4 m inside the precinct.

Around hydrotechnic derivation channel, 3m

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

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

Around hydrogeological drillings, 1.5 m.

Around drilling drainages, flow measurement installations 1 m

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

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

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

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

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

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

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

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

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

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

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

- a) Significantly increase biodiversity;
- b) Increase the production yield due to better pollination;
- c) Become a habitat for small mammals and birds;
- d) Represent measures to ensure the protection of soil and water.

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

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

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

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

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

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

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

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

### 3.11 Bulgaria

#### General legal background

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

According to Bulgarian legislation the main sources of legal regulation that establish protecting territories (buffer zones) for water flows are the framework environmental act - Environmental Protection Act<sup>1</sup> and the respective special pieces of primary and secondary legislation in the field of environmental/nature protection and water management. In addition legal norms from branches of law

like health protection, town and territorial planning, forestry law have their application in this respect. We will review shortly the main provisions related to the subject of the analysis.

The protection and use of water and water bodies is regulated as a general principle and national policy in the Environmental Protection Act. The protection of water and water bodies shall ensure the balance between abstraction and natural recharge of waters, and preservation and improvement of both surface and ground waters<sup>1</sup> while at the same time ensuring favorable status and development of ecosystems and wetlands<sup>1</sup>. It is important to underline the special legal regime of ownership over rivers in Bulgaria – according to the Water Act<sup>1</sup> „the river waters and the riparian lands<sup>1</sup>“are public state property, including the flood plain of the Danube river<sup>1</sup>. According to Art. 116 of the Water Act “all waters and water sites shall be protected against depletion, pollution and damage, with a view to maintaining the appropriate water quantity and quality and a healthy environment, conserving the ecosystems, preserving the landscape, and preventing economic damage, including achievement of good chemical and ecological status of the surface waters; achievement of good quantitative and chemical status of ground waters; reduction of the need to treat water prior to the use thereof; and provision of development of aquatic ecosystems and the terrestrial ecosystems associated therewith.”

The protected areas’ regime pursuant to Protected Areas Act is applied to all types of territories regardless of the ownership of the forests, land tracts or aquatic areas<sup>1</sup>. 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<sup>1</sup>.

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

In Bulgarian legislation buffer zones or strips along rivers and water bodies could be the territories around the protected areas (according to Protected Areas Act(PAA)) or those with special status as e.g. sanitary guarded areas of water sources and facilities for drinking and household water supply, of mineral waters according to the Water Act. The Biodiversity Act<sup>1</sup> brought all buffer zones designated prior to that according to Biodiversity Act and Nature Protection Act under the regime of protected sites<sup>1</sup>.

Other laws also bear relevance to the protection of waters like Forest Act<sup>1</sup> in Art. 5(2) defining as “protecting forest territories“ also those ones for protection of water, or Protection of Agricultural Lands

Act<sup>1</sup> which stipulates that the owners and the users of the agricultural lands shall be responsible for damaging the quality of surface and underground waters<sup>1</sup>.

## 1. Scope of regulation

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

According to Protected Areas Act protected areas are “dedicated to the conservation of biological diversity in ecosystems and of the natural processes occurring therein, as well as of typical or remarkable non-living natural features and landscapes”.<sup>1</sup> The protected areas fall into the following categories: strict nature reserve, national park; natural monument; managed nature reserve; natural park and protected site<sup>1</sup> 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.<sup>1</sup>

Protected areas are designated and modified by the Minister of Environment and Water<sup>1</sup>. The Minister also elaborates strategies, plans, programmes, bills and secondary legislative acts for development of the protected areas system and for building the protected areas system. He commissions preparation of management plans of national and natural parks and sends them to the Council of Ministers for endorsement; as well he commissions the preparation of and endorses the management plans for any protected areas<sup>1</sup>. The Minister of Environment and Water issues a designation order for the protected area which states its legal grounds; primary objectives; category of the area, name, area distribution of forests, land tracts and aquatic areas and regime of the principal activities within the protected area<sup>1</sup>.

The Ministry of Environment and Water and the regional authorities conduct and implement the management and control in protected areas<sup>1</sup>. At regional level the directors of the regional authorities of the Ministry of Environment and Water implement or organize the management of the protected areas; organize the elaboration of management plans; apply the management plans in the protected areas constituting exclusive state property and implement the physical security therein; as well as organize monitoring of the quality of environmental media (including water) and penalize offenders in the cases as provided for<sup>1</sup>. The owners and users of any forests, land tracts and aquatic areas within a protected area are obliged to observe the regimes established according to the procedure established by PAA, by the designation order for the protected area and by the management plan of the said area<sup>1</sup>. Any sites within protected areas shall be constructed, maintained and used in accordance with the regime of activities according to the procedure established by PAA, by the designation order and by the management plan of the protected areas, the spatial-development plans and schematic designs, without prejudice to the requirements under other laws<sup>1</sup>. When water protection or protection against water-related damage and loss requires so, or in any case of satisfaction of state or municipal needs that cannot otherwise be satisfied, it is permissible to appropriate any private property or any existing water development facilities after an advance and equivalent indemnification according to procedure established by the Public Property Act<sup>1</sup>.

The Nitrates Decree No.2<sup>1</sup> on the protection of waters from pollution with nitrates from agricultural sources aims at reduction of pollution of waters from nitrates and prevention of further pollution. It is a very important piece of legislation given the intensive agriculture taking place in Bulgarian plains, including the Danube plain. It establishes criteria for defining waters (surface and ground waters) as “polluted” or “endangered from pollution” and the vulnerable zones. It transposes into Bulgarian legislation the provisions of Nitrate Directive 91/676/EEC. It defines *eutrophication*, *polluted waters* (with more than 50 mg nitrates/litre) and sets requirements to good agricultural practices to be applied by the farmers voluntarily. Beside the three ministries that have issued the Decree the river basin directors are also competent authorities for implementation of the decree. The vulnerable zones according to the Decree No.2<sup>1</sup> are designated as a result of the monitoring which planned by the river basin directorates and carried out by them and by the Ministry of Health according to the requirements of Decree No.9/2001 for the quality of water intended for household and drinking supply. The self-monitoring of waters is carried out in the vulnerable zones by the persons with activities that pollute or might pollute waters<sup>1</sup>. The designated vulnerable zones are reassessed every 4 years.

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

The most stringent rules concerning the quality of water are provided for in the drinking water protection legislation and namely in the Decree No.9/2001 of the Minister of Health, Minister of Regional Development and Public Works and of the Minister of Environment and Water, for the quality of water intended for household and drinking supply. The provisions of the Decree aim at protection of human health from the harmful effects of drinking water pollution, setting requirements for its quality and safety. The water supply companies need to take all necessary measures to ensure the supply to the population of safe and clean drinking water<sup>1</sup>. The Decree sets standards and indicators for achieving this quality which serve as basis for monitoring of the quality of the water.

Further the protection of water and ensuring its quality is ruled by the Decree No.6/2000<sup>1</sup> issued by the Minister of Environment and Water, the Minister of Regional Development and Public Works, the Minister of Health and the Minister of Economy on emission standards for the permissible contents of harmful and hazardous substances in wastewaters discharged into water sites. The Decree aims at prevention and/or discontinuance and reduction of water pollution of water bodies by hazardous and harmful substances within the scope of the Decree<sup>1</sup>. It applies to surface wastewaters discharged by industrial facilities and urban wastewater treatment plants. The wastewater discharge permits need to apply as a minimum standard the emission standards stipulated by the Decree. For transboundary waters subject to international conventions and agreements the requirements of those conventions and agreements and those of the decree shall be adhered to and again the more stringent rules apply. The emission standards for industrial facilities are those set by the Decree unless they are subject to a more stringent regime<sup>1</sup>. For the urban wastewater treatment plants the sewerage systems shall be operating in accordance with the requirements of the Decree set in Annex No.3, “A”. for secondary wastewater treatment or equivalent of such treatment<sup>1</sup>. For discharge of wastewaters from agglomerations located



above 1500 m. above the sea level the treatment could be simpler given that there won't be adverse impacts on the environment<sup>1</sup>. Special emission standards for some substances and indicators for quality of wastewater are set for some industrial sectors according to Annex No.5. These special emission standards are determined by the competent authority in the wastewater discharge permit<sup>1</sup>.

The design, construction and maintenance of buildings affecting protected territories are regulated by the provisions of Spatial Development Act in order to protection of these territories and zones<sup>1</sup>. The Act defines protected territories as "territories with special territorial-development protection" thus putting high standards to construction and development in these territories in accordance with specific requirements concerning protected territories. The same act provides for protection of waters and establishment in the territory development plans of sanitary guarded zones around water sources.

The operation of landfills poses another risk of polluting of surface and ground waters and this problem is addressed in the Landfill Decree No.8/2004 of the Minister of Environment and Water<sup>1</sup>. Art. 18(1), item 1 stipulates that landfills should be located and designed in a manner that does not lead to pollution of surface and ground waters.

Waters, water sites and water development systems and facilities are managed on the basis of river basin management plans. The plans are open to public participation and need to be consistent with other plans within the scope of the relevant territorial level, including functional-region development plans, spatial-development, forest-management, park-management and other such plans<sup>1</sup>. The protection of the quality of the waters is addressed by the management plans which determine environmental objectives; waters intended for household and drinking water supply; water protection zones and programmes of measures<sup>1</sup>. Water quantity and quality is assessed and forecast by water body and under the criteria established by Water Act(WA) - at the basin level - by the Basin Directorates and at the national level - by the Executive Environment Agency and the National Institute of Meteorology and Hydrology with the Bulgarian Academy of Sciences<sup>1</sup>.

The Republic of Bulgaria participates in the development and coordination, jointly with other States, of policies, programmes and strategies for the protection of transboundary waters on the basis of the principles referred to in WA.

The monitoring of waters and water protection zones is implemented under programmes approved by the Minister of Environment and Water and developed by the Basin Directorates in accordance with the specificity of the water bodies and the characteristics thereof and it is part of the national environmental monitoring system. Decree No.1/2011<sup>1</sup> of the Minister of Environment and Waters for monitoring of waters sets the procedure and conditions for planning of monitoring and establishment of networks for monitoring of waters in every district for basin management in the country.

The monitoring of the discharge of wastewaters to determine whether the emission standards are met is set by Decree No.6, chapter V<sup>1</sup>. The indicators and substances contained in the wastewaters subject to regulation of the Decree are set by accredited laboratories in accordance with the Bulgarian standards or if such do not exist according to methods defined by the Minister of Environment and Water. The procedure of monitoring and the frequency of sampling are provided for in the wastewater discharge permit.<sup>1</sup>

For water protection zones the monitoring programmes have to be supplemented by observations related to the specificity of the zone, and these zones characterized as water bodies at risk have to be included in the programmes for operational monitoring of surface waters and ground waters. The monitoring of these zones shall continue until the environmental objectives set out in the river basin management plan are achieved for the particular water protection zone<sup>1</sup>. The Ministry of Environment and Water and the Ministry of Transport, Information Technology and Communications shall establish and maintain the part of the Water Monitoring Network relating to the River Danube<sup>1</sup>.

According to the PAA the park security guards are vested with functions to guard the forests, land tracts and aquatic areas against illegal use and activities and to monitor the protection of waters and grounds against pollution with household, industrial and other waste<sup>1</sup>.

## 2. Technical details

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

As we have noted above buffer zones according to the Biodiversity Act have been re-categorized as protected sites. The PPA does not set any specific technical requirements of these buffer zones in general. On the other hand, Decree No.3 on the sanitary guarded zones<sup>1</sup> sets very detailed technical requirements for the zones around the water sources and installations for drinking-household water supply. The zones are divided into three belts/sub-zones under different level of security around the zone. The innermost belt is I zone, the medium belt – II zone and outer belt -III zone. Around the zone I there is a fence and sign posts. The fence is at least 1.40 m high and the signs are placed with warning "Attention! Water Protection Zone". The marking of the zones II and III is with signs 1.5 m high from the ground.

Of particular relevance for the rivers are the sanitary guarded zones around water extraction installations from rivers. In this case the belt I comprises territory along the river and the flood plain at least 500 m above the water extraction and 50 meters under it<sup>1</sup>. For mountain rivers the frontiers of the belt I is 30 m from both sides of the river. The frontiers of the II zone are determined by the level of pollution and self-cleaning ability of the river, types of pollutants and specific local conditions<sup>1</sup>. The frontiers of III zone are defined not more than 25 000 m upstream, as well as from both sides of the river above the place of the water abstraction installation.

## 3. Procedural rules

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

The procedure applied to planning and designation of protected territories is provided for in Protected Territories Act (SG 133/1998, as amended, last amendment SG 66/2013). The designation and changes in the protected territories are undertaken by the Minister of Environment and Water. Proposals for

designation of national and natural parks may be initiated by ministries and central-government departments, by municipalities and regional governors, research and academic institutes and public organizations, and in respect of all other categories of protected areas, also by all natural and juristic persons concerned. All proposals need to be submitted to the Ministry of Environment and Water which, within one month, shall pronounce on the relevance thereof in conformity with the criteria specified in the PAA<sup>1</sup>. The Ministry of Environment and Water organizes a public discussion of any proposals for designation of national and natural parks, of strict and managed nature reserves. Representatives of the municipalities, the regional governors, the local environmental and public organizations concerned and other representatives of ministries, central-government departments, research and academic institutes are invited to attend the public discussion<sup>1</sup>. Within one year after submission of any proposal for designation of a national or natural park and within six months after submission of any proposal for designation of a protected area of any other category, the Minister of Environment and Water or a persons authorized thereby appoints a commission which takes decision to grant or to reject the proposal<sup>1</sup>. In case of favorable decision the Minister of Environment and Water issues a designation order for the protected area<sup>1</sup>. Upon designation of any national park or strict nature reserve on a proposal by the Minister of Environment and Water, the Council of Ministers submits before the National Assembly a draft of an Act to amend and supplement the PAA<sup>1</sup>.

The Ministry of Environment and Water organizes public hearing of the proposals for designation of national and natural parks, strict nature reserve and managed nature reserve. To the hearing are invited representatives of the municipalities, regional governors, local environmental and public interest organizations and other interested representatives of ministries, organizations, scientific and academic institutes<sup>1</sup>.

The documentation for the potential protected territory contains the legal grounds, maps, and a draft of the order for designation. In case the decision is in favour of establishing the protected territory, the order contains the ground, main aims, category, name, plan of the areas with forests, lands and water bodies, the regime of main activities in the protected territory<sup>1</sup>. The state register for protected territories is kept at the Ministry of Environment and Water.

In case of potential danger of destruction or harm to the territory intended to be designed as protected, the Minister of Environment and Water could prohibit and limit the use and construction in it for 2 years. Activity in violation of the regime set in the law, in the order for designation or in the management plan is sanctioned with fine for natural persons between 500 and 5000 BGN (app. 250 to 2500 EUR), with pecuniary sanction for legal person - between 1000 and 10000 BGN. If the activity is construction the fine is from 5000 to 20000 BGN (2500 to 10000 EUR) for natural person and from 5000 to 50000 BGN (2500 to 25000 EUR) pecuniary sanction - for legal person.

## Summary of findings

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

The legal provisions on protected territories of water flows are dispersed among the pieces of primary and secondary legislation. It could be expected that the implementation of such complex, large body of regulation will be a challenging task. The provisions stem from different branches of the law – environmental law, health law and planning law. The competent institutions under the law are also numerous though the main competences are vested in the Ministry of Environment and Water. The problem with coordination among the institutions horizontally and vertically and lack of capacity and expertise in the administration, especially in the local authorities, could create problems with implementation of the law. Often offences occur in small villages and towns where the information about and awareness of the need of protection of waters is not very high. The provisions on public participation are in place but could be more elaborated and even more applied in practice since in many cases the procedures are run in a formalistic way and the administrative decisions on the procedures could be detrimental to the inclusive participation and involvement of public and independent experts.

### 3.12 Moldova

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

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

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

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

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

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

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

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

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

The overall situation of the national legislation does not provide a unique/specific presence of a strict legal framework based on the establishment and regulation of areas for flood protection (natural disasters). On the other hand it is registered the presence of a number of legal provisions on the definition and establishment of such areas. The normative acts that establish a legal regime of such areas provide a series of definitions in the preamble of the relevant laws. Also, in cases when there are laws that establish the general legal frame of a domain on the national level it 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.* The law constitutes the basic legal frame for drafting the special normative acts and instructions on issues in the domain of environment protection.<sup>1</sup>
- *Law No. 851-XIII of 29 May 1996 on 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 1997 on natural resources,* which establishes the legal framework for the settlement of the relations regarding the usage, protection and reproduction of the natural resources in order to ensure the environmental security and sustainable development of the country.
- *Law No. 1540-XIII of 25 February 1998 on the sanctions for environmental pollution.*

#### **b) Nature protection water management and administration laws:**

- *The Law No. 272-XIV of 10.02.1999 on drinking water.*
- *Law No. 272 of 23.12.2011 on water.*

- *Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.*
- *Government Decision nr. 664 of 12.10.1992 regarding the protection measures of the inhabited places from the areas exposed to catastrophic floods.*
- *Government Decision nr. 1213 of 23.10.2006 on the protection against floods.*
- *Government Decision nr. 1082 of 23.09.2008 on the approval of the Regulation regarding the financing the purchase of dwellings for the persons that were affected by the floods from July-August 2008.*
- *Government Decision nr. 433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods.*

**Law No. 272-XIV of 10.02.1999 on drinking water** offers a definition of the **area of sanitary protection** – a single territory that includes the water supply, constructions and plants for water supply with a special regime of activity and water protection.<sup>1</sup>

This law settles the relations in the field of drinking water supply and establish the rules regarding the assurance of natural and legal persons with drinking water, on safe operation of water supply systems and its quality, and responsibility for violations in this area.<sup>1</sup>

Regarding the domain of management of drinking water on the national level the responsibilities of the Government are inserted in Art. 3, par. (1), Law No. 272-XIV of 10.02.1999 and one of the main responsibilities is the establishment of the tasks and rights of central speciality authorities and local public authorities in the domain of supply with drinking water.<sup>1</sup> In turn the central specialty and local public authorities have to organize the areas for sanitary protection of the resources of drinking water and control the measures for the protection of water.<sup>1</sup>

**Law No. 272 of 23.12.2011 on water** is a framework law on water management on the national level. One of 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 sources on the evaluation, planning and participatory decision-making.<sup>1</sup>

This law offers a definition of a term that by interpretation could be used/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 flood deviation (from the sides) rivers, water basins, **canals/channels** and collector highways, and land used for the construction and operation of facilities that ensure satisfaction of drinking water, technical water, clean water, and other public needs.<sup>1</sup>

According to this law the efficient management of water resources of the Republic of Moldova is fulfilled on the basis of the Nistru basin situated on the territory of the Republic of Moldova and Danube-Prut basin and Black Sea situated on the territory of the Republic of Moldova.<sup>1</sup> Taking into account the fact that the district of the basin is the main unit for the management of the hydrographical



basin and groundwater there were established two districts: a) district of Nistru basin; b) district Danube-Prut basin and Black Sea basin.<sup>1</sup>

**Law No. 440-XIII of 27.04.1995 on areas and water protection strips of rivers and water basins.** The present law settles the method of creating the areas for water protection and river strips in order to protect the water from rivers and water basins, the exploitation and protection system. The provisions of this law are applicable in respect of natural and natural persons, including the foreign ones.<sup>1</sup>

The law offers the following definitions of the protection areas established in this domain:

- **Water protection area of the rivers and water basins**– territory afferent to the aquatic objective/zone with established dimensions set for the protection of surface waters against pollution, depletion and mire.
- **Riparian strip for water protection** – the territory with defined dimensions within water protection area intended for creating forest belts or grassing;
- **Protective forest belt** – forest belt along the aquatic objective intended to protect it of erosion and landslides.<sup>1</sup>

The law expressly establish that the protection area of the rivers strips and water basins include the floodplain river, the first terraces of upper meadow, edges and slopes of the main river banks, dingles and hollows that directly enters the river valley.<sup>1</sup>

The dimensions of the **protection areas** of the river strips and water basins:

- less than 500 meters along the river banks and from the edge of the river slope of the river bed on the sides;
- for creeks it is less than 15 meters on both banks;
- less than 1000 meters the width of the protection areas for Nistru, Prut and Danube rivers.<sup>1</sup>

The dimensions of the riparian strips for water protection are established depending on the length of the rivers:

- for rills and small rivers – less than 20 meters;
- for medium rivers – less than 50 meters;
- for big rivers – less than 100 meters.<sup>1</sup>

Besides the fact that this law establish the dimensions of the areas for water protection it provides certain technical requirements regarding the creation of such areas and its management:

- for water basins situated in riverbeds and, also, for river springs the width of river strips are established according to the length of the river and character of the corresponding slopes;
- the width of the protection river strip is established depending on the erosion activity, landscape character, peculiarities of using the river or water basin and the existence of the meadow marsh;
- on the rivers sectors with an intense process of forming the riverbeds the riparian strip for water protection is determined to meander belt;

- over the dammed sectors of the river banks the boundary of the river strips joins the function of the dry slope of the protection dam against the floods;
- on the river sectors that are parts of the systems for the improvement of the width of the riparian strips for water protection is determined, depending on the particularities of construction and exploitation of the elements of these systems and requirements of the present law;
- for currents of waters or some parts of them, whose riverbeds were deepened and/or directed or was connected to the consolidated channels, tubes and other hydraulic structures, the width of the riparian strips is determined according to the length of the water current and character of the adjacent slope.<sup>1</sup>

The protective forest belts are formed in the limits of the riparian strip for water protection. More than that, it is compulsory on the sectors of the river banks and water basins affected by soil erosion. The width of the forest belts is established according rules inserted in Art. 9 of the Law.<sup>1</sup>

- There should be noted that in the respect of the efficiency of the national legislation is registered a general law (Law No. 440-XIII of 27.04.1995 on Areas and water protection strips of rivers and water basins) which provides a general framework on the regulation of legal protection areas in case of flood.
- As a remark on this law is the lack of any provisions for the established of an institutional system for the management of the domain on creation of protection areas and prompt involvement in exceptional situations.
- More than that, it seems that the approval of concrete measures and appointment of the relevant institutions is taking place ad-hoc depending on emergency cases.
- As a result, there are normative acts approved by the government regarding the elimination of possible risks or approval of the proper actions for the improvement of the situation after the floods:
- Government Decision nr. 1213 of 23.10.2006 on the protection against floods. By which were approved some measures regarding the elimination of the flood risk on the territories of Valeni and Cislita-Prut villages, Cahul district.
- Government Decision nr. 1082 of 23.09.2008 on the approval of the Regulation regarding the financing the purchase of dwellings for the persons that were affected by the floods from July-August 2008.

Also, there is a **Government Decision nr. 664 of 12.10.1992 regarding the protection measures of the inhabited places from the areas exposed to catastrophic floods**. According to this decision there was only adopted the list of the inhabited places situated on the banks of the Nistrur river and empowerment of concrete public authorities to fulfill a number of tasks in this respect.

As a result of the catastrophic floods from 2010 and 2011 years by the Government was adopted the **Decision nr. 433 of 18.06.2012 on the approval of Regulation regarding the dams for the protection against floods**. The provisions of the regulation are compulsory for natural and legal persons involved in projection, construction and exploitation of the dams for the protection against the floods and extend to the dams placed on the territory of the Republic of Moldova.<sup>1</sup>



The project is supported  
by the European Union.

(VOP-1.1.1-11-2011-0001)



# 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 -**



The project is supported  
by the European Union.

(VOP-1.1.1-11-2011-0001)



## 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 present 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.

## 1. Water management and water protection laws

### 1.1 General rules of water protection in the Environmental Code

The basic rules of water protection are shortly summarized in the Environmental Code<sup>1</sup>. 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<sup>1</sup>. 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 also waters serving sport and recreation<sup>1</sup> on the other hand. These protected lands of the second group shall be registered in the central environmental data base<sup>1</sup>. 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<sup>1</sup> 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<sup>1</sup>. 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.

### 1.2 The definition of the protected territories

The Governmental decree on the River basin management<sup>1</sup> 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<sup>1</sup>.

The Governmental Decree on the procedural rules of water management administration<sup>1</sup> use the term protecting territories and without specific definition provisions it identifies this term as a collecting term of the protecting territories and stripes<sup>1</sup>. 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<sup>1</sup>. 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 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<sup>1</sup>.

According to the Water management act<sup>1</sup> 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<sup>1</sup>. 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.

### 1.3 Planning of the protection

The Governmental decree on the River basin management<sup>1</sup> 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<sup>1</sup>. The Governmental Decree on the maintenance of waters and public water facilities<sup>1</sup> 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<sup>1</sup>.

The Act on Water management<sup>1</sup> 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<sup>1</sup>. 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.

## 1.4 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<sup>1</sup> 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<sup>1</sup>. 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<sup>1</sup>. 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<sup>1</sup>.

A more refined regulation on the civil law aspects of the assignment of the protecting zones can be found in the Water management act<sup>1</sup> 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<sup>1</sup>.

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.

## 1.5 Maintenance of the protecting zones

According to the Governmental Decree on the procedural rules of water management administration<sup>1</sup> 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<sup>1</sup> 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 purposes shall prevail the economic uses (reed harvesting). All of these activities are supervised by the environmental inspectorates<sup>1</sup>.

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.

## 1.6 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<sup>1</sup>
- 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<sup>1</sup>. 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<sup>1</sup>.

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.

## 1.7 Sanctions

According to the Petty Offence Code<sup>1</sup> 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<sup>1</sup>.

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.

## 2. 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.

### 2.1 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<sup>1</sup> 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<sup>1</sup>. The protecting territory is divided to inner, outer and hydrological zones, according to the time a potential pollution would reach the abstraction site<sup>1</sup>.

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<sup>1</sup>.

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

### 2.2 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<sup>1</sup>. The decision shall be revised in every 10 years the latest<sup>1</sup>.

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<sup>1</sup>.

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 general water management rules are flexible enough to allow for such measures.

### 2.3 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;
- 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<sup>1</sup>.

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<sup>1</sup>.

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.

## 2.4 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<sup>1</sup>.

# 3. Spatial planning laws

## 3.1 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<sup>1</sup>. 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<sup>1</sup>, 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<sup>1</sup>.

The same dichotomy is missing from the Governmental Decree on the Basic methodological rules of spatial planning and construction<sup>1</sup> (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<sup>1</sup>.

### 3.2 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<sup>1</sup> 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 from 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.

## 4. 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.

### 4.1 General rules in the Environmental Code

Again we can start out from the rules of the Environmental Code<sup>1</sup> 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, stipulating that the expenses shall be born according to the ratio of responsibility of the concerned parties<sup>1</sup>.

#### 4.2 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<sup>1</sup> 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<sup>1</sup>. 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.

#### 4.3 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<sup>1</sup>. No railway or road shall be designed within the protecting stripe. 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<sup>1</sup>.

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.

### 5. 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<sup>1</sup> (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.

## 5.1 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<sup>1</sup>. 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<sup>1</sup>. 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<sup>1</sup>.

## 5.2 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<sup>1</sup>. 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)<sup>1</sup>. 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)<sup>1</sup>.

## 5.3 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 legislation

promulgated in consent with the minister responsible for the environment<sup>1</sup>. 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.

#### 5.4 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<sup>1</sup>. 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<sup>1</sup>. 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<sup>1</sup>.

The Decree of the Minister of agriculture on Permitting, storing, commerce and use of agriculture production enhancing materials<sup>1</sup> (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<sup>1</sup>.

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<sup>1</sup>. 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<sup>1</sup>.

Also the decree of the agricultural minister on plant protection (pesticides) activities<sup>1</sup> 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<sup>1</sup>.

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

## 5.5 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<sup>1</sup>. 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<sup>1</sup>.

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<sup>1</sup>.

## 6. 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.

### 6.1 Establishing landfills

In the ministerial decree on certain rules and conditions of landfills<sup>1</sup> 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<sup>1</sup>. 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<sup>1</sup>. 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.

### 6.2 Forestry rules

According to the Act on Forests, on protection of forests and forest management<sup>1</sup> 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<sup>1</sup>. There are as many as 16 types of protecting forests, including forests serving nature protection, soil protection goals, landscape and genetic heritage purposes etc..<sup>1</sup> 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)<sup>1</sup>.

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.

### 6.3 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<sup>1</sup>. 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<sup>1</sup>

## 7. 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.

## 7.1 Proper Agricultural Practice

The Proper Agricultural Practice included in the Hungarian Nitrate protection decree<sup>1</sup> is mandatory for the concerned agricultural enterprises. Its major points are<sup>1</sup>:

- 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”<sup>1</sup> 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<sup>1</sup>

The decree establishes the detailed rules of monitoring and controlling the Proper Agricultural Management, too.<sup>1</sup>

## 7.2 Good practices in agrarian planning documents

The Decree on the Hungarian Agrarian and Rural Development Operative Program<sup>1</sup> (Hereinafter: AVOP decree) refers to the Governmental Decision on the nitrate sensitive territories in the country<sup>1</sup> 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 m<sup>3</sup> manure is produced, the most important task is decreasing the nitrate emission out of them<sup>1</sup>. 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.

## 7.3 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<sup>1</sup> 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<sup>1</sup>. 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<sup>1</sup>. 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<sup>1</sup>.

The Governmental Decree on the detailed rules of making use of lands belonging to the National Agricultural Land Fund<sup>1</sup> uses a really broad definition of water protection territories, encompassing all

the flood territories and the water sources protection territories, zones and stripes<sup>1</sup>. 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<sup>1</sup>. 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.

#### 7.4 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<sup>1</sup> 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<sup>1</sup>.

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.

#### **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.

## 7.5 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](http://www.euvki.hu) and, [www.vizeink.hu](http://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.<sup>1</sup>

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.<sup>1</sup>

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 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<sup>1</sup> and to the Darányilgnác Plan<sup>1</sup> (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<sup>1</sup> 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.

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'<sup>1</sup> 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.<sup>1</sup>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.

According to the rules of the Act on water management<sup>1</sup> 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.<sup>1</sup> 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.<sup>1</sup>

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 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.<sup>1</sup>



The project is supported  
by the European Union.

(VOP-1.1.1-11-2011-0001)



## 8. List of laws and regulations cited in the Hungarian pilot study

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