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Trans-jurisdictional Water Law and Governance



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4 Trans-jurisdictional water governance in the European Union

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Introduction

This chapter focuses on trans-jurisdictional issues in European Union (EU) water law. The topic of trans-jurisdictional water governance in the EU has been the focus of detailed work across a range of issues, including trans-boundary water governance; human rights and water; water law and consumer law; water and spatial planning; water and agriculture; water and the use of medicines; water and pesticides; water and energy; freshwater and marine protection; and water law and climate change. This chapter combines insights from the author's earlier research and shows how external integration (integration in other policy fields) in the EU is organized, with a focus on EU practices in the field of trans-boundary water management, freshwater supply, water and nature conservation, and water and internal market legislation.

Three trans-jurisdictional issues in the EU's water law are discussed. The first is the geographical and hydrological scope of water management, often related to trans-boundary river basins, which require specific cooperation mechanisms which are not available in EU water law. A second is the need for a common understanding of definitions, concepts and legal obligations in EU Member States, which is necessary for trans-boundary river basin management and a level playing field. This common understanding is needed because each EU Member State has an individual obligation to comply with EU law as well as a shared responsibility to reach the goals of European water law. The third topic discussed is the fragmented and sometimes conflicting legal frameworks in the field of water governance and adjacent policy fields. Water and nature conservation, freshwater supply and land use, and water and the authorization of medicines are used as examples. The analysis explores how best to deal with these trans-jurisdictional issues, paying attention to internal integration (integration within the ambit of water law) within the broad scope of water management and ways to improve external integration (integration in other policy fields).

The chapter is divided into seven parts: Part 1: EU water law: towards an integrated, adaptive ecosystem-based approach; Part 2: multi-level governance of trans-boundary river basins; Part 3: objectives for trans-boundary rivers – a need for a common understanding of the main concepts; Part 4: water

management and nature conservation; Part 5: freshwater supply as a trans-jurisdictional issue; Part 6: water management and product policies – inadequate powers due to fragmented legal frameworks; Part 7: conclusion and the way forward.

EU water law: Towards an integrated, adaptive ecosystem-based approach

EU water law developed as a result of many individual water problems. At the beginning in the 1970s, before the Water Framework Directive (WFD) (EC 2000) entered into force at the end of 2000, the focus was on the protection and improvement of water quality as part of European environmental law. A top-down approach, with regulation and standard setting at the European Community level was used. With the coming into force of the WFD plans and programmes, combined with more policy freedom for the Member States became the main instrument to facilitate adaptive water management (van Rijswick and Havekes, 2012; van Rijswick and Keessen, 2012; van Rijswick *et al.*, 2010). Although the EU requires effective legal protection against decisions concerning the aforementioned instruments, a strong litigation position for citizens depends upon the national legal systems in the numerous Member States. In, for example, the Netherlands, citizens have a stronger litigation position when using clear regulation and standard setting because there is no administrative law appeal possible in the case of plans and programmes.

However, by 2000 a new approach to water management was introduced by the WFD. The purpose of the Directive is, according to art. 1, the establishment of a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly dependent on the aquatic ecosystems. The WFD promotes sustainable water use based on the long-term protection of available water resources, and aims to realize the enhanced protection and improvement of the aquatic environment. It should contribute to mitigating the effects of floods and droughts, and thereby contribute to the provision of a sufficient supply of good-quality surface water and groundwater. Finally, it aims to achieve the objectives of relevant international agreements (e.g. the Helsinki Treaty). These objectives immediately make clear that trans-jurisdictional issues lie at the heart of EU water governance.

The river basin management approach, the most important new element, introduced shared responsibilities for all Member States sharing a transnational river basin. This development of an ecological or ecosystem approach required regional physical circumstances to be taken into account. It is now up to the Member States or river basin authorities to formulate ecological goals and standards, and to choose the necessary accompanying instruments. The protection of waters as an ecosystem and the aim to provide users with water

services can mainly be deduced from EU water directives (van Rijswick, 2011). Water governance is regulated by means of several EU water directives and is strongly related to regulation in other policy fields. Most water directives have a twofold scope: protecting human health and protecting the environment.

The new approach also urged further integration with other policy fields, including environmental policy, nature conservation, land use, agriculture, product policy, climate change and energy policies. The protection against flooding (EC 2007), protection of and the sustainable use of the marine environment (EC 2008) and the sustainable use of water resources has each fundamentally changed the scope of European water law. Both the substantive content of EU water law and the instrument of framework directives changed, offering more flexibility and policy discretion for Member States and a greater focus on proceduralization and public participation, bringing about a new era in water management and law (van Holten and van Rijswick, 2014).

EU water governance accordingly became more multi-levelled, with regulation at the international level, the EU level, the Member State level and the regional and local levels. Cooperation was required between the EU and Member States, Member States and non-member states, regional authorities, authorities in different policy fields (multi-sector governance), and between governmental authorities and non-governmental organizations, stakeholders and the public (multi-actor governance). This occurred through defining goals and standards, the development of river basin management plans and programmes of measures, the use of exemptions, and in the executive phase, the taking of measures (van Rijswick *et al.*, 2010).

In the following sections, specific attention will be paid to three examples that illustrate the trans-jurisdictional nature of modern EU water law, followed by a detailed discussion on how to shape external integration.

Multi-level governance of trans-boundary river basins

The WFD opts for the coordination of administrative arrangements and the realization of environmental goals by way of a *river basin approach*. This means that Member States have to divide their territory into districts based on river basins (art. 3). Every river basin requires a drawing of the characteristics of the river basin district, a review of the environmental impact of human activity and an economic analysis of the water use (art. 5).

Appropriate administrative arrangements, including the identification of the competent authority, must be made for each river basin district. In the case where a river basin covers the territory of more than one Member State, that river basin should be assigned to an international river basin district. The Member States must ensure that the requirements of the WFD in regard to achievement of the environmental objectives are met, and in particular that all programmes of measures are coordinated for the international river basin district as a whole. This obligation demonstrates the first important trans-jurisdictional issue. It is a noble goal of the WFD, but as highlighted by earlier

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research, the EU does not offer specific instruments to shape this cooperation (van Rijswick *et al.*, 2010).

A Common Implementation Strategy has been developed in which EU Member States work towards coherent implementation in Member States' territories. Because the EU does not have many specific instruments for trans-boundary cooperation, it is advised or allowed to use the traditional treaty system as an instrument for trans-boundary cooperation. Examples include the use of the Rhine Treaty and the International Rhine Commission, the Meuse Treaty and the Danube Treaty. International cooperation often takes place by virtue of multilateral conventions. These conventions regulate cooperation between states, by stipulating obligations for the parties, determining principles to be taken into account in trans-boundary cooperation, and guiding coordination in implementing the conventions. However, there are some difficulties in and limits to the use of multilateral conventions. Hey and van Rijswick (2011, pp. 227–49) state that '[e]stablished case law of the European Court of Justice illustrates that the court regards treaties that have a link with European law as part of the European legal system and it interprets and applies them accordingly'. Based on analysis of the European Court of Justice's case law, they find that European law takes precedence over international treaties within the legal order of the Community. This entails the requirement that agreements and decisions taken within the framework of such treaties should be compatible with European law.

Keessen *et al.* (2008) argue that, where trans-boundary cooperation does not lead to intended results, one may consider the use of instruments provided by European law to enforce compliance or to participate in administrative procedures (participation, complaints, appeals) in neighbouring countries. A Member State can hold another Member State responsible if the latter fails to take adequate measures – for example, by failing to combat water pollution. Moreover, a Member State can call on the European Commission's assistance when consultations fail to result in a joint approach to water pollution or floods. Although mediation by the Commission does not result in binding arrangements, the Commission can bring a matter before the European Court of Justice to demand compliance, and if need be, demand a penalty and penalty payments. Member States will often not institute proceedings due to non-compliance by virtue of art. 227 of the Treaty on the Functioning of the EU (EU Treaty) after mediation by the Commission, because this is a politically sensitive thing to do. Finally, they discuss the option of civil actions as a last resort to recover the cost incurred from trans-boundary pollution by the responsible Member State, although this may also hamper future cooperation. Actions by the Commission are therefore the most likely option in the event of failing cooperation. An example of this is the letter the European Commission sent to the Netherlands, in which the Commission forced the Netherlands to take care of full implementation of the agreements made in the river basin management plan for the Rhine river basin, in particular with regard to the opening of the Haringvliet dam to enable fish to swim upstream. This letter

was sent after a request from the other Member States that share the Rhine river basin.

Objectives for trans-boundary rivers: a need for a common understanding of the main concepts

An interesting feature of modern European water law is that it aims to achieve a specific 'status'. Groundwater and surface water in a river basin should hold 'good status' under the WFD, while the Floods Directive stipulates that flood risks should be manageable in order to reduce the risk as well as the consequences of a flood for humans, the environment, cultural heritage and the economy. The objective of the Framework Directive Marine Strategy (EC 2008) is the 'good environmental status' for marine regions. The obligations arising from the European water directives are, in principle, aimed to achieve a certain result for each individual Member State (art. 249, EC Treaty). In this section, I focus on common understandings of important concepts in the WFD, which are essential for European trans-jurisdictional river basin management.

The environmental objectives of the WFD can be found in art. 4. These relate to surface waters, groundwater and protected areas, and call for a 'good' water status to be reached by 2015. This can be seen as one of the most important substantial elements of the protection regime. Good surface water status means that the status achieved by a body of surface water is at least ecologically and chemically 'good'. Good ecological status may vary depending on the kind of water. For artificial and heavily modified surface water it will suffice to reach a good ecological potential.

Most environmental objectives in art. 4 are further elaborated in *environmental quality standards*, which aim to give substance to the notion of 'good' water status. For rivers, lakes, coastal waters and transitional waters, a good surface water condition, including good ecological and good chemical status, has to be achieved. Achieving a good chemical status is mandatory for all waters, including artificial and heavily modified surface water bodies. Article 4(3) enumerates the conditions under which bodies of surface water may be designated as artificial or heavily modified. For these surface waters, the environmental objectives are less stringent. It is sufficient that good chemical status and good ecological potential are realized. Groundwater must also have a good status, which means that both the quantitative as well as the chemical status must be good. Any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity should be reversed, in order to progressively reduce the pollution of groundwater and to ensure the balance between abstraction and recharge of groundwater.

The Directive requires the establishment of a register of all areas lying within each river basin district that have been designated as requiring special protection under specific Community legislation for the protection of surface water and groundwater, or for the conservation of habitats and species directly depending on that water source. The register or registers shall include all bodies of water

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identified as waters used for the abstraction of drinking water; areas designated for the protection of economically significant aquatic species; bodies of water designated as recreational waters, including areas designated as bathing waters under the Bathing Water Directive (EC 2006); nutrient-sensitive areas, including areas designated as vulnerable zones under the Nitrates Directive (EC 1991a), and areas designated as sensitive areas under the Urban Waste Water Directive (EC 1991b); and areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection, including relevant Natura 2000 sites designated under the Habitat Directive (EC 1992) and the Birds Directive (EC 1979). The register summary, required as part of the river basin management plan, shall include maps indicating the location of each protected area and a description of the community, national or local legislation under which they have been designated. Although it should be highly appreciated that the WFD emphasizes a direct relationship between WFD obligations and requirements following from adjacent policies, the following trans-jurisdictional issue demonstrates the complexity of the approach taken by the EU.

Water management and nature conservation

The WFD requires that Member States shall achieve compliance with any standards and objectives for protected areas by no later than 2015 (art. 4). Important protected areas are designated under the regime of the Birds and the Habitats directives, but in these nature conservation directives no time limits to achieve the goals are foreseen. Where more than one of the objectives relates to a given body of water, the most stringent shall apply. There is in fact a large physical overlap between the water bodies that fall under the protective regime of the WFD and the Natura 2000 sites (de Smedt and van Rijswijk, 2015). This applies in particular for the Lowlands of the Netherlands and Flanders, where a large part of the surface water and the terrestrial ecosystems dependent on them are designated as Natura 2000 sites. There are also strong analogies between the objectives of protection, as the WFD aims for the protection of a healthy aquatic ecosystem and the Habitats Directive has the same goal, albeit with a focus on the preservation and protection of habitats and species. Since both directives aim to protect the same aquatic ecosystem, questions related to the cumulative application of the protective regime arise. After analysing both directives, I conclude that the complexity of the WFD is caused by the wording of the environmental objectives, its references to an extensive number of annexes, and the application of the accompanying derogation regime. The many cross-references to other Directives (relevant to water), such as the Habitats Directive, increases interpretation and application problems since the most stringent objective determines the level of protection to be achieved. This may lead to diverse implementation strategies in the several Member States, problematic cooperation in trans-boundary river basins and, finally, non-achievement of the goals.

Although the objectives of the WFD must be achieved by 2015, this time limit may be extended under the conditions mentioned in the Directive (art. 4(4)). One of these conditions is that no further deterioration of the status of water bodies occurs. However, there is still a great deal of uncertainty regarding this principle of no deterioration, leading to different outcomes in several Member States. Recently, however, more clarity has been given by the European Court of Justice in *Bund für Umwelt und Naturschutz Deutschland e.V. v. Bundesrepublik Deutschland* (ECJ, C-461/13) (van Rijswick and Backes, 2015).

It is also possible for Member States to pursue less stringent environmental objectives if waters are so profoundly affected by human activity, or their natural condition is such that the achievement of the general objectives would be infeasible or disproportionately expensive (art. 4(5)). This is only possible under certain circumstances. Article 4(6) offers the possibility of an exception in the case of a temporary deterioration only, while art. 4(7) mentions several grounds for exceptions in the case of new modifications to the physical characteristics, or when the failure to fulfil obligations is the result of new, sustainable human development activities.

To conclude, the complex relationship between nature conservation legislation and the legal regime for protected areas under the WFD raises three issues: (1) how to deal with the clear time limits of the WFD and the lack of time limits under the Habitats Directive; (2) how the 'most stringent' requirement should be treated; and (3) does the derogation regime apply (in full) within these areas? To date, the Court of Justice has not yet handed down a decision on these issues.

Freshwater supply as a trans-jurisdictional issue

The supply of freshwater is an important aspect of water management. Climate change can cause an increasing shortage of water, with consequences for water safety, drinking water supply, agriculture, forestry, fisheries, tourism, health care, buildings, industrial and transport infrastructure, the energy sector (including energy infrastructure), the environment and nature. The protection of sufficient water for food production and economic activities is also based on the WFD, while the protection of water necessary for well-functioning ecosystems is based on the WFD, the Birds Directive and the Habitats Directive. The urge to guarantee freshwater supply is becoming increasingly clear due to, among other things, the effects of climate change. However, freshwater supply and the allocation of freshwater are hardly regulated under EU water law; therefore we also have to look at non-binding European policy instruments.

Fair allocation of scarce water among the various functions within a river basin is becoming more and more important (van Rijswick 2015). Various policy initiatives have been developed for that purpose. The sustainable and balanced use of natural resources is one of the objectives of EU environmental policy. Dealing with drought and the prevention of water scarcity is indeed mentioned, but is unfortunately not further elaborated in the WFD because

its emphasis is mainly on the protection and improvement of water quality. In addition to a climate change adaptation strategy at the European level (European Commission, 2013), a strategy for water scarcity and drought has been developed (European Commission, 2007). For the time being no new legislative instruments will be developed because the Member States nowadays prefer non-binding strategies above legislation at the EU level. This gives them more policy freedom.

The protection and allocation of freshwater is elaborated at the European level in the strategy for water scarcity and drought, which aims to achieve greater water efficiency and better management of the demand for water. This is considered a task for the Member States, and should be carried out by measures of adaptation, sustainable practices, greater water savings, fiscal instruments, monitoring systems and adapted risk management tools. The most important elements in this strategy for water scarcity and drought show the importance of trans-jurisdictional water governance issues, such as integration between different sectors and actors – for example (1) the improvement of land-use planning as a driver for water use, since many economic activities take place in areas where there is insufficient water available; (2) the integration of water-related concerns in other policy areas; (3) active promotion of the use of market-based instruments (European Commission, 2000); (4) the amendment of river basin management plans to identify areas with water scarcity, to include drought risk management plans with observatories, warning systems and civil protection (art. 13, para. 5 WFD); and (5) legislative proposals on water-saving, such as the development of standards for water-using devices, including water efficiency criteria in performance standards for buildings and the use of certification systems.

Formal, legally regulated aspects of freshwater supply focus on the protection and improvement of the available amount of water. The actual allocation of scarce water among the different functions is mainly set out in the plans and programmes. The relevant mandatory measures in the programme of measures (art. 11, s. 3, WFD) show the trans-jurisdictional nature of the freshwater supply, since they include measures from the Environmental Impact Assessment Directive, the Habitats Directive, the Birds Directive and the Bathing Water Directive. In order to ensure that the right amount of water is in the right place, there is also an obligation to include measures concerning the abstraction of freshwater and the impoundment of fresh surface water, including registers of water abstractions and a requirement of prior authorization for abstraction and impoundment (art. 11, s. 3(e)). Prior authorization is also required for the artificial recharge or augmentation of groundwater bodies (art. 11, s. 3(f)).

If the failure to achieve these objectives is caused by problems that cannot be solved at the level of the Member States – for instance, if other states take measures within a river basin which obstruct sustainable and efficient water use in the whole river basin, or take measures as a result of which there is not enough water within a river basin for other states – then a Member State can bring the problem to the European Commission (art. 12). Notwithstanding

the Commission's recommendations in the strategy for water scarcity and drought, it is unclear to what extent Member States may impose far-reaching requirements for saving water on products, buildings and infrastructure, without coming into conflict with the EU internal market requirements (e.g. Chapter 3, 'Prohibition of Quantitative Restrictions Between Member States' in the Treaty on the Functioning of the European Union).

We can conclude that EU environmental law and policy offer instruments to facilitate the protection of freshwater resources and to prevent water shortages. But again we see a fragmented legal framework that may hamper effective protection and that strongly relies on national initiatives by Member States, effective cooperation in trans-boundary river basins and the effective external integration of several policy domains.

However, clarity is needed on the question of how far Member States have the power to set far-reaching product requirements without infringing the internal market rules or to regulate land use, which is outside the competence of the EU.

Water management and product policies: inadequate powers due to fragmented legal frameworks

The combination of, on the one hand, the geographical area approach, which requires Member States to cooperate with other Member States (and third countries, if need be), and on the other hand, an objective that has to be met by each Member State individually, creates a fragile balance. It is not clear whether Member States can be held responsible for not achieving objectives over which they do not have total control. One reason may be inappropriate cooperation, as described above. Another reason will be discussed in this section; that is, the inability of EU Member States to take the measures required in other policy fields, because they lack (adequate) powers to do so. This is mainly the case in the field of agricultural policy (D'Hondt 2003), fisheries policy (Wakefield 2009) and the admission of products, for example drugs and pesticides (Montforts *et al.*, 2004, 2006; van Rijswijk and Voegelzang-Stoute, 2008). In the case of inadequate power, Member States have to rely on initiatives taken by Community institutions.

Keessen *et al.* (2010b, p. 1) speak of a clash between the internal market and environmental legislation, and discuss as an example of trans-jurisdictional water governance the clash between medicines and water regulation. The regulatory challenge that lies at the basis of this clash is the integration of environmental concerns into internal market legislation. The challenge is to limit water pollution caused by the use of medicines that benefit from free movement on the internal market. This study analyses both water legislation as well as the legislation that regulates the allowance of medicines on the internal market, and offers valuable insights on the role of regulation and governance techniques in reconciling regulatory challenges under EU law, in particular in the context of environmental law and internal market law.

European medicines legislation completely harmonizes the regulation of placing medicines on the internal market. It provides for authorization procedures to establish the quality, effectiveness and safety of a medicine, and for a pharmaco-vigilance system to evaluate these aspects once medicines are on the market and are being used. Marketing authorization is required before a medicine can enter the market of an EU Member State. Either a national competent authority issues an authorization decision for its territory (the so-called decentralized procedure) or the Commission issues an authorization decision for the entire European territory on the basis of advice from the European Medicines Agency (EMA, formerly called EMEA) (the so-called centralized procedure) without any further implementing acts by the Member States being required (Keessen, 2009). When a Member State issues a marketing authorization, other Member States can use the mutual recognition procedure.

In 2003, an environmental assessment was introduced in the European medicines legislation to understand and mitigate the environmental risks of medicines, which may foster external integration between the two policy domains. However, the environmental assessment is limited because it is only mandatory for medicines that entered the market after 30 October 2005, when the environmental assessment was introduced. Another problem is that it is not obligatory to make the environmental information public and there is uncertainty about commercial sensitivity. Also important is the fact that the environmental information hardly plays a role in the authorization of medicines. The environmental risks are excluded from playing a role in the risk-benefit balance of medicines for human use and, in the case of medicines for veterinary use, they only carry limited weight. The lack of coordination between water and medicines regulation diminishes the usefulness of the environmental risk assessment of medicines and may place the achievement of good chemical or ecological water status at risk (Vos and Janssen, 2005). The health benefits of medicines may continue to override environmental concerns, just like their free movement may continue to override any perceived needs for setting stricter national standards. Thus, the question is how the environmental impact of medicines can be minimized, remaining as much as possible within the present, European regulatory framework.

Unfortunately, the fragmented European legal system does not provide for a ready-made solution to settle conflicts between European legislative acts. Despite the obligation to integrate environmental concerns into other policies, the problematic relationship between water and medicines legislation provides an example of how difficult this integration is. One reason for this inadequate coordination is that there is no ranking between Regulations and Directives, with the exception of framework and subordinate directives such as the WFD and the Groundwater Directive: although even in that case there is no formal ranking, as daughter directives remain separate directives. Just like the objectives they pursue, they are equal in principle.

Thus, a Member State with water pollution caused by medicines or pesticides or other pollutant substances that are, because of full harmonization, allowed

on the internal market, should find a solution to limit the pollution caused by the substances or products at a level below the environmental quality standards prescribed by EU or national law, respecting internal market legislation. To tackle the described conflicts between several fragmented regimes, a combined approach is suggested. Keessen *et al.* (2010b, pp. 47–1452) describe four ways to reduce the occurrence of clashes between Directives and Regulations, of which three are based on Beijen's (2010) research. The first suggestion is to group European legislation into framework legislation and daughter legislation to gain a good overview of the relevant legislation. This also contributes to achieving consistency within the policy fields of European legislation. The second suggestion is to use thematic strategies to ensure consistency not only within policy fields but also between policy fields. The third suggestion is to include provisions referring to flanking policies that are necessary to achieve its objectives in environmental framework directives. A practical way to do so is to include an obligation to take the objectives of the framework directive into account, and a derogation clause that can be invoked if flanking policies render it impossible to achieve the objectives of the framework directive. However, the WFD already contains several provisions that link it to other policy fields, including the suggested provisions mentioned above, which may strengthen their effect. Finally, more attention to transparency and public participation may facilitate solving conflicts between fragmented legal frameworks. It is therefore suggested to use governance techniques in addition to formal legislative instruments, such as by better involving stakeholders in the case of medicines, e.g. drinking water companies and veterinarians. Their involvement could be achieved by employing governance instruments: making information publicly available and creating opportunities for public participation (Kjaer, 2004). These governance instruments can also be used to involve various administrative authorities in decision making when their involvement is beyond their competences but is of interest to them.

External integration and appropriate coordination mechanisms among several policy fields

From the above three examples, it becomes clear that achieving water management goals is strongly dependent on measures and regulations adopted by other policy fields. The WFD recognizes this need and therefore one can find many cross-references throughout the directive. Although the WFD does not explicitly require external integration, this so-called external integration is important to achieving 'good' status, since activities regulated in other policy fields can have a positive or negative impact on water quality.

There are various interpretations of the integration principle that lead to diverse results. The integration principle is established in art. 11 TFEU, which prescribes that environmental protection requirements must be integrated into the definition and implementation of the Community's policies and activities. For instance, taking into account environmental objectives of the WFD could

either mean that objectives are merely taken into consideration when a decision is made, or that the authorities are bound by these objectives because they have to be complied with. In the second scenario, objectives will be reflected in the decision and non-compliance is only permitted when there are good reasons (D'Hondt, 2003, pp. 80–110). Depending on the interpretation of the integration obligation, either a strong or weak internal and external integration approach will result.

In a comparative study of Member States' approach to internal and external integration, the following results became clear (Keessen *et al.*, 2010): while integrated water legislation may facilitate internal integration (integration within the ambit of water law), the issue of external integration (integration in other policy fields) remains unanswered. Since EU water law does not provide competent authorities with the necessary instruments to achieve good water quality, the achievement of the environmental objectives of the WFD will also require action outside the ambit of water management. The question that arises is – in which way do water or environmental objectives influence the decision making of authorities, acting outside the ambit of water law, such as in the field of land use, nature conservation and medicine, including veterinary medicines (see above)?

It appears that internal integration is widely found within the relevant national laws of the investigated Member States. This means that the water authorities have to take water quality norms and standards into account when they make plans and issue permits. However, 'taking into account' does not necessarily mean 'complying with'. For example, in Romania, the water authorities may authorize a discharge under specific conditions when the quality of the receiving water exceeds the quality norms. The same appears in Spain, where decisions concerning water may diverge from the water plan as long as there are good reasons for this. In the Netherlands, it is also possible for permits to be issued even though the surface waters in which discharges take place exceed the quality norms, particularly when the water authorities consider that this can be compensated.

External integration mainly takes place at the level of spatial planning. In general, it appears that water management plans or water quality objectives are required to be taken into account when spatial plans are being drafted in all investigated Member States, except in Spain where it is the other way around. In Luxembourg, external integration is not organized in the absence of links between various pieces of legislation. Both the Netherlands and Belgium have organized external integration with the introduction of a water test, which serves to integrate water issues into spatial planning. In Belgium, the water test is also used in other policy areas. However, in both countries the authorities merely use the water test to address water safety concerns and not to address water quality concerns. In Italy, river basin management plans (RBMPs) bind other authorities, which are required to ensure that water issues are integrated into other policy areas. In France, spatial plans must be compatible with RBMPs although no enforcement mechanisms are foreseen. In German legal literature

it is stated that the management plan is binding on administrative authorities, but this has no direct effect on the rights and obligations of individuals and compliance with the plan, and cannot therefore be enforced by administrative authorities before the courts. Individuals can, however, challenge a management plan incidentally – in other words by alleging that an administrative act is unlawful because the management plan on which the act was based is unlawful (Breuer, 2004). Outside the ambit of spatial planning, the water quality objectives may also be taken into account; for instance, in Romania the Ministry of Administration and Administrative Reform takes the objectives into account when it promotes processes concerning water infrastructure. Yet, it remains to be seen to what extent the water management plans or water quality objectives will be taken into account by other authorities in other European countries.

External integration can also take place by cooperation between the various stakeholders. In the Netherlands, cooperation occurs in an informal manner, which differs between water authorities (Keessen *et al.*, 2010; van Rijswick and Havekes, 2012). In Denmark, the external integration of water policy and nature conservation policy is ensured through both a legal link, as both policies are based on the same Act, and an organizational link, both in the preparation and in the execution phase (Keessen *et al.*, 2010). Regional Environmental Centres are responsible for the development of both RBMPs and Natura 2000 management plans, while each municipality has to develop a municipal action plan containing the measures required to implement these plans. While many measures will mutually reinforce each other, irrespective of whether they are taken for nature conservation or water management, it is also possible for conflicts to arise. For instance, the re-creation of wetlands and the re-establishment of natural hydrology in a river valley will retain nutrients, thus reducing eutrophication and creating a more natural environment around the river, but it will also threaten the survival of some Natura 2000 habitats and species adapted to the artificial hydrology. This conflict may be avoided by the re-creation of new, similar Natura 2000 habitats to compensate for the flooded habitats. It is, however, unclear whether this is allowed under EU nature conservation law.

The integration of water and agriculture can also take place in water legislation, as in France. Water pollution by nitrates constitutes a serious problem in the French river basin district of Loire-Brittany. In order to reduce the nitrate pollution of waters, local authorities can impose the use of fertilizer-free buffer zones for the reduction of nitrates by farmers in the sub-RBMP.

In England and Wales, a general integration provision obliges all authorities to give consideration to the approved RBMPs and any supplementary plan in exercising their functions, so far as they affect a river basin district. This has resulted in a link between water and agriculture, which is created in both water policy and agricultural policy. The RBMPs take the Regional Rural Development Frameworks into account, which are developed by regional organizations under the coordination of regional government offices and contain, inter alia,

the agreed environmental priorities. In addition, the Environmental Agency, working with the Department for Environment Food and Rural Affairs and Natural England (in Wales, known as Natural Wales), has set up the Catchment Sensitive Farming programme. This programme offers a range of instruments, including advice and incentives, targeted support in priority catchments and, where required, enhanced regulation. It encourages voluntary action by farmers to tackle diffuse water pollution. By contrast, a specific link between water policy and spatial planning is absent.

It becomes clear from the experiences described above that the internal and external integration programmes of the WFD differ widely. This may not come as a surprise in view of the absence of any specific provisions to that effect in the WFD, but it does undermine the achievement of effective trans-jurisdictional water governance and may hamper the effective protection of European waters.

Conclusion and the way forward

Several EU trans-jurisdictional water governance issues have been identified that require urgent attention in European water law. The EU takes a progressive and integrated approach in its water legislation. Building on experience in classical water regulation, aimed at tackling water pollution with dangerous substances, the scope of water regulation has been broadened to include integrated water resource management and the combined protection of human health, ecosystems and the environment. This chapter has highlighted the introduction of new regulatory approaches with a strong emphasis on planning, adaptive water management and public participation.

This chapter has emphasized that trans-jurisdictional water governance in Europe relates to three key topics. The first is the *scope* of water management, often related to trans-boundary river basins. This raises specific problems for instruments shaping cooperation, jurisdiction and conflict resolution. We see mixed approaches in tackling these problems, ranging from informal cooperation, the use of international law instruments, including treaties, to the development of new European instruments for trans-boundary cooperation. Conflict resolution between EU Member States is strongly influenced by the leading role of the European Court of Justice. The recent development of arbitration-style conflict resolution in European Commission water directives may help to solve some problems, but because the European Commission lacks appropriate powers, except for starting infringement procedures, this is only a small step forward.

A second important point to tackle is *the consistent use of definitions and concepts* across Member States. This can be a problem even when only one Directive is being implemented, despite the fact that the EU should be one legal order. For the trans-jurisdictional governance of river basins this is crucial. For this reason, the EU has developed a Common Implementation Strategy. Nevertheless, it should be noted that this Strategy is not legally binding and

that in the end it is the task of the Court of Justice to provide clarity on the scope and meaning of obligations, definitions and concepts.

The third problem to be tackled concerns *fragmented legal frameworks* that may hamper effective water management. Each policy field has its own goals, competent authorities, regulatory and governance approaches. At the same time the protection of water resources is highly dependent on measures taken in other policy fields: land use, energy and nature conservation or policies – such as agriculture or product policies, which are often fully harmonized within the legal framework of the internal market. In these cases, water authorities or Member States lack appropriate powers to realize the goals set in the field of water management. Three examples of fragmented and conflicting legal frameworks were discussed: water and nature conservation, freshwater supply and land use, and water and the authorization of medicines.

Internal integration within the broad scope of water management, as the EU has done with the WFD, offers great benefits. However, external integration with other policy fields is highly diverse, due to the policy field at stake, the legislative frameworks within the EU, the numerous Member States and the importance that is given to water management in relation to other interests.

One way of dealing with fragmented legal frameworks is to place stronger focus on the general principles of EU law – and environmental principles in particular. The fact that the EU has made the integration principle an important objective has not been of great practical value thus far. Furthermore, in the case of a lack of coordination, mechanisms improving transparency and providing information on environmental effects may be useful. However, it has become clear that even in the relation between nature conservation and water management, where goals overlap to a great extent, it is difficult to create an integrated approach for protected areas because of the use of different concepts, definitions and time lines. Therefore explicit and clear coordination mechanisms and a shared understanding of concepts, definitions and obligations are essential.

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