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A Watersketch Report under WP1

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A Watersketch Report under WP1

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Data sheet

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Abstract: The report introduces the ecosystem based approach to integrated natural resource management, which is behind the European Water Framework Directive. Moreover, how former European legislation on water is integrated into this framework. The report gives an introduction to the legislation, the ways that policy coherence in the area of water management is met through the Framework Directive, the measures that it prescribes, and the possible gaps that may need to be addressed in the future. Moreover, spatial aspects of river basin management and the interaction between physical planning and water plans is discussed and tools for integration between different environmental objectives and in sector policies are discussed. A survey of the national implementation of the Water Framework Directive in countries around the Baltic Sea has been carried out.

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Preface

This report is the result of a common effort of the members in the first work package of the Watersketch Project. The objective of this work package was to analyse common EU directives and national legislation concerning water. Moreover the aim was to provide an overview of the main spatial planning processes in different countries around the Baltic Sea.

The objectives were accomplished by identifying and analysing existing directives in relation to water, as well as other environmental directives and sector policies. Moreover a questionnaire was sent out to project partners and contact persons in Latvia and Estonia, aiming at a description of the implementation of the Water Framework Directives at the national level, as well as procedures of physical planning in these countries. This work was concluded at a workshop, which was held in Vilnius, inviting all project partners as well as the two mentioned Baltic countries. A cross-cutting analysis of the Water Framework Directive and of related legislation, as well as of national implementations leads to the results presented in this report.

All the partner organisations have contributed to this report, and in addition contributions were made from the representatives from Latvia and Estonia. Especially the WP1 partners should be thanked for their contributions to the different chapters. In the editing process Milla Mäenpää and Ville Hokka from SYKE have been of great help. Ann-Katrine Holme Christoffersen (NERI) has set up the report and Hanne Bach (NERI) has made the final quality check.

Summary

The report introduces the ecosystem based approach to integrated natural resource management, which is behind the European Water Framework Directive, and how former European legislation on water is integrated into this framework. The approach implies setting objectives for water bodies and the production of management plans related to river basins. The aim is to introduce the legislation, the ways that policy coherence in the area of water management is met through the Framework Directive, the measures that it prescribes, and the possible gaps that may need to be addressed in the future. These possible gaps are related to the actual implementation of the water management plans. A successful implementation implies an incorporation of water goals into sector policies, such that tools and measures to secure the reduction of pressures are available. It is a question if the instruments in the legislation in combination with strategic environmental assessment will secure this integration. Moreover, spatial aspects of river basin management should be considered, by facilitating interaction between physical planning and water plans, and by gearing the institutional set-up in this direction. A survey of the national implementation of the Water Framework Directive in countries around the Baltic Sea considers some of these issues, and examples of possible solutions are given.

Chapter 1 introduces the idea of integrated water management, and the concepts of spatial fit and institutional interplay, which captures some of the dilemmas in modern natural resource management. Spatial fit points to the spatial overlap between resource delimitations (like river basins) and the administrative units. Institutional interplay is about the institutional set-up and how it responds to demand for interaction and cooperation among institutions with different but interacting management tasks. Moreover, the method used for analysis of European legislation is introduced. Three approaches are taken: 1) Analysis of which stage in the DPSIR chain water development the legislation aim to influence, 2) How various directives refer to each other (policy integration), and 3) If spatial approaches are needed in the implementation of legislation.

Chapter 2 is an introduction to the Water Framework Directive. The purpose of the legislation is described as well as its background and procedural elements. The important elements are the identification of pressures, Programme of Measures, River Basin Management Plan and the economic analysis. These are followed by several stages of participatory processes. The chapter additionally describes other legislation – both water related and related to other environmental goals - that is embedded in the approach, and the legislation that will be repealed during the implementation period.

Chapter 3 discusses the relationship between the approach taken in the WFD and the European Spatial Development Perspective, which expresses the European guidelines on spatial integration. Other European policy with implications for land use and spatial development is recorded, and the implications of these policies for the WFD are discussed.

This implies a discussion of the integration of water goals into sector policies.

Chapter 4 describe other pieces of EU legislation, which may act as levers for the integration of water management objectives into other EU policy, notably the sector policies. The issues addressed are the policies related to public participation and the Aarhus convention, and the impact assessment policies. The Strategic Environmental Assessment directive is specifically addressed, and the need for more precise interpretations on the application of SEA for River Basin Management Plans and Programs of Measures as well as for sector policies is discussed.

Chapter 5 analyses and synthesizes the various pieces of legislation, introduced in former chapters. The use of management plans, designation of areas and production of management plans accompanied by maps in different legislative texts indicate that spatial integration of management tools and measures need to be integrated. Increasing demand for public participation in new directives and at various stages of the implementation, are elements which could warrant a focus on timing of processes potentials for integration of issues. The potentials for conflicting objectives across directives are looked at, as well as the mutual support that can also be found.

Chapter 6 looks into the national implementation of the WFD in countries around the Baltic Sea. A questionnaire has been sent out to responsible authorities, and questions on the implementation of the WFD have been explored. Additionally, territorial units for physical planning and for river basins management are identified, and the institutional set-up around these issues are described. Based on this survey material a cross-cutting analysis of the national implementation set-up is discussed in the framework of spatial fit and institutional interplay.

Chapter 7 contains a summary of the issues from the report and concludes by highlighting the need for further environmental integration in sector policies as well as integration of water management plans and physical planning, for the benefit of water goals, as well as other environmental and land use management.

Sammenfatning

Denne rapport beskriver lovgivningen vedrørende Vandrammedirektivet og den tilgang til forvaltning af naturressourcer, som ligger bag udformningen af direktivet. Med dette direktiv introduceres den økosystem-baserede tilgang til forvaltning af vandressourcerne, hvilket betyder at alle vandforekomster målsættes, og forvaltningsplaner udarbejdes for vandoplandet på grundlag af analyser af påvirkninger på vandressourcen og den forventede udvikling i disse.

Formålet er således at introducere EU-lovgivningen på vandområdet og de procedurer som implementeringen af Vandrammedirektivet medfører, og at redegøre for de intentioner om policy-integration på vandområdet som direktivet er udtryk for. Herudover at undersøge hvordan og i hvilket omfang EU's mål om sammenhæng imellem forskellige politikker imødekommes i dette rammedirektiv og dets procedurer, og hvilke forhold det er vigtigt at tage højde for i den nationale implementering med henblik på at opnå disse mål.

Der peges på to forhold: behovet for en rumlig integration mellem miljøforvaltning og fysisk planlægning, samt en vurdering af SEAs potentialer til at sikre sektorintegration samt integration af miljømål.

Vandrammedirektivet implicerer udarbejdelsen af forvaltningsplaner for vandressourcen og herunder præsentation på kort. Denne vægt på en rumlig tilgang til forvaltningen ligger i forlængelse af ESPD: the European Spatial Development Perspective, som tegner EUs fælles mål og koncepter for udviklingen af de territorielle aspekter, herunder den fysiske planlægning.

Lovgivning som ligger udenfor vandområdet, men som påvirker dette i betydeligt omfang, såsom sektor- og arealanvendelsespolitikker, gennemgås kort, og det diskuteres, hvordan integrerende lovgivning og perspektiver, såsom strategisk miljøvurdering og spatiale (rumlige) tilgange kan bidrage til at opnå en sammenhæng mellem forskellige policy mål.

Med disse to perspektiver, og på baggrund af informationer indsamlet i et survey af den nationale implementering af Vandrammedirektivet i landene omkring Østersøen, diskuteres forholdet mellem de kommende vandplaner, den fysiske planlægning og de institutionelle forhold relateret til planlægning og miljøforvaltning.

Kapitel 1 introducerer koncepter for integreret vandforvaltning og begreberne "rumlig tilpasning" og institutionelt sammenspil", som tilgange til at forstå aspekter af vandforvaltningen, og som indfanger forskellige dilemmaer i moderne miljø- og ressourceforvaltning. Rumlig tilpasning peger på hvorvidt der er et overlap mellem den rumlige afgrænsning af en ressource, såsom vandoplandet, og den administrative enhed, der har ansvar for forvaltningen af denne. Institutionelt sammenspil refererer til i hvor høj grad det institutionelle set-up tager højde for behovet for samarbejde og koordination mellem afdelinger og institutioner, der forvalter forskellige, men interagerende ressourcer. Herudover in-

troduceres metoder og elementer i analysen af EU direktiverne, såsom a) analyser af hvilket niveau i DPSIR kæden for vand forskellige dele af lovgivningen retter sig imod, b) hvorledes de forskellige direktiver refererer til hinanden og c) hvorvidt implementeringen af direktiverne nødvendiggør en rumlig tilgang, eksempelvis i form af udpegninger eller forvaltningsplaner.

Kapitel 2 er en introduktion til Vandrammedirektivet. Herunder introduceres formålet, baggrund, procedurer og anden lovgivning, som afløses eller er indeholdt i dette direktiv. De vigtige elementer er identifikationen af påvirkninger, udarbejdelse af indsatsprogrammer og vandplaner, økonomisk analyse af vandanvendelsen samt overvågning. Implementeringsprocessen beskrives og vandområdernes rolle som forvaltningsenheder understreges.

Kapitel 3 diskuterer forholdet mellem Vandrammedirektivets udformning og de anbefalinger, der ligger i ESDP, the European Spatial Development Perspective, som udtrykker EU's guidelines for rumlig, eller territoriel integration. På denne baggrund redegøres for anden EU lovgivning, som har rumlige implikationer igennem påvirkninger på især arealanvendelsen, såsom politikker vedrørende landbrug, transport, vedvarende energi, byudvikling mv. Det diskuteres herunder hvordan målsætninger for vandområdet sikres i forhold til udviklingen i sektorpolitikken.

Kapitel 4 beskriver EU lovgivning og konventioner, som kan understøtte integrationen af miljøhensyn i anden EU politik. Disse omfatter i særdeleshed områder som befolkningsinddragelse og miljøvurdering. Strategisk miljøvurdering af planer og politikker behandles specifikt idet denne lovgivning er et potentielt stærkt værktøj for sektorintegration af miljøhensyn. Det fremgår imidlertid ikke klart af de guidelines, der udarbejdes i forlængelse af Vandrammedirektivet hvorvidt strategisk miljøvurdering skal gennemføres for vandplaner.

Kapitel 5 analyserer og syntetiserer aspekter af de direktiver der er gennemgået i de foregående kapitler. Direktivernes anvisninger i relation til udpegninger, forvaltningsplaner og befolkningsinddragelse er elementer heri, og eksistensen af disse i adskillige af direktivernes procedurer kunne pege på hensigtsmæssigheden af at integrere implementeringen i tid og rum. Forholdet mellem vandplanlægning og fysisk planlægning diskuteres. Konfliktpotentialer imellem forskellig lovgivning, såsom mellem promovering af små vandkraftværker og mål for vandressourcerne identificeres, men også gensidig understøttelse mellem direktiverne.

Kapitel 6 beskriver den nationale implementering af WFD i landene omkring Østersøen, primært på baggrund af en spørgeskema-baseret undersøgelse blandt de vand-ansvarlige medarbejdere i Miljøministerierne. Territorielle enheder for fysisk planlægning og for vandområde-planer identificeres i de enkelte lande, og de institutionelle rammer for vandforvaltningen og for den fysiske planlægning beskrives. Baseret på spørgeskema materiale sammenlignes de forskellige systemer, og aspekter af rumlig tilpasning og institutionelt sammenspil diskuteres.

Kapitel 7 opsummerer centrale emner fra rapporten og fokuserer på behovet for yderligere integration af miljømål i sektorpolitikkerne og på

samordning med den fysiske planlægning med henblik på at opfylde vandrammedirektivets intentioner.

1 Introduction

Pia Frederiksen, NERI

This report is about European legislation on water, how it relates to other European legislation, and how issues of environmental integration have been incorporated into the Water Framework Directive. As the WFD is implementing an ecosystem oriented approach to water management related to river basins, a special focus of the report is the spatial dimension of water management, and how water plans may interact with other regulation with a spatial planning dimension.

1.1 Integrated Management of Water Resources

It is generally accepted that integrated approaches to the management of natural resources are useful in terms of assessment, planning and monitoring tasks. This is clearly also acknowledged in the approach to water management, which is applied in the EU Water Framework Directive (2000/60/EC). It has, however, been argued that the precise meaning of integration is not always clear, and that many different aspects of integration exist and need to be differentiated in order to answer the questions "who is being asked to integrate what, with whom and how?" (Scrase and Sheate 2002).

Integrative approaches may be applied in several stages in the policy formulation and implementation process, such as integration of information sources for assessments of state and development of environmental themes, as well as integration of environmental concerns into governance. A number of these aspects have been identified and discussed in terms of their relevance for enforcing environmental concerns (Scrace and Sheate 2002), and of their actual implementation (Carter 2005), and most of these are relevant for the intentions behind integrated water management, as conceptualised through the Water Framework Directive. These issues are listed in Figure 1.1.

- Issues for integration
- Integrated information sources
- Integration between different water resources (e.g. ground water, surface water)
- Integration of environmental concerns into governance (the WFD)
- Integration across water and other environmental media (water, land)
- Integration across policy domains (e.g. WFD and Habitats directive)
- Vertically integrated planning and management (local, regional, national)
- Integrated environmental management (within regions)
- Integration among assessment tools (e.g. coupling of models and indicators)
- Integration of environment and social and economic development (sustainability assessment)
- Integration of stakeholders into governance (participation in water management)
- Integrated environmental-economic modelling (e.g. valuation of costs and benefits)

Figure 1.1 Integrative aspects in water resource management (adapted from Scrase and Sheate 2002)

The Watersketch project addresses specifically spatial planning aspects of sustainable water use, including spatial integration between water resources management and management related to other sectors such as land, energy and nature conservation. One of the project tasks has been to analyse how various European legislation interacts with the Water Framework Directive (WFD), and if goals and measures are harmonised or may on the contrary counteract each other.

This report focuses on the function that other directives have in relation to the WFD, and on the type of integration that may be applied between the WFD and other legislation, which may have direct or indirect relation to water management. Moreover, the report focuses on legislative measures, which may facilitate this integration, such as the SEA directive – especially in relation to the River Basin Management Plans (RBMPs) following from the WFD and the national spatial planning systems.

The report addresses two administrational and geographical levels. Firstly, it analyses policies and legislation in the EU system, which are relevant in terms of the integration of the Water Framework Directive (WFD) with other European Union policies and legislation, emphasising the spatial aspects, which relate especially to the production and use of the RBMPs. Secondly, the national implementation of the WFD and the supposed interaction with the spatial planning process taking place in the Member States will be addressed. The aim of this analysis is to investigate if the legislative and institutional set-up to support this interaction is already in place, and if necessary adaptations are foreseen.

1.2 Spatial Boundaries in Natural Resource Management

With the implementation of the Water Framework Directive an ecosystem oriented water management and planning system is introduced, by using river basins and thereby natural boundaries as the fundamental management unit. This approach has been applied in a number of coun-

tries before the implementation of the WFD, e.g. in France, UK and Spain. It is, however, a shift in approach in a large number of countries that have traditionally relied on administrative boundaries as management frameworks. Consequently new management structures are being implemented and the interaction between institutions and ecosystems need to be rethought and rearranged.

Moss (2001) distinguishes between two key issues, which have to be taken into account in the framing of environmental and resource management. One is the "spatial fit", i.e. the overlap between the management regime and the boundaries of the resource, which is to be managed. The other is the "institutional interplay", i.e. the fact that the functioning of resource management is not only dependent on the managing institution itself, but also on its interaction with other institutions between which functional relationships exist, such as water management and land use regimes. Moss (ibid.) sees this not so much as a problem of physical boundaries, but as a problem of boundaries between spheres of political responsibility and social influence.

A discussion thus arises whether a perfect spatial fit is obtainable or even desirable – as it may attract too much attention to the biophysical rather than the socio-economic problems. Integrated natural resource management builds essentially on a system approach, including the human utilisation systems. Tracking these utilisation systems back to the drivers of the utilisation may often lead far beyond the immediate ecosystem boundaries. One example could be metropolitan water use, drawing on piped water resources from far away, where the quality of the water resource depends on land use and catchments management relatively far away. This exemplifies that there is often a trade-off between designing a management system based on spatial fit, or a system, which optimises interplay with other resource management institutions, such as land use planning at specific administrative levels.

Folke et al. (1998) discuss the problem of fit from a resource management point of view. They argue that conventional resource management has obtained increase in yield and economic return by using new technology, at the expense of variability of the resource (e.g. fish stock) and functional ecosystems. More rigid institutions are seen as a by-product of this development. They argue that the aim to reduce variability and to block out disturbances in the ecosystems, will eventually lead to disturbances at a higher scale. Their conclusions are that the "optimal fit" may not be the tightest fit, and that cross-scale management is one of the great challenges in resource management, as driving forces vary across spatial and temporal scales. Nowicki et al (2005) approve the argument, entering the discussion from a biodiversity point of view, and they add that spatial planning should take an ecosystem approach in the planning of land use and landscape development. None of these papers, however, discuss issues of institutional interplay, such as that between environment/resource management institutions and spatial planning institutions.

As mentioned above, the WFD is now enforcing an ecosystem-based approach in the Member States. River Basins are appointed as the basic management units, and management plans will be drawn up based on

these units, under the responsibility of the competent authorities assigned to River Basin Districts (RBDs).

Meanwhile spatial development planning is undertaken in the same or in other institutional structures, and problems of institutional interplay will most certainly appear. How the institutional and territorial set-up concerning spatial development plans, resource- and environmental management plans and the implementation of the WFD is designed, is yet to be seen.

1.3 Methods for Analysing Legislation

The analysis of EU legislation in terms of interactions with the WFD is based on three approaches: The function of the various legislation in relation to the WFD is explored, that is, which stages of the Driving forces, Pressures, State, Impact and Response (DPSIR) framework for integrated environmental assessment of water that the legislation is supposed to influence (illustrated in Figure 1.2). Moreover it is described, how various directives are integrated, i.e. whether they are directly referring to each other, if one is implicitly affecting the other, or if legislation is directly facilitating integrative aspects of management. The third concerns the spatial aspect i.e. whether implementation of directives requires a spatial approach.

European Community legislation regulating water management can be understood as a series of response policies related to Driving forces, Pressures, State and Impact on water. Policies affecting pressures on water are for instance policies reducing emission levels to the water, such as the Nitrate Directive, while policies affecting state are related to defining standards of water quality or quantity. Impacts of water may for instance be habitat quality, and are regulated e.g. through policies on biodiversity or ecosystem health. These types of policies are now integrated in the various phases of the implementation of the WFD, as will be explained in chapter 2. Driving forces on water quality are related to sector policies, such as the Common Agricultural Policy (CAP), the energy and transport policies are formulated according to their major objectives such as securing competition and food security. Sustainability goals are, however, increasingly introduced into sector policies, resulting in environmental goals being introduced into these policies, e.g. the cross-compliance measures in the CAP. While the policies regulating pressures, state and impacts are to a large extent directly embedded in the procedures of the WFD, the interaction between the WFD and sector policies are not completely clear. Other legislation like the Strategic Environmental Assessment Directive affecting plans and policies or the Rurald Development policy may facilitate a better integration. This is illustrated in Figure 1.2.

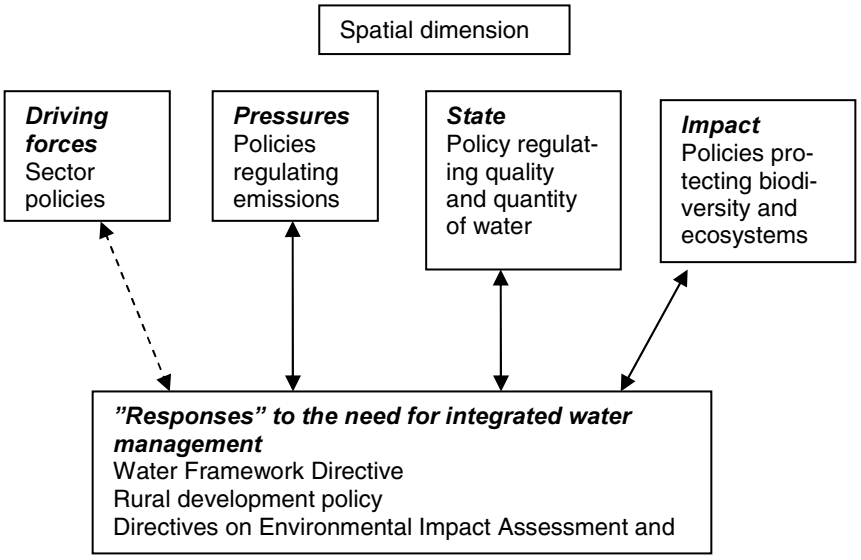

Figure 1.2 The chain of policies regulating aspects of water management and the role of integrating response policies

The WFD harmonizes and governs also a large number of directives regulating pressures on water and use of water, which requires application of a common set of goals and measures as stipulated in the WFD. The WFD has thus inscribed a large number of other directives into its articles, either for stating the date of repeal or for stating the types of integration with the water management that is demanded.

Another significant guideline is the European Spatial Development Perspective, although it is merely a perspective, not a directive. It has been adopted by the Member States - not to be implemented in national law, as spatial planning under the principle of subsidiarity belongs to the national regulations – but to create a framework for achieving common goals of a balanced economic, social and environmental development within the European territory. It is thus important in the context of this analysis to take the views expressed in this perspective into account, as it provides a framework for understanding the WFD intentions related to other policies.

2 The Water Framework Directive and the Related Legislation

Milla Mäenpää, Teemu Ulvi, Ville Hokka & Seppo Hellsten, SYKE.

The purpose of this chapter is to give an overview of present European water policy, and its historical background. The main topic is the Water Framework Directive (WFD) (*Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy*) aiming at harmonising the legislation on water within EU.

In this chapter other main parts of European legislation interacting directly with the WFD are described. More precisely, such legislation covers water legislation

- being repealed during the coming years, following the implementation of the WFD,
- being developed following obligations introduced in the WFD, and
- requiring attendance in the development of Programmes of Measures.

2.1 History, Goals and Implementation Strategy of the WFD

The creation of European Union policy concerning the protection of the environment and natural resources, including water, started properly in the middle of 1970's. The first European directive on water came into force in 1975 (Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States). Since then, many other directives and decisions have been made in order to protect the status of waters and public health (see Fig. 2.1). Much progress has been achieved especially in diminishing loading of oxygen-consuming substances and phosphorus from point sources by improving urban waste water treatment. Nevertheless, diffuse source pollution has proven difficult to handle, and in particular, the nitrogen pollution from agriculture has remained constant (European Environment Agency 2003).

The development of present European water policy can be divided into three phases. The first efforts to improve the water quality in Europe by joint legislation began with the above-mentioned surface water directive in 1975 and culminated in the drinking water directive in 1980. Legislation focused mainly on water quality objectives or particular water types, such as fishing, shellfish and bathing waters, and groundwater (European Commission 1999).

The second phase in development of European water legislation began in 1988. It was characterised by using an emission limit value approach. As a result, the directives on urban waste water treatment and nitrates were approved in 1991. In the same period, the European Commission proposed to revise the drinking water and bathing water directives, to develop a groundwater action programme, and to adopt an ecological quality of water directive (European Commission 1999).

Since the mid 1990's, the European water legislation had become very complicated and there was a need for harmonising and integrating objectives and measures. The Commission developed a discussion paper setting out a framework for European water policy, and finally in 1997 - 1998, proposed a new piece of legislation — The Water Framework Directive (WFD). The purpose of this new directive was to ensure the overall consistency of water policy throughout the European Union. (European Commission 1999). Simultaneously as a consequence of the Treaty of Amsterdam in 1997, the importance of environmental matters increased substantially, and sustainable development became one of the main objectives of the EU policy (Mäkinen 2005).

1975 Quality required of surface water intended for drinking water (75/440/EEC)

1976 Quality of bathing water (76/160/EEC)
Discharging dangerous substances into aquatic environment (76/464/EEC)

1977 Common procedure for the exchange of information on the quality of surface water (77/795/EEC)

1978 Quality of fresh waters in order to support fish life (78/659/EEC)

1979 Conservation of wild birds (79/409/EEC)
Analysis of surface water intended for drinking water (79/869/EEC)
Quality of shellfish waters (79/923/EEC)

1980 Protection of groundwater from dangerous substances (80/68/EEC)
The Drinking water Directive (80/778/EEC)

1982 Limit values and quality objectives for mercury discharges (Chlor-alkali electrolysis industy) (82/176/EEC)

1984 Limit values and quality objectives for mercury discharges (other than in 82/176/EEC) (84/156/EEC)
Limit values and quality objectives for Discharges of hexachlorocyclohexane (84/491/EEC)

1985 Environmental impact assessment of certain public and private projects (EIA) (85/337/EC)

1986 Using of sewage sludge in agriculture (86/278/EEC)
Limit values and quality objectives for dangerous substances included into Directive 76/464/EEC (86/280/EEC)

1991 Urban waste water treatment (91/271/EEC)
Protection of waters against nitrates pollution (91/676/EEC)
Plan protection products (91/1414/EEC)

1992 Conservation of natural habitats (92/43/EEC)

1994 Protection of the Baltic Sea Area (Helsinki Convention) (94/156/EC & 94/157/EC))

1996 Integrated Pollution Prevention and Control (IPPC) (96/61/EC)
Control of major-accident hazards involving dangerous substances (96/82/EC)

1998 The Drinking water Directive (98/83/EC) (repealed the directive (80/778/EEC))

1999 European Spatial Development Perspective

2000 Water Framework Directive (WFD) (2000/60/EC)

2001 Environmental impact assessment of plans and programmes (EIA) (2001/42/EC)
Promotion of electricity from renewable energy sources (2001/77/EC)
Pricing and sustainable management of water resources (2001/C 123/15)
List of priority substances (amending WFD) (2455/2001/EC)

2002 Towards a strategy to protect and conserve the marine environment (COM(2002) 539)

2003 *Protection of groundwater against pollution (COM(2003) 550)*
Access to information, public participation and access to justice (Aarhus Convention) (COM/2003/0625)

2004 Flood risk management (COM(2004) 472)

Figure 2.1 European legislation on water in chronological order. The EU Directives are written in black, the Communications of the Commission in pink, the Decisions of the European Parliament and the Council in green, and the comments and recommendations in brown. The proposals are written in italic font.

Source: http://europa.eu.int/comm/environment/eufocus/cleanwater.htm

2.1.1 The Water Framework Directive

The WFD came into force on 22 December 2000, and it should be implemented to the national legislation of the Member States by December 2003. A number of earlier European directives are being repealed with the implementation of the WFD (see section 2.2.1).

2.1.2 The Purpose of the Water Framework Directive

The WFD provides a framework for EU water policy aiming at establishing an integrated approach to the protection, improvement and sustainable use of water in Europe. The WFD rationalises and updates existing water legislation and introduces a holistic approach to water management based on the concept of river basin planning. Its provisions cover all inland surface waters, groundwater, transitional and coastal waters.

The key objectives of the WFD set out in article 1 are to:

- Prevent further deterioration and enhance the status of aquatic ecosystems and associated wetlands.
- Promote sustainable use of water.
- Enhance protection and improvement of the aquatic environment.
- Reduce pollution of surface and groundwater, especially by 'priority' and 'priority hazardous' substances.
- Mitigate the effects of floods and droughts.

In addition, the WFD introduces economic analyses of water use (principle of recovery of the costs) provides the general public with rights of involvement and information over river basin planning and establishes a detailed system of monitoring and reporting to the Commission.

WFD can be described as "hybrid type of EU directive" as it introduces the so-called combined approach to pollution prevention, which means that it has both traditional command-and-control attributes and modern, integrated planning aspects. The more traditional demands are like the detailed procedures and content of the river basin management plan and the strict monitoring and reporting obligations. On the other hand, many of the WFD's key elements lay great emphasis on cost-efficiency and interactive, cross-sectoral elements and "partnership approach" of the processes among other issues (Moss 2005, see also Knill et. al. and Griffiths 2002).

2.1.3 Main Definitions

There are 41 different definitions that are used in WFD, and they are defined in article 2. Definitions concern water bodies and other natural formations, water districts and authorities, defining status of the water body, substances and other pollutants, pollution and discharge, and objectives and standards. The most important definitions are:

- Body of surface water means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, transitional water or a stretch of coastal water.
- Artificial water body means a body of surface water created by human activity. "Heavily modified water body" means a body of surface water, which as a result of physical alterations by human activity is substantially changed in character.

- Surface water status is the general expression of the status of a surface water body, assessed by using two components: Ecological Status and Chemical Status

- Good surface water status means the status achieved by a surface water body when both its Ecological Status and Chemical Status are at least 'good'.

- Groundwater status is the general expression of the status of a groundwater body. The status is determined by poorer of its Quantitative Status or Chemical Status.

2.1.4 Implementation of the WFD

In practice, the implementation of the WFD brings along a cyclic process of river basin management planning. The final product of each planning round is the River Basin Management Plan (RBMP) (see chapter 2.3.6). The first plan has to be published in 2010, and thereafter it has to be reviewed and updated on a 6 year cycle. The main phases and schedule of implementation of the WFD are shown in Fig. 2.2.

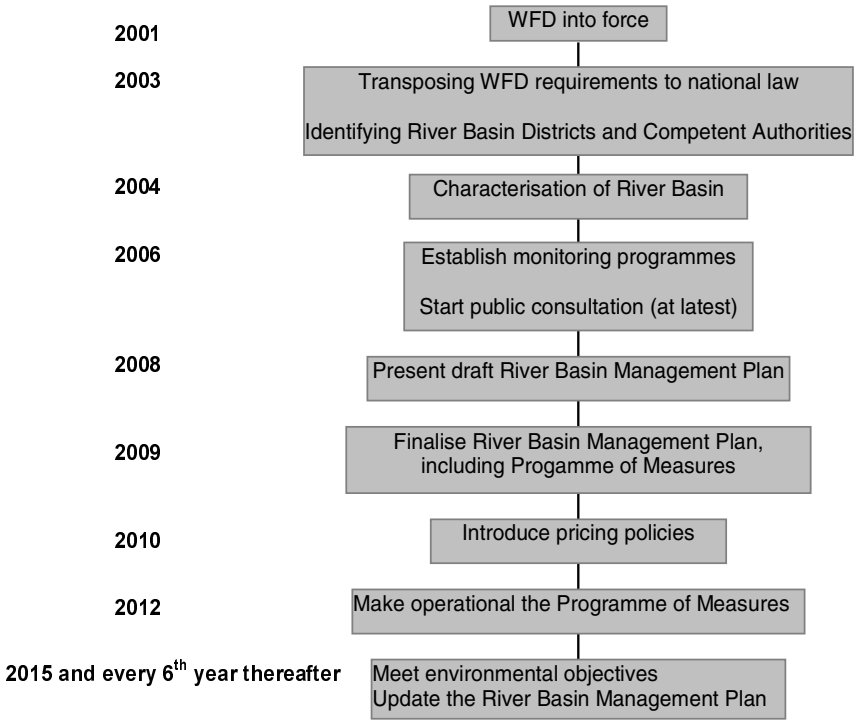

Figure 2.2 The main phases of implementation of the Water Framework Directive

2.1.5 Administrative arrangements required by the Water Framework Directive

The WFD does not specify the organisational structures for river basin management. Organisational and institutional implementation is the responsibility of the individual Member States. In accordance with the subsidiarity principle and in recognition of the diverse conditions and needs within the EU the WFD calls for ''decisions to be taken as close as possible to the locations where water is affected or used'' (Preamble, Para. 13).

In the article 3 of WFD, the requirements for coordination of administrative arrangements are described. At the first phase of WFD implementation in 2004, the Member States had to identify the individual river basins of their territory and assign them as River Basin Districts (RBDs). Several river basins could be combined to form a RBD where appropriate. Also the groundwater and coastal waters had to be assigned to the nearest or most appropriate RBD. If the river basin covers the territory of more than one Member State, it had to be assigned to an 'International River Basin District'.

In addition to other administrative arrangements needed, the Competent Authority had to be identified for each RBD. This authority is in charge of coordination of actions required to achieve the environmental objectives set up for each RBD

2.1.6 Current status assessment of water bodies

According to article 5, the Member States have to carry out a characterization process (i.e. analysis) of each RBD. At first, the location and boundaries of the surface water bodies have to be identified. Thereafter, the identified water bodies have to be categorised into rivers, lakes, transitional waters and coastal waters. Additionally, the interim designation of artificial or heavily modified water bodies has to be made.

Subsequently, the water bodies shall be characterised into types based on their natural features, such as physical and chemical factors, geology, and the population characteristics and structures of the aquatic ecosystem. For each type of water body, the reference conditions at sites of high ecological status have to be determined. The reference sites shall be used as a point of comparison when judging the status of waters.

In addition, the significant pressures caused by human activity (e.g. point and diffuse source pollution or alterations in hydro-morphology) and their impacts on water status have to be identified, and the economic analysis of water use shall be done. Also, the preliminary estimation of surface and groundwater bodies that are at risk not to achieve the goal of good status by 2015 has to be carried out.

The preliminary summarised reports were reported by 22-March 2005 to the European Commission by the Member States. The final reports of current water status have to be delivered to Commission in 2013 at the latest and they have to be reviewed every six years thereafter.

2.1.7 Setting up environmental objectives

The Water Framework Directive sets demanding environmental objectives for surface water and groundwater (article 4). The principal objective of the WFD is that Member States are required to achieve Good surface water status and Good groundwater status in 2015 at the latest. As well, the deterioration of waters, whose status is already 'good', has to be prevented. In particular, the emissions of Priority hazardous substances into surface waters have to be reduced progressively.

The exact definitions of Surface and Groundwater Status are specified in Annex V of the WFD. While assessing this status, the biological, hydro-

morphological and physico-chemical quality elements have to be considered. The WFD includes new provisions including the establishment of a Combined Approach, which permits the use of both Environmental Quality Standards and fixed Emission Limit Values in the Chemical Status assessment. The limits and standards are defined in various directives that are listed in Annex IX of the WFD. In addition, the European Parliament and Council have adopted the Decision No 2455/2001/EC Establishing the List of Priority Substances in the Field of Water Policy and Amending Directive 2000/60/EC that identifies a list of substances causing a significant risk to or via the aquatic environment.

Only limited exceptions to achieving the objective of Good water status are acceptable. For surface water bodies designated Artificial or Heavily Modified due to hydro morphological changes the environmental objectives can be less demanding. Such surface water bodies shall achieve the status of Good ecological potential, which allows for the biological effects of physical modifications. Deviations from Good status are also allowed in unforeseen or exceptional circumstances, such as floods or droughts.

2.1.8 Monitoring

According to article 8, Member States have to establish monitoring programmes, which enable a coherent and comprehensive overview of water status within each RBD. The monitoring programmes shall cover the volume and level or rate of flow, and the ecological and chemical status of surface water bodies - or ecological potential for Heavily Modified Water Bodies. For groundwater the monitoring has to cover the Chemical and Quantitative status.

The data produced by monitoring shall enable the classification of the water bodies into five classes: high, good, moderate, poor and bad. Along with the traditional physico-chemical monitoring, certain biological elements have to be surveyed. Such elements are benthic invertebrates, aquatic flora (phytoplankton, phytobenthos and macrophytes) and fish fauna.

There are three types of monitoring for surface waters defined in the WFD. 1) Surveillance Monitoring will be carried out in order to supplement and validate the impact assessment and to provide information of long term changes. 2) Operational Monitoring has to be undertaken in water bodies, which are at risk of failing to meet the environmental objectives. If the reasons for this failure are unknown, 3) Investigative Monitoring has to be started. The monitoring has to be in operation in 2006 at the latest.

2.1.9 Program of Measures

In article 11 it is required that an integrated Programme of Measures has to be developed for each river basin district. By this programme, the environmental objectives set by WFD shall be met. In particular, the good water status should be achieved within the basin. The Programme of Measures will be made up of compulsory Basic measures, which include also the requirements of other relevant directives (see Fig. 2.3). If the objectives are not met, the basic measures have to be complemented by

Supplementary measures, such as legislative, administrative or economic instruments.

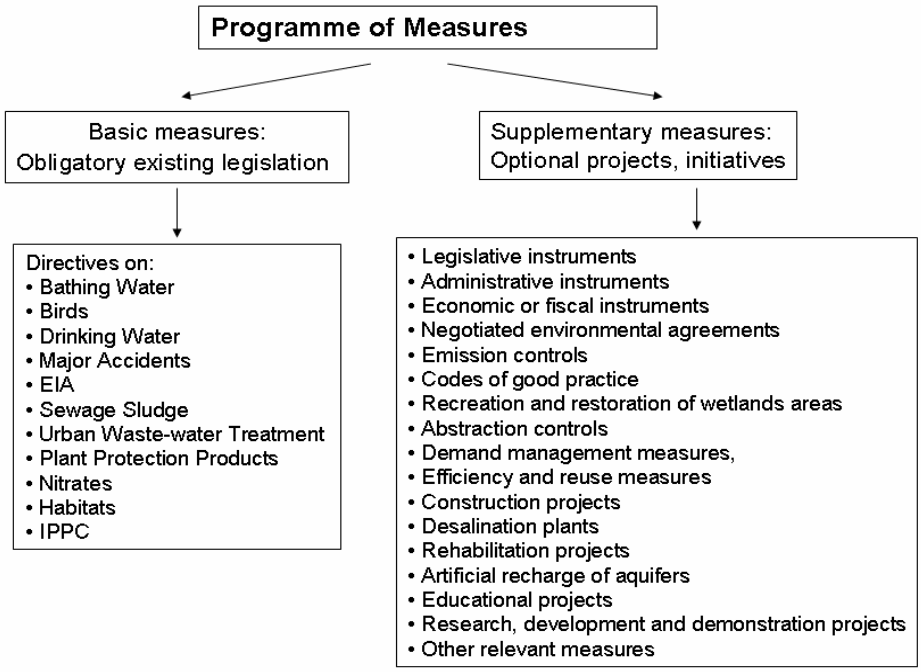

Figure 2.3 Structure of Programme of Measures

2.1.10 River basin management plan

The improvements in water status required by the WFD are to be achieved through River Basin Management Plans (RBMP). It is an administrative mechanism set up in Article 13. The key issues to be included in the plan are:

- General description of characteristics of the *River Basin District.*
- Summary of significant pressures and impacts of human activity.
- Map identifying protected areas and monitoring network.
- Environmental monitoring data showing the status of surface water, groundwater and protected areas.
- List of environmental objectives.
- Summary of the economic analysis of water use.
- Summary of the *Programme of Measures.*
- Summary of the public information and consultation measures taken.

The *Competent Authority* of each *River Basin District* is responsible for the production of the plan.

2.1.11 Public participation

Article 14 of the WFD requires that Member States encourage involvement of all stakeholders into the implementation process. Especially, this concerns the river basin management planning. Working plans, consultation measures, timetables, overviews of the significant water management issues and the draft versions of the management plan have to be published and made available for the comments. According to Article 14, public participation needs to be organized in 2006 for setting timetable and work programme for RBMP, in 2007 for specifying the significant issues of water management in the river basin and in 2008 draft copies of RBMP´s should be open for comments and revisions before publishing in 2009. There should be at least 6 months to comment on documents and to access background information used for the development of draft version of the river basin management plan. The WFD does not set a detailed procedure, on how the participation should be arranged in Member States.

The main purpose of public participation is to ensure that decisions are based on common understanding, shared knowledge, experiences and scientific evidence. The open planning process guarantees that people can influence the decisions, which may have effect on them. Achieving goals set by WFD requires combined efforts and interaction between different groups of actors (Mäkinen 2005). There are dozens of means by which public participation can be done. It may also take place on many different levels. The public may be provided with new information, their views may be sought, there can be real interaction between the public and government by discussions or the public may have some part or all of the power of decision-making. In any case, participation in planning processes should be organised well, otherwise its results may cause e.g. less trust in government, less public acceptance and more problems in implementation. (HarmoniCOP project 2003).

Public participation plays a notable role in the implementation of the WFD. To reach the goals of WFD, collaboration between different water use sectors is needed. According to preamble 14 of the WFD: ''The success of this Directive relies on [. . .] information, consultation and involvement of the public, including users''. Several provisions of the WFD refer to public participation. There can be distinguished five PP requirements from the WFD (Drafting group on PP, 2002; Harmonicop 2005), which are represented in Figure 2.4.

2.1.12 Strategies for harmonising the implementation of the WFD

In 2001, EU established the Common Implementation Strategy (CIS) for the implementation process of the WFD. (Common Implementation Strategy for the Water Framework Directive (2000/60/EC). The purpose of the strategy is to produce guidance on the key activities, recommendations and other supporting information. The CIS focuses on methodological questions of technical and scientific implications of the WFD. As a result of implementing the strategy, altogether 11 Guidance Documents on key aspects of the WFD were produced (http://forum.europa.eu.int/Public/irc/env/wfd/library?l=/framework_directive/guidance_documents). The Guidance Documents are informal and legally non-binding, but they are seen as a common understanding about how the WFD should be implemented.

1. The WFD contains a general requirement to encourage ''active involvement'' in the implementation of the directive (art. 14, first sentence).
2. The WFD requires three rounds of written consultation in the planning process (art. 14, second sentence).
3. Input of the public needs to be collected and processed and needs to be taken seriously (Annex VII, point A9).
4. Access has to be given to background information (art. 14, Annex VII, point A 11).
5. Additional forms of public participation are not legally required, but

Figure 2.4 The requirements to the public participation in WFD

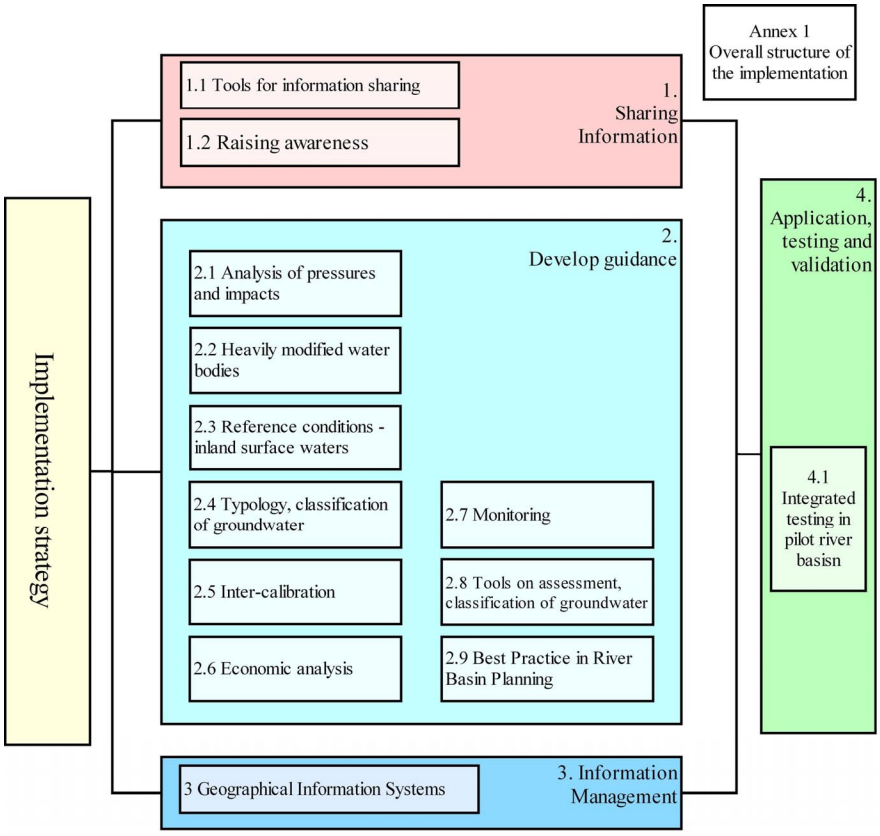

Figure 2.5 The overall structure of the Common Implementation Strategy. (Common Implementation Strategy for the Water Framework Directive (2000/60/EC) 2001).

2.2 Relations Between WFD and Related Directives

In this chapter, the directives and decisions directly related to WFD are shortly introduced. They are grouped in three categories. The first group is composed of those directives and major decisions, which will be repealed because of the WFD, due in year 2007 or 2013. Secondly, there is new legislation by which the European Commission has fulfilled an obligation under the Water Framework Directive which is supplemented to WFD. Thirdly, there is legislation mentioned directly in WFD (Annex VI). This legislation is composed of eleven directives specifying meas-

ures and regulations that should be included into the Programme of Measures, see Figure 2.8.

2.2.1 Legislation to be repealed

Next six Directives and a Council Decision will be repealed because of the WFD (see Figure 2.6). The first three will be repealed seven years and the next four thirteen years after the entry into force of the WFD - that is year 2007 and 2013. The legislation is listed and further described in Appendix A.

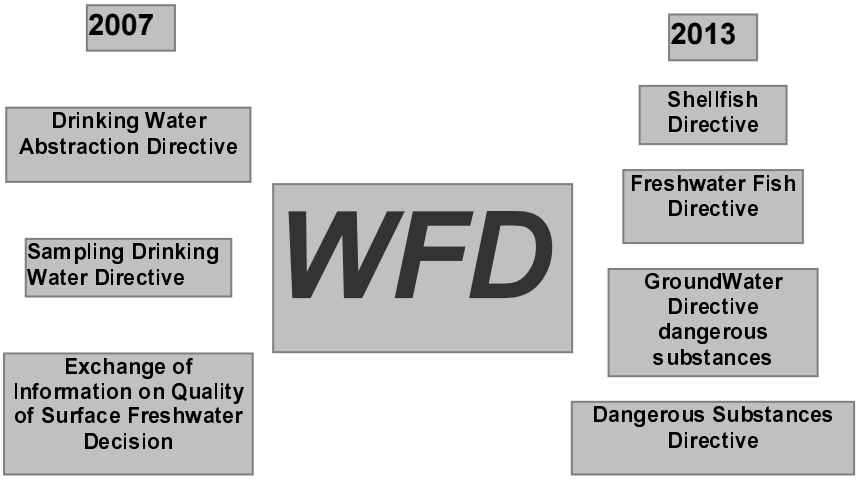

Figure 2.6 The Directives and a Council Decision to be repealed in the course of WFD implementation.

2.2.2 Daughter Directives and decisions of the WFD

The WFD sets up some obligations, which the European Commission have to fulfil, see Figure 2.7. The decision concerning priority substances is supplemented to WFD as its Annex X. The Commission has also proposed a new Directive to protect groundwater from pollution, which was adopted in 2003 (EC, 2003). This represents a proportionate and scientifically sound response to the requirements of the WFD related to the assessment of the chemical status of groundwater and the identification and reversal of significant and sustained upward trends in pollutant concentrations.

As envisaged by the Commission and confirmed in the Council conclusions, the development of RBMP under the WFD and of flood risk management plans are elements of integrated river basin management. A new directive on flood risk management has recently been proposed by the European Commission (EC 2006). For further description of legislation, see Appendix B.

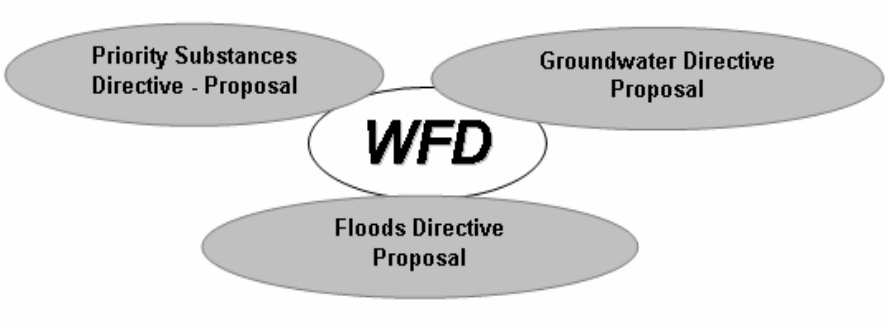

Figure 2.7 Legislation and proposals developed following obligations in WFD

2.2.3 Directives included in the Programme of Measures

There are eleven directives that include measures and regulations that should be included into the Programme of Measures (see Fig. 2.8), which all Member States must produce for each RBD nine years after the date of entry into force of the WFD (Annex VI). The directives address different parts of the strategic management framework: some of them concern the regulation of pressures on water, some quality of water and some protection of biodiversity in relation to water related measures. There is also some reform of legislation after WFD, which concern these directives. All the directives, as well as the amendments are listed with links in Appendix C.

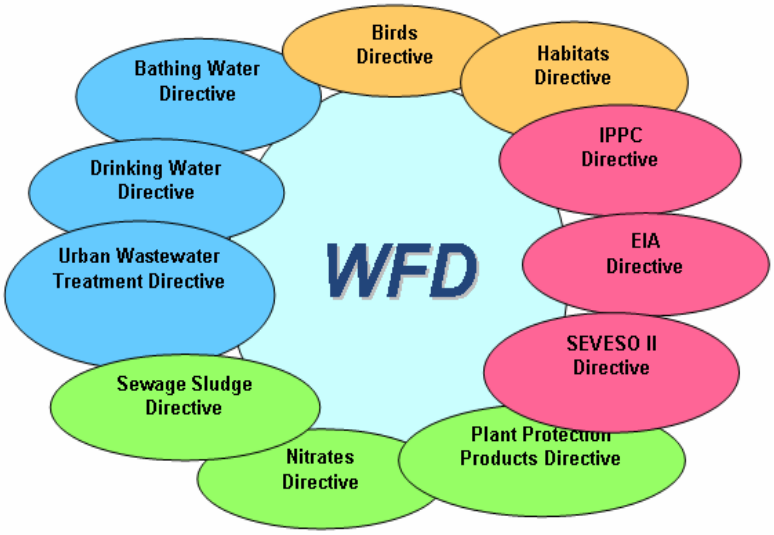

Figure 2.8 Directives containing measures included in the Programme of Measures. Blue: water related directives, orange: protection of biodiversity in relation to water related measures, green: other pressures related directives.

The legislation described in this chapter is directly related to the WFD. There is, however, much European legislation being developed outside the framework of water management, that nevertheless influence heavily on pressures on water. In the next chapter this legislation will be introduced.

3 Overview of the EU Policies with Implications for Spatial Planning and the WFD

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3.1 Introduction

European policies and legislation also affect the development of water quality and quantity in ways, which are less integrated in the water legislation than was the case with the legislation described in chapter 2.This chapter aims to address these relations. This is especially relevant in sector policies, which may affect the status of water upon implementation of the Water Framework Directive (WFD). As the management of water through the WFD has a strong spatial approach, through utilization of water management plans for river basins, we will emphasise the policies affecting land use and management, and moreover look at the ways EU addresses spatial aspects in general. The sector policies and related legislation are not directly inscribed in the WFD. Consequently, we will also discuss how environmental objectives related to water may be addressed in the development of these policies (Environmental integration).

3.2 Spatial Aspects of Policies

The EU does not have the legal authority or competence to undertake land planning and therefore land use planning is performed at national and sub-national levels (Goldschmidt 2004). Moreover, in most cases, the objectives of EU policies do not have a spatial planning character (EC 1999). However, in the beginning of the 1980s, this aspect of policy began to get more attention since the movement to address the barriers to the competitiveness of Europe caused by national boundaries has spatial implications. In recognition of this, the European Spatial Development Perspective (ESDP) agreed at the Potsdam Council Meeting in May 1999, with its 12 implementing actions submitted at the Tampere Council Meeting in October 1999, was developed to help EU Member States understand those implications better and as a way to consider the role of spatial planning in enhancing competitiveness and achieving regional balance.

3.2.1 The European Spatial Development Perspective

The VASAB initiative (Vision and Strategies around the Baltic Sea 2010) has inspired the "Baltic Sea Region Initiative" of the European Commission. Having been the first trans-national document of that kind, the VASAB2010 report (1994) has influenced other trans-national spatial planning documents. This applies in particular to the "European Spatial Development Perspective", and to the "Guiding Principles for Sustainable Spatial Development of the European Continent" (2000) prepared in the

framework of European Conference of Ministers responsible for Regional Planning (CEMAT).

The Ministers responsible for Spatial Planning in the Member States of the European Union and the European Commission responsible for Regional Policy agreed at the Potsdam Council that the aim of spatial development policies is to work towards a balanced and sustainable development of the territory of the European Union ensuring three fundamental goals (EC 1999):

- Economic and social cohesion.

- Conservation and management of natural resources and the cultural heritage.

- More balanced competitiveness of the European territory.

Therefore the objective of the European Spatial Development Perspective (ESDP) is to define policy objectives and general principles of spatial development of the European territory at EU level that respect its diversity. The Perspective acts also as a policy framework for sector policies of the Community and the Member States that have spatial impacts, as well as in guiding regional and local authorities.

The spatial development guidelines of ESDP in respect of the promotion of sustainable development are as follows (EC 1999):

- Development of a polycentric and balanced urban system and strengthening of the partnership between urban and rural areas. This involves overcoming the outdated dualism between city and countryside.

- Promotion of integrated and communication concepts, which support the polycentric development of the EU territory and are an important precondition for enabling European cities and regions to pursue their integration into EU. Parity of access to infrastructure and knowledge should be realised gradually. Regionally adapted solutions must be found for this.

- Development and conservation of the natural and the cultural heritage through wise management. This contributes both to the preservation and deepening of regional entities and the maintenance of the natural and cultural diversity of the regions and cities of the EU in the age of globalisation.

A key component of the ESDP is the European Spatial Planning and Observation Network (ESPON) created in 2002 under the framework of the Community Initiative INTERREG III. It serves 2 purposes: to harmonise key planning and development databases across Europe; and to build up networks and contacts for spatial planning and research community that can be connected on regular basis to the policy-making community (Goldschmidt 2004).

Moreover, the European Commission is preparing a proposal for a framework Directive and related policy for the establishment and opera-

tion of an Infrastructure for Spatial Information in Europe (INSPIRE) (MILUnet 2004).

3.2.2 Spatially integrating policy frameworks in water management

A central objective of the WFD is to improve integration between environmental, economic and social aspects of water management, striking a balance between the often competing claims. This requires more effective coordination between water management institutions and other institutions such as for spatial planning, nature protection and land use (Kujath 2001).

Therefore, the above mentioned integration of frameworks, such as the "European Spatial Development Perspective" (ESDP), "Spatial Development Action Programme" of VASAB 2010 for the Baltic Sea Region and "Guiding Principles for Sustainable Spatial Development of the European Continent" (2000) of the European Conference of Ministers responsible for Regional Planning (CEMAT), can be considered as the most important of spatial planning frameworks relevant in river basin management. These frameworks are very similar in terms of their goals and tasks and therefore the further description of their relations to river basin management is not going to be discussed separately.

In addition to these frameworks, several sector policies important for spatial planning have an impact on river basin management. The most important policies include urban and rural areas' policies together with Structural Funds, Common Agricultural Policy and Trans-European Network Policies. ESDP stresses the water resource management as a special challenge for spatial development. It recognises that "*it is necessary to co-operate across administrative boundaries in the field of water resource management, for example in large river valleys, of flood protection, of drought prevention and of ground water and wetland protection*", and that "*policies for surface water and ground water must be linked with spatial development policy*". ESDP states that "*spatial and land use planning could make a decisive contribution towards the improvement of water quality*" and for that reason "*the impact of large water exploitation related projects should be examined through territorial and environmental impact assessments*".

The intention of WFD is to facilitate management planning that transcends national boundaries. This demands far-reaching co-ordination between all the parties involved, and the success of the WFD depends crucially on a willingness to co-operate beyond regional and national boundaries. The European Spatial Development Perspective could therefore provide an important contribution in the field of cooperation between Member States as a basis for a continued dialogue and for the development of strategies towards a further integration of policy areas (Janssen 2004).

3.3 Main Policies with Spatial Implications

Treaties like Single European Act, Maastricht and Amsterdam Treaties have led to the territorially significant sector policies of the EU having a stronger influence on the elaboration and implementation of national and regional spatial development policies and thus on spatial develop-

ment of the EU (EC 1999). There are 8 main policy areas in which EU actions influence spatial development (Goldschmidt 2004), and these are as follows:

- Community Initiatives: Encouraging cross-border, trans-national, and interregional cooperation (INTERREG III); Encouraging sustainable development of cities and declining urban areas (Urban II); Encouraging rural development through local initiatives (Leader+); Combating inequalities and discrimination in access to the labour market (Equal)

- Structural Funds: European Social Fund; the Financial Instrument for Fisheries Guidance; the Guidance and Guarantee Fund; and the Cohesion Fund

- Competition: Community Competition Policy

- Transport: Trans-European Network Policies (TEN), which have the most fundamental impact on spatial development

- Agriculture: Common Agricultural Policy (CAP)

- Energy: Community strategy and Action plan for renewable energy

- Environment: e.g. the protection of plant and animal species and habitats and the Natura2000 network, forest conservation, soil conservation, agro-environmental indicators,; Directives on environmental impact assessment (EIA) and strategic environmental assessment (SEA) etc.

- Water resources: e.g. the water framework directive, with its emphasis on management of catchments, etc.

In each of these areas, there are *incentives* – such as INTERREG (IIIA, IIIB and IIIC) in regional policy, or various types of subsidies in agriculture, and there are *regulations* – such as water quality standards that discourage intensive agriculture, or trade liberalisation policies that encourage competition (Goldschmidt 2004).

3.3.1 Selected policies

The European Commission (EC) promotes the sustainable development of **urban areas**. To this aim the EC published a communication "Towards a thematic Strategy on the urban environment" in 2004, which adopts an ecosystems approach. This Strategy is part of the Sixth Environmental Action Programme of the European Community and it builds on current community initiatives, such as EMAS (Environmental Management & Audit Schemes), which enables organisations, including local authorities to analyse their direct and indirect impacts on the environment, such as land use planning decisions (MILUnet 2004).

The communication emphasises the need to integrate horizontally urban environment into other environmental thematic policies such as land, air and water by developing an urban focus in these, as well as in sector policies. Vertical integration between different policy levels is also de-

manded. Moreover, in the communication the WFD and the river basin process is recognized as a point of departure for developing a recommendation on how local authorities can implement sustainable management of water (EC 2004).

A further policy measure that needs to be considered is the application of **Structural Funds**. This measure follows the objective of economic and social cohesion and offers the opportunity to design integrated development plans (EC 1999). The Structural Funds Regulations and Guidelines for the period 2000-2006 set out a need for adopting sustainable approaches for the usage of urban land, including prioritization of "rehabilitation of derelict industrial sites (brown fields) over the development of green field sites" (MILUnet 2004). Inter-sectoral measures are required to counteract the concentration of social problems, environmental damage, crime and economic decline in certain urban areas (EC 1999). The integrated approach is further reinforced by the principle of partnership, which mobilises, according to national rules and current practice, all relevant regional players in the decision-making process. Due to the integrated approach towards spatial development, the Community initiative INTERREG is an important structural fund measure in relation to water management.

Europe is famous for its unique rural landscapes that represent a rich cultural and natural heritage and a tradition of mixed uses. Regionally differing farming practices have led to a variety of agricultural habitats that host a large number of plant and animal species and a wide range of recreational facilities. In line with this, VASAB 2010, which has as one of the key themes the topic "Development of trans-national green networks, including cultural landscapes", provides new concepts to secure the diversity of ecosystems, emphasising larger-scale management together with a regional approach. It is similar to one of the three policy guidelines of ESDP, namely, "Sustainable development, prudent management and protection of nature and cultural heritage". This approach seeks to make use of the positive mutual impacts on bio-diversity, of areas with different (or similar) nature protection status. At the same time, it seeks to develop sustainable sources of human economic activities. This in turn may help to maintain cultural landscapes, which contribute to nature protection (VASAB 2010). The need for measures preventing the loss of high nature value farmland is widely acknowledged, and its conservation is an explicit objective in the framework of EU **Rural development policy**. These objectives are interacting with the WFD in several ways. The policy of rural development supports the protection of environmentally sensitive areas, including areas with drinking water extraction. Moreover the provisions in the WFD demands a list of protected habitats, which are sensitive to water status, and thereby interacts with the **Habitat directive** (Council Directive 92/43/EEC), as characterized in chapter 5.

At EU level, the **common agricultural policy** (CAP) is probably the most important policy framework in regard to green space outside cities. It is primarily designed to improve the productivity of agriculture, but includes other environmental protection through a set of cross-compliance rules. Studies on the spatial impact of the CAP on incomes, labour market, infrastructure and natural resources reveal the close and specific relationship between agriculture and the countryside. In this respect CAP

determines the development of many rural areas. The intensification, concentration and specialisation of production in agriculture also has negative effects on spatial development – monotonous landscapes, abandonment of traditional management methods, the use of large areas of wetland, moors and natural rough pasture, pollution of ground water by increased use of pesticides and fertilisers, and reduction in biological diversity. Here, new opportunities and prospects are being promoted in terms of development and marketing of high-quality products, agricultural tourism and investment projects related to the environment which all have to be considered in managing river basins (EC 1999).

EU policy on renewable energy aims to increase the share of energy supply originating from renewable energy to 12% of the need of energy in 2010. A number of directives have been introduced following this strategy, among which the directive on the promotion of electricity produced from renewable resources (Directive 2001/77/EC) and the directive on the promotion of bio-fuels (Directive 2003/30/EC) are important to assess in terms of integration with water issues. A recently published Action Plan for bio-energy sets targets for the share of biomass for energy production to around 7% of the need. This can be obtained by land use changes in agriculture and forestry, of which the implications for water quality and quantity (increased or decreased use of pesticides, fertilizer and irrigation) need to be assessed in concrete contexts. Moreover, the renewable energy policy also targets the small hydropower schemes, aiming at an increase in 2010. These of course also interfere with the water quality targets due to their establishment of artificial water bodies (dams).

3.3.2 Links between ESDP/ICZM

In recent years, two major policy lines have come to the fore. Firstly, environmental objectives must be systematically integrated into economic development. Secondly, territorial and regional planning aspects must be taken into account at the European level in a spirit of subsidiarity and cooperation (See web site on ICZM).

From 1996 to 1999, the Commission operated a Demonstration Programme on Integrated Coastal Zone Management (ICZM), which was intended to lead to a consensus regarding the measures necessary for stimulating ICZM in Europe. In 2000, based on the experiences and outputs of the Demonstration Programme the Commission adopted two documents:

- A Communication from the Commission to the Council and the European Parliament on "Integrated Coastal Zone Management: A Strategy for Europe" (COM/00/547 of 17 Sept. 2000), and

- A proposal for a European Parliament and Council Recommendation concerning the implementation of Integrated Coastal Zone Management in Europe (COM/00/545 of 8 Sept. 2000).

This Recommendation was adopted by Council and Parliament on 30 May 2002 having the objective to promote a collaborative approach to planning and management of the coastal zone, within a philosophy of governance partnership with civil society. The Strategy defines the role

of EU as one of providing leadership and guidance to support the implementation of ICZM by Member States, at local, regional and national level.

Several links can be drawn between the Integrated Coastal Zone Management and European Spatial Development Perspectives:

- The work on the European aspects of regional planning, in particular the Commission Communication "Europe 2000+" and the preparation of a European Spatial Development Perspective, confirmed the need to devote particular attention to the fragile environment of coastal zones bearing also in mind the close connection with river basin management.

- Both recognise the fact that problems are of a European dimension and cannot possibly be solved by the Member States separately. This is the case for example in issues such as common natural and cultural heritage, transfers of pollutants and sediments, tourist flows, maritime safety and many others. ESDP sets the policy option of promotion of trans-national and interregional co-operation for the application of integrated strategies for the management of water resources, including larger ground water reserves in areas prone to drought and flooding, particularly in coastal regions (EC 1999).

- The need for an exchange of experience and know-how in a field where successes are still rare and where there is substantial public and political demand for the conservation of the coastal zones and their sustainable development.

As earlier outlined in this document, recognition of the influence of the European Union policies and action on the development of the coastal zones (regional, transport, fisheries, environment, agriculture, energy and industrial policy) is essential in order to holistically promote river basin management. Indeed, one can go further and say that without mutual consideration, neither aims (i.e. coastal zone management and river basin management) can be achieved.

ESDP states that Coastal areas have been recognised as deserving special attention since they are, in part, subject to intensive pressures and conflicts between competing land uses. Additionally, the Communication from the Commission to the Council and the European Parliament on a European Community biodiversity strategy states that spatial development can play an important role in the conservation and sustainable use of biodiversity at local and regional level. Even though strict protection measures are sometimes justified, it is often more sensible to integrate protection and management of the endangered areas into spatial development strategies for large areas.

Therefore ESDP raises the policy option of preparing integrated spatial development strategies for protected areas, environmentally sensitive areas and areas of high biodiversity such as coastal areas, mountain areas and wetlands. This balances protection and development activities on the basis of territorial and environmental impact assessments and involving the partners concerned (EC 1999).

Finally, one policy option involves the support of effective methods of reducing uncontrolled urban expansion and reduction of excessive settlement pressure, particularly in coastal regions. ESDP states that the Member States and regional authorities should pursue the concept of the "compact city" (the city of short distances) in order to have better control over further expansion of cities. This includes, for example, minimisation of expansion within the framework of a careful location and settlement policy, as in the suburbs and in many coastal regions. For this purpose co-operation between the city and the surrounding area must be intensified and new forms of reconciling interest on a partnership basis must be found (EC 1999).

4 Ancillary Legislation Related to Water Management

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4.1 Introduction

In chapter 3 it was described how EU policies – especially those of regulating sectors – may develop in isolation from environmental objectives thereby excluding e.g. the objectives set under the Water Framework Directive. EU has, however, also developed policies for Environmental Policy integration, and implemented legislation for facilitating this integration (EEA, 2005).

This chapter concerns the policies, which may help integrating the water management objectives of the WFD into other EU policies. One obvious part of this legislation is the SEA directive implemented in 2004, which asks for impact assessment of plans and policies. Moreover, consultation and participation procedures play an increasing role in policy development and implementation.

4.2 Impact Assessment

The Council Directive, which was passed on 27 June 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment (85/337/EEC) was adapted only in 1988. The Directive 97/11/EU amended the previous document and constitutes a basic instrument, which is preventive in character. The main objective of the Directive is the requirement that prior to issuance of a permit for investment or other undertaking, which might cause substantial negative impact on the environment, it is necessary to subject to the procedure on environmental impact assessment (EIA).

The Environmental Impact Assessment (EIA) is one of the primary tools for counteracting further degradation of the environment and deterioration of the quality of human life. The main aim of EIA is the inseparable treatment of environmental protection and of all kinds of processes connected with economic development and spatial management for securing harmonious coexistence of man and nature, respecting the development and environmental needs of the future generations.

EIA is a process, which in a systematic and complex manner, through a set of procedures, collects and analysis the information on a planned economic activity and draws conclusions related to the expected impact of the operation on the environment. Thus it creates a basic material for the decision-making process of local authorities. The EIA process consists of a number of processes, starting from the initiative of the investor and ending with the issuance of a decision. All information, analyses and conclusions, together with necessary annexes and documents, are collected in one assessment, which is prepared in conformity with the pro-

visions of the legal regulations in force. Such an elaboration is also known as a report on "environmental impact assessment".

In 2004 the EU Member States implemented the directive on Strategic Environmental Assessment (2001/42/EC). This is a formalised, systematic and comprehensive process, identifying and evaluating the environmental consequences of proposed policies, plans or programmes to ensure that they are fully included and appropriately addressed at the earliest possible stage of decision-making, while on the same time taking into account economic and social considerations.

The public and environmental authorities can give their opinion and all results are integrated and taken into account in the course of the planning procedure. After the adoption of the plan or programme the public is informed about the decision and the way in which it was made. In the case of likely transboundary significant effects, the affected Member State and its public are informed and have the possibility for making comments which are also integrated into the national decision making process. SEA contributes to a more transparent planning by involving the public and by integrating environmental considerations in other policy areas.

The SEA directive covers plans and programs within sectors and additionally set the framework for future projects covered by the EIA directive. It is currently discussed whether river basin management plans and programs of measures fall under the category of plans to be addressed by the SEA; this must be decided case by case (EC, 2003, p.49).

4.3 Participation

4.3.1 The Aarhus Convention

In 1998 the UNECE Aarhus Convention (ECE/CEP/43) was adopted. Its objective is to guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters.

According to the Convention public authorities are obliged to:

- respond to a request for environmental information
- make such information available to the public,
- collect and update such information, and
- promote public participation in preparing plans and programs, which are of significance to the environment as well as during the preparation of executive regulations and/or generally applicable legally binding normative instruments.

The Aarhus Convention is a new kind of environmental agreement, as it goes to the heart of the relationship between people and governments. It links environmental rights and human rights, and recognizes that sustainable development can be achieved only through the involvement of

all stakeholders. It moreover links government accountability with environmental protection.

EU has responded to the requirements of the convention by updating existing legislation of the Member States and also to its own institutions.

4.3.2 The Directive on Free Access to Information on Environment

The follow up on the Aarhus convention is firstly the directive on Public access to environmental information (2003/4/EC), which is extending and substituting the existing directive on the same issue, and which has been in place since 1993 (90/313/EEC). The purpose of the Directive is to ensure freedom of access to information on the environment held by public authorities and to set out the basic terms and conditions on which such information is to be made available. An important aspect of the new directive is that authorities are obliged to actively disseminate information concerning the environment.

The starting-point of the Directive is that environmental issues are best handled with the participation of all concerned citizens at the relevant level. Public awareness and involvement depends above all on public access to information, and by making provision for improved access to information on the environment, the Directive contributes to an increased awareness of environmental matters and so to improved environmental protection.

4.3.3 The Directive on Public Participation

The other important piece of legislation following the Aarhus convention is the Directive on public participation (2003/35/EC). It obliges Member States to involve the public in the drawing up of certain plans and policies, and it amends already existing policy in these matters (85/337/EEC and 96/61/EC). These issues are already implemented on other existing legislation such as the SEA directive mentioned above and of course also in the Water Framework Directive.

While the access to environmental justice is to some extent covered by the two directives mentioned above, a new directive is being proposed aiming at fully integrating the Aarhus convention onto European law (EC, 2003).

4.4 Other Relevant Legislation

4.4.1 The Helsinki convention on trans-boundary watercourses and international lakes

This convention was signed in 1992, and entered into force in 1996. It establishes a framework for cooperation between the member countries of the United Nations Economic Commission for Europe on the prevention and control of pollution of trans-boundary watercourses by ensuring rational use of water resources with a view to sustainable development. The convention was approved in a decision by the EU in 1995, and a later protocol on Water and Health was proposed by the Commission in 2001.

This protocol will ensure:

- the supply of wholesome drinking water;
- sanitation to protect human health and the environment;
- effective protection of water resources and their related ecosystems;
- safeguards for human health against water-related disease;
- systems for monitoring situations likely to result in outbreaks or incidents of water-related diseases and for responding to such outbreaks and incidents.

4.4.2 Helsinki Convention II

The Convention on protection of the Marine Environment of the Baltic Sea Area, signed in 1992, is also known as the Helsinki Convention II. It is an international agreement referring to protection of the marine environment of the Baltic Sea, and it is a follow-up on the first Helsinki convention signed in 1974.

Box: Fundamental principles and obligations of the first Helsinki Convention

1. The Contracting Parties shall individually or jointly take all appropriate legislative, administrative or other relevant measures in order to prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea Area.

2. The Contracting Parties shall use their best endeavours to ensure that the implementation of the present Convention shall not cause an increase in the pollution of sea areas outside the Baltic Sea Area.

The second Helsinki Convention confirms the need to implement the principles of 1974, while additionally introducing new principles in achieving environmental protection processes and international cooperation, such as the use of the best available ecological practice, the best available technology and the polluter pays principle. The convention formulates also duties of contracting parties to provide public access to information on the state of the marine environment of the Baltic Sea and neighbouring areas.

EU acceded to these conventions through the agreement on two decisions in 1994 (94/156/EC and 94/157/EC).

The parties must

- undertake to ban the use of a series of hazardous substances,
- take all appropriate measures and work together to control and minimise pollution from land-based sources,
- take a series of measures to protect the Baltic Sea area against pollution linked to spillage of hydrocarbons and other harmful substances and the discharge of waste water and sewage from ships.

4.4.3 River Basin Commissions

Several river basin commissions exist in relation to major rivers, lakes and seas, whose catchments fall within the territory of more than one country. Two of those are within the interest area of the Watersketch project. One is The International Commission for Protection of Odra (ICPOAP) river against Pollution signed in 1996 in Wroclaw by the government of Poland. The objectives of the ICPOAP are:

- Prevention and permanent reduction of polluting the Odra River and the Baltic Sea with harmful substances.

- Achieving the most natural aquatic and littoral ecosystems possible with the corresponding species diversity.

- Making it possible to use the Oder, mainly to achieve drinking water from infiltration shore intakes and to use of its water sediments in agriculture.

- Flood controlling together with liquidation of flood damages and the mutual system of early warning.

- Coordinating of implementation of the Water Framework Directive in the Oder river basin.

The International Commission on the Protection of the river Elbe (IKSE) was signed in 1990, by Germany, The Czech Republic and The European Union. The main objectives are:

- To make possible the use for all purposes from drinking water to the agricultural use of water and sediment.

- To obtain a nature-like ecosystem with healthy species diversity.

- To reduce the pollution from the Elbe river outlet to the North Sea.

Thus, the international conventions set up frameworks for countries to deal in cooperation with transboundary water issues.

5 Relationships Between the Water Framework Directive and Other EU Legislation and Policies

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The crosscutting analysis in this chapter will focus mainly on the legislation, which has been described in the former chapters 2, 3 and 4. The aim is to identify the relationship between the different directives, possible conflicting measures in the legislation as well as areas of mutual support. Moreover, we will identify potential weaknesses in the water management set-up and point at possible tools for addressing these weaknesses.

Firstly we analyse the legal status of the above-mentioned directives and policies in order to categorise the legal instruments into binding and more facultative legislation. Secondly, we will compare the contents of the various legal instruments in order to identify potential contradictions in the EU legislation and give some examples on how the above-mentioned legislation could conduct the development into the same direction by giving mutual support. Finally, we will provide remarks about institutional issues of integration of different policies in a spatial context.

5.1 Common Measures in Water Related Legislation

5.1.1 Legal status of Directives and Policies

The European Union uses various kinds of legal instruments with their own status as well as legal implications. *Regulations* are directly applicable and binding in all EU Member States without the need for any national implementing legislation. *Directives* bind Member States to the objectives to be achieved within a certain time limit, while leaving the national authorities the choice of form and means to be used. Directives have to be implemented in national legislation in accordance with the procedures of the individual Member States. *Decisions* are binding in all their aspects for those to whom they are addressed. Thus, decisions – like the *Regulations* - do not require the Member States to implement the legislation. A *Decision* may be addressed to any or all Member States, to enterprises or to individuals. *Recommendations* and *Policies* are not binding but should be considered as an encouragement from the Commission to the Member States. Recommendations and Policies are often forerunners of real legal frameworks like Directives, but in some occasions the Council or Parliament are not able – due to disagreements among the Member States – to approve the Directive. *Recommendations* and *Policies* are likewise used on issues outside the core of the EU co-operation.

The legal form of Directives like the *Water Framework Directive*, the *Habitats Directive* and the *Directive on Renewable Energy* is binding for the EU Member States. Opposite to the Directives, various recommendations

and implementation of policies like the *Recommendation on Integrated Coastal Zone Management* (ICZM) and the *European Spatial Development Perspective* (ESDP) are optional for the Member States.

5.1.2 Mandatory level of management Plans

Concerning Directives, some use stricter measures than others. Thus setting up of a detailed management plan is mandatory within the Water Framework Directive (Article 13), and in order to enhance the accountability to the citizens, the Member States are encouraged to facilitate the active involvement of all interested parties in the implementation of this Directive. This is particularly related to the production, review and updating of the river basin management plans (Article 14). The strictness of the Water Framework Directive is furthermore stressed by setting precise time schedules for the various steps in the implementation of the Directive (Article 4), as explained in chapter 2, thus providing for a continued planning process with fixed, recurrent tasks in a 6 years planning cycle.

The Habitat Directive also operates through management plans, but although its legal status – as a Directive - is high, the requirement for setting up a management plan is more facultative (Article 6). This article of the Habitat Directive plays a crucial role in the management of the sites that make up the Natura 2000 Network. Part 1 of article 6 says '*For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans…'.* The words 'if need be' indicate that management plans may not always be necessary. If a Member State chooses to produce management plans, it will often make sense to establish them before concluding the other measures mentioned in Article 6. The phrase **'***integrated into other development plans*' is in conformity with the principle of integration of the environment in the other Community policies. Integration of River Basin Management Plans and nature conservation plans is thus an issue to be considered.

The *Recommendation on Integrated Coastal Zone Management* is not legally binding, but the Member States are seriously encouraged to provide a legal and statutory framework adequate to enable implementation of ICZM at all levels of administration (EC 2000). Furthermore, establishing integrated management plans considering both the marine and terrestrial portions of the coastal zone, as well as the river basins draining into it would be mandatory for achieving the overall goal of Integrated Coastal Zone Management. As stated in the Commission Communication:

> "In implementation of the proposed Water Framework Directive, the Commission will need to work with the Member States to articulate links between river basin plans and other spatial planning for the target area, including any coastal zone plans or structural fund plans" (EC 2000).

The European Spatial Development Perspective has no legal status compared to the Directives, but it has at least some impact on spatial planning in the Member States. Additionally, the principles and goals set up by ESDP have shaped much of the ongoing research into strategic devel-

opment planning, including initiatives such as INTERREG and LIFE programmes. Integrated management and planning is a cornerstone in the European Development Perspective but only as overall visions – it contains no precise guidelines for doing this (EU, 1999).

The production of management plans may thus be a tool to ensure that measures decided for achieving one environmental goal do not conflict with others. Due to lack of sufficient improvements in environmental management, alongside increased productivity in agriculture as well as urbanisation and utilisation of the coastal zone for tourism and settlement, these issues are increasingly viewed in a spatial planning perspective, including issues of vulnerability and robustness. Obviously, this is related to both urban planning and general land use planning, and the institutional set-up for handling these aspects should be considered together.

5.1.3 Public Participation

Following the Aarhus Convention, to which EU became a party in 2005, consultation and participation procedures play an increasing role in policy development and implementation. Also, the public participation is important because it is a good way to reveal the disharmonies of different policy sectors and management plans (Janssen 2004).

The Water Framework Directive explicit public participation procedures in relation to work programmes for river basin management plans as well as the draft management plans, but no separate participation procedure is required for the Programme of Measures directly. However, public participation that is required for specifying the significant issues of water management in the river basin by 2007 may influence the selection of Programme of Measures. The Habitat Directive, on the contrary, does not explicitly mention a public consultation phase, but setting possible management plans should be accompanied by a public consultation according to the Aarhus Convention.

Participatory planning is emphasised in the recommendation on ICZM. Thus, incorporating the perspectives of all relevant stakeholders (including maritime interests, recreational users and fishing communities) into the planning process will help to ensure identification of real issues, harnesses local knowledge, and builds commitment and shared responsibility. It can reduce conflict among stakeholders and generate more sustainable solutions. Even information campaigns to convince certain stakeholders of their personal interest in the participation process are mentioned in the ICZM recommendation (Annex 1 article 6).

Public involvement is in the European Spatial Development Perspective only mentioned as phrases like ‘comprehensive public support is a necessary prerequisite for the effective application of the spatial development policy approach’ and ‘these problems require a broadly-based public debate, since only a broad awareness of the issue among the population can ensure the sustainable use of water resources’.

The impact assessment procedures of EIA and SEA are on the contrary both quite clear on the issue of public participation, which is stated al-

ready in the objectives of the directive, and for which clear directions are given in the legislation.

5.1.4 Designation of areas

Several directives make use of designations of areas for special protection, for instance by pointing out vulnerable zones in relation to nitrate emissions or sensitive areas for urban waste water pollution. Natura 2000 sites are areas protected by the Habitats directive, while bathing water and fish water may also be protected by spatial designations.

The Water Framework Directive establishes a register of areas requiring special protection in terms of protecting ground water or surface water, or due to habitat protection for habitats or species, which are directly depending on water. This covers most of the above mentioned designations, thus making a summary of protections in relation to water.

5.1.5 Comparison of measures

A summarised comparison of some measures used by various types of EU legislation in relation to water is presented in Figure 5.1. It is obvious that the Water Framework Directive is an essential tool for harmonisation of the water legislation and the procedures for introducing protected areas into other legislation and policy initiatives, as well as for harmonising public consultation and participation processes, which are increasingly introduced in EU legislation. If used consequently together with SEA obligations, other land use aspects are either integrated with the management plans or management plans take into account plans and programmes related to sector policies.

Cross cuttings	Legal status	Management Plan	Public consultation	Design. Areas
Water Framework Dir.				
Habitat and birds dir.				
ICZM recom.				
ESD Persp.				
Bathing water dir.				
Fish water dir.				
Drinking water dir.				
Nitrate dir.				
Urban waste water dir.				
IPPC				

Figure 5.1 Cross-cuttings between measures applied by various directives
Colour denotes strength of obligations: Darker tone means stronger obligation.

5.2 Integration of Water Objectives in Sector Policies and Vice Versa

Integration of environmental issues into sector policies is an EU priority, following the Cardiff process (EC 1998). The issues pertaining to the integration of future sector policies into the implementation of the WFD as

well as to the integration of water objectives into sector policies is here discussed departing in the examples of the Policy on Renewable Energy (EC, 1997), as well as the Common Agricultural Policy (EC, 2003), which both interact with water objectives.

5.2.1 Conflict potentials

Although the legislation originates from the same authority, i.e. EC, the objectives of various initiatives may in some cases contradict each other.

The objective of the Policy on Renewable Energy, which was laid down in a white paper in 1997 is to increase the supply of energy from renewable sources from 6% in 1998 to 12% in 2010. It is by now implemented in a directive on the promotion of electricity produced from renewable energy sources (EC, 2001), and in a directive on biofuels for transport (EC, 2003), while a heat and power directive is underway. Several renewable energy sources such as wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases will be involved in reaching this goal.

Small hydraulic power stations are one of the technologies, which should fulfil the supply targets, and this sector has grown on average 2% pr year, while the potential is stated to be much larger. Although hydropower generally is considered as a sustainable and renewable energy source, which plays a major role in electricity production, hydropower projects may have significant negative influence on the landscape and especially the rivers and their related eco-systems. This situation will inevitably lead to a conflict with the Water Framework Directive and its ecological orientated water policy. The same would apply to tidal energy technologies, which are, however, not competitive for the moment being. According to Haider (2003) the implementation of the Water Framework Directive will inevitably result in additional costs and probably restriction on operating hydropower plants. Regarding hydropower plants, one of the essential issues is the focus in the Water Framework Directive article 5 on the ecological and physical characteristics including river morphology. Thus the shape of the river bed and the adjacent zones are considered as protected, but according to article 4 of the WFD the Member States may designate a body of surface water as artificial or heavily modified water body under certain circumstances, among other related to the activities for the purposes of which water is stored, such as drinking-water supply, power generation or irrigation. In these circumstances is included evaluation of the costs, which would be induced if these should be achieved by other environmentally better options. So although the hydro-electricity sector is certainly concerned with the cost-effectiveness due to restrictions set up in the Water Framework Directive, the Directive actually pays attention to various sector interests - e.g. the hydropower industry.

The potential land use change, which may follow from larger emphasis on biofuel, may have implications for the intensity of and emissions from land use. In countries where competition for land is present, marginal land or set-aside land may be drawn into cultivation, which may again affect emissions, water use and habitats. These aspects are mentioned in the impact assessment on the EU strategy for biofuels (EC, 2006), but it is stated that no studies on the impact of energy crop production, taking

into account a farming systems approach are available. Currently there is no impact assessment available on the electricity directive.

Some of the same mechanisms apply to the Common Agricultural Policy. For the moment being intensive agriculture and the diffuse pollution it produces is one of the largest threats for reaching water objectives. While agricultural policies presently favour set-aside and extensification in marginal areas to some extent, biomass may be produced for energy on set-aside areas. While decoupling of payments and production was the general aim of the 2003 CAP reform, energy crops are one of the crops under specific support schemes. This may or may not affect water objectives, depending on the cultivation circumstances.

While new projects like hydropower plants will be exposed to an environmental impact assessment (EIA), and the involvement of the public through this, programs and plans implementing sector policies are not yet systematically carried through a strategic impact assessment. This implies that horizontal measures, which may affect general land use patterns substantially, are not yet evaluated against their impact on e.g. reaching water objectives

5.2.2 Mutual support

Despite the potential conflicts analysed above, many initiatives force the development in the same direction thus giving mutual support. Similarly, efforts of securing integration of policies have been made in recent legislation.

The most obvious support for the Water Framework Directive is given in the European Spatial Development Perspective (ESDP). As a topic under the policy aim "Wise Management of the Natural and Cultural Heritage", water resource management is considered a special challenge for spatial development. ESDP formulates the policy options for water resource management as follows:

- Improvement of the balance between water supplies and demand, particularly in areas, which are prone to drought.

- Development and application of economic water management instruments, including promotion of water-saving agricultural methods and irrigation technology in areas of water shortage.

- Promotion of trans-national and interregional co-operation for the application of integrated strategies for the management of water resources, including larger ground water reserves in areas prone to drought and flooding, particularly in coastal regions.

- Preservation and restoration of large wetlands which are endangered by excessive water extraction or by the diversion of inlets.

- Concerted management of the seas, in particular preservation and restoration of threatened maritime ecosystems.

- Strengthening of regional responsibility in water resource management.

- Application of environmental and territorial impact assessments for all large-scale water management projects.

The main contents of the water policy recommended in ESDP are actually implemented in the Water Framework Directive. For example, the requirement in the Water Framework Directive on the establishment of river basin management across administrative boundaries (including even boundaries between Member States) clearly gets support from ESDP by the second topic in the above list.

Even the Policy on Renewable Energy and the Water Framework Directive contains elements, which give mutual support to each other. Above we analysed the contradictions between the ambitions set up in the two Directives, but besides the protection-oriented part of the Water Framework Directive it also addresses the important topic of mitigating the effects of floods and droughts (Article 1). The construction of storage power plants is however able to reduce flood risks by wise and targeted reservoir management.

The main lever for securing sector integration of water objectives is, however, the SEA directive, as mentioned in chapter 4. The use of the SEA points in both directions: the potential use for assessment of Programme of Measures and river basin management plans, and the use on the plans and programmes implementing sector policies for assessing impacts on environmental objectives, such as water goals.

The community guidance on strategic impact assessment notes on the WFD:

> "It is not possible to state categorically whether or not the River Basin Management Plan (RBMP) and the Programme of Measures (PoM) are within the scope of the SEA Directive" (EC, 2003).

The crucial issue is whether the plans lead to future development consent of projects.

When the conditions are such that a SEA should be evoked for PoMs and RBMPs, the procedural linkages between SEA and WFD are clear, and could be activated with synergy in mind. Several requirements of WFD and SEA Directive could thus be met simultaneously: The collection of baseline data, the assessment of alternatives and options, the assessment of policies, the suggestion of mitigation measures, the development of monitoring procedures, the development of consultation and public participation procedures. This results in saving of resources, strengthening assessment procedures and generating a more holistic approach in management planning. (Carter and Howe 2006).

On the other hand, the obligation to use SEA on sector plans and programmes is not yet completely implemented, as legislation passed before the implementation of the SEA is exempted. This goes for instance for the EU regulations 1257/1999, which is the rural development support and 1260/1999, which is the structural development funds.

5.2.3 Institutional issues

As mentioned in the introductory chapter, the integration of objectives related to different policy areas may create problems for spatial fit and institutional interplay. The problem of institutional interplay may appear due to different boundaries and possibly different authorities of the administration of different environmental and other objectives, like landscape, habitats and water as well as designations for Environmentally Sensitive Areas in relation to agricultural policies, etc. To take advantage of the strong linkages between the legislation on impact assessment and environmental objectives (such as in WFD) calls for an institutional set-up, which is geared to respond to the need for a proper integration of these various targets. This is illustrated in Figure 5.2.

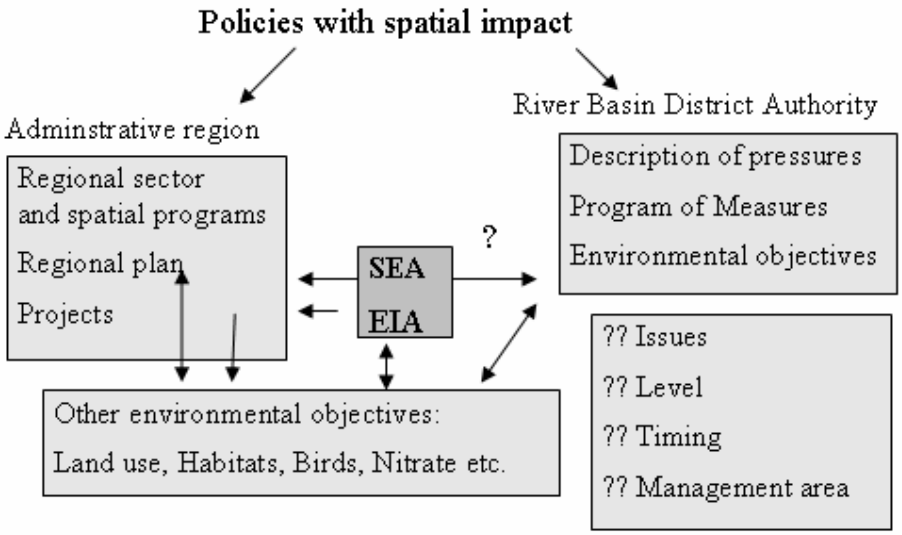

Figure 5.2 Interrelations between policies with spatial impact

There is a need to consider both the geographical level of administration in relation to different policies and the extent and overlap of the management areas. Moreover, the timing of the production of plans and the public consultation would benefit from coordination among institutions and departments, as well as forms and processes.

6 National Implementations of the Water Framework Directive in the Baltic Sea Region

6.1 Introduction

This chapter describes the national implementation of the Water Framework Directive (WFD) in the Baltic countries in terms of its legal basis and the appointed competent authorities. Moreover, is takes the first steps to analyze how integrated management is accounted for at the national level, and how the spatial and institutional set-up is related to the general spatial planning set-up. The approach used is the "spatial fit" and "institutional interplay" as perspectives in the analysis across countries, as described in the introduction.

6.2 Methods and data

In order to retrieve information on both the national implementation of the WFD and on the spatial planning process in the program partner countries and other Baltic Sea States, it was decided to produce a questionnaire to be answered by national authorities responsible for WFD implementation. The questionnaire was drafted around four main issues:

- The national legal basis of the WFD and the extent to which this specifically allows for various aspects of integrated management.
- The national river basin appointment, the size ranges and transboundary character of river basins and the institutional set-up related to the management.
- The general spatial planning process and the levels of development planning.
- The institutional responsibility of the river basin management plan (RBMP).

The draft questionnaire was sent to Watersketch WP1 Partners for comments and supplements. The revised version was then commented by the Danish Authorities, and after one more round of comments by Watersketch partners a final version was produced and delivered to the relevant authorities through the partners. The questionnaire is attached as Appendix D.

Moreover, with the double aim of disseminating information on the Watersketch programme and discussing water related issues with other Baltic Sea countries, as well as raising interest in the response to questionnaires, a one day seminar was conducted in Vilnius, the 1. April 2005. The seminar agenda is enclosed in Appendix E. The participants represented the Watersketch partners: Finland, Lithuania, Poland, Germany,

Denmark, as well as other Baltic Sea countries: Latvia and Estonia. In the Watersketch context, Hamburg represents the Baltic part of the federal state of Germany, but at the seminar a representative of Lower Saxony presented the German federal approach. All representatives from the invited countries gave presentations of the national implementation of WFD.

The third source of information was the WFD-CIRCA, which is the European Union Documentation Center for WFD implementation. Legislative texts as well guidance documents and presentations can be found here.

6.3 National Implementation of WFD

The analysis of the national implementations of the WFD is based primarily on the questionnaires and the seminar presentations, in a few cases supplemented with additional literature. The structure of each national case is based on following issues:

- Number and size range of River Basin Districts (RBD), including maps of their delimitation.

- Information concerning the law implementing the WFD: if new laws have been passed and if amendments to existing laws have been necessary. Moreover if the implementation of WFD has been legally coordinated with other environmental issues such as permits or implementation of other directives (e.g. habitat directive).

- Information concerning the competent authorities, possible decentralisation and relationship to existing institutional structures.

- Spatial planning procedure and possible interaction with the River Basin Management Plans.

6.3.1 Finland

In Finland, 8 River Basin Districts (RBD) have been established, including The Aaland Islands which is an autonomous province of Finland and two which are international. The size range of RBDs varies from 14587 km^2 to 83357 km^2, see Figure 5.1.

The implementation of the WFD was carried out through the passing of new water legislation (Act on Water Resources Management) in 2004 and with amendments to the Environment Protection Act and Water Act. Within these acts decisions on a permit application, which is being run through an environmental impact assessment procedure, will need to include statements on how the RBMP has been taken into account.

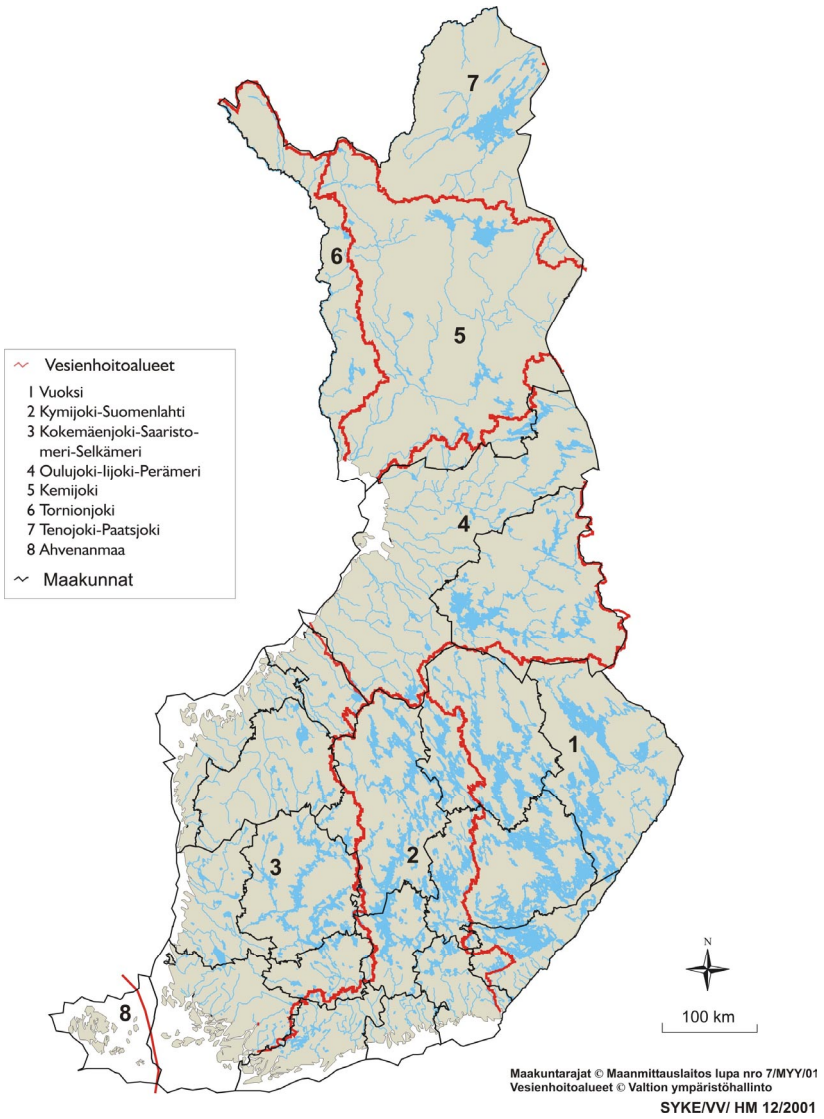

Figure 6.1 River Basin Districts and regions in Finland.

The Ministry of the Environment is the competent authority at national level. The competent authorities at regional level are the 13 Regional Environment Centres, which are decentralized state administrations. The Environment Centres are responsible for the River Basin Management Plans and practical implementation of the WFD. One RBD may contain more than one administrative Districts of Environment Centre, in which case the responsibility is shared with one centre in the lead (responsible for coordination). The Ministry of Forestry and Agriculture has been involved in the mapping of hydro-morphological pressures related to WFD article 5 analysis.

The spatial planning takes place at the regional and municipal levels, within the framework of national land use goals. There are 19 Regional Councils, which are statutory joint municipal authorities operating according to the principles of local self-government. The Regional Councils operate as regional development and planning authorities and are responsible for drawing up regional land use plans. There are more than 400 municipalities making local master plans defining land use patterns within the framework of the regional plans. Local detailed plans and shore plans are the most detailed plans. Master Plans are reviewed after

a maximum of 13 years, but once a year local authorities must draw up a review of all planning matters that are or will in the near future be pending on the local authority or regional council. The Regional Environment Centre controls all land use issues and conducts development negotiations on issues concerning the planning of land use. The regional plan must take notice of nature conservation programs or decisions based on the Nature Conservation Act as guidelines for the development plans. Moreover, the regional Environment Centres control municipal planning and construction within their respective regions. The land use legislation was not amended as a consequence of implementation of the WFD, but it is foreseen that the River Basin Management Plan is taken into account in regional plans and master plans because of the Environment Centres' active role in land use planning.

Regional Environment Centres create detailed plans for locating buffer zones and wetlands in selected catchments, which may be applicable as program of measures in the RBD. Currently, these plans are, however, suggestions to spatial planners and information to the farmer on his responsibilities if he receives CAP subsidies. Regional Environment Centres carry out also water monitoring in their area and inspect monitoring compliance of permit holders, which has influence for setting program of measures according to the WFD. Water quality problems connected to land use activities, such as e.g. commercial peat production, are likely to be addressed in cooperation with Regional Environment Centre, environment permit authorities and spatial planners. This may affect land use planning solutions such as considering whether a new commercial peat production area can be established.

A cooperation group for water management and eventually for forming the River Basin Management Plan is established in each RBD required by the new Act on Water Resources Management. This group includes representatives of the municipalities as well as water users. It is foreseen that the cooperation group carries out inter-linkage of water management and spatial planning supervision responsibilities belonging to the Regional Environment Centre with the authorities in municipalities and regional councils. In other words, this group secures cooperation between the Regional Environment Centres, municipalities and Regional Councils in water management and spatial planning solutions related to the River Basin Management Plan.

6.3.2 Lithuania

There are 4 river basin districts in Lithuania as shown in Figure 5.1. They are all international and have borders to non-WFD countries. Three of them are common with Latvia. The sizes of water basin districts are between 1221 km^2 and 49944 km^2 within the national borders (Charlton & Langas 2003).

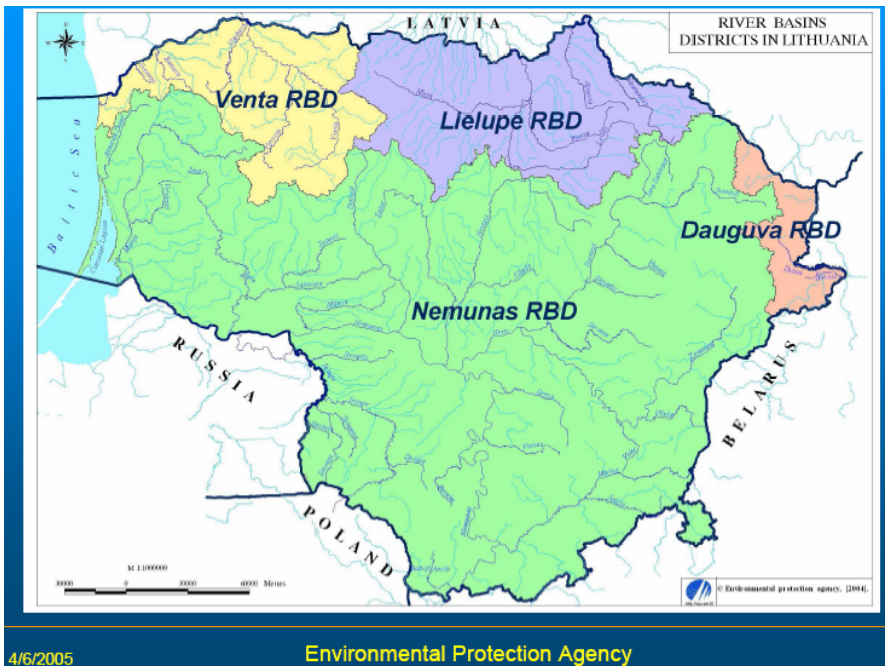

Figure 6.2 River Basin Districts of Lithuania

In Lithuania amendments to existing water legislation were drawn up for the implementation of the WFD and these were approved in 2003. No amendments to other legislation were made. The national implementation set-up is centralised, and the Environment Ministry is the national competent authority, while the Environment Protection Agency (EPA) is in charge of the development of the 4 River basin District management plans. The institutional set-up is illustrated in Figure 5.2. A decentralised structure of the national institutional set-up exists: 8 Regional Environment Protection Centres exist under the EPA, but they are neither coincident with the (10) administrative counties nor with the 4 RBDs. The Regional Environment Protection Centres are involved in the WFD through a representation in four RBD coordinating boards, whose roles are:

- To comment and make proposals for programs of measures
- To coordinate and facilitate cooperation of various stakeholder groups in the preparation and implementation of RBMPs
- To ensure that the interests of various stakeholder groups are well represented in RBMPs

The coordinating boards have an advisory role, but if the competent authorities decide not to adopt the proposals for the RBMPs, it must be explained and justified.

6.3.3 Latvia

In Latvia there are also 4 river basin districts but they are all international (see Figure 6.3). One of them is shared between Latvia, Russia and Belarus, and these two latter countries are not covered by the WFD. The size of the river basin districts varies between 8849 km^2 and 27062 km^2.

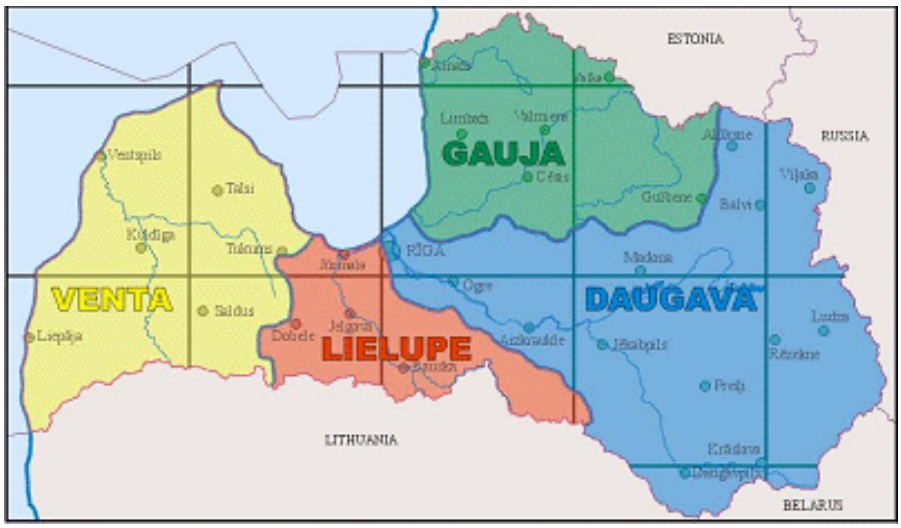

Figure 6.3 River Basin Districts of Latvia

The WFD was implemented in a new Law on Water Management, which was adopted in 2002. It implied some amendments in other laws, such as the Law of Protective Belts and the Latvian Administrative Breaches Code. Apart from the WFD, this Law on Water Management also concerns the issuing of permits, while habitats and species, groundwater abstraction and pollution are regulated through other laws, which have not been amended as a consequence of the WFD implementation.

Both competent authorities (The Ministry of the Environment and the Latvian Environment Geology and Meteorology Agency) work at one level – the national. The Ministry of the Environment ensures the general supervision of the WFD implementation and develops relevant legislation. Under the Ministry of the Environment is the Latvian Environment Geology and Meteorology Agency (LEGMA), which ensures the supervision of the WFD implementation and develops programs of measures, RBMPs and monitoring programs. River Basin Management Plans will be developed and updated in the LEGMA Water Basin Management Department, which is also responsible for ensuring public participation. During the implementation process and characterisation of RBD, assessment of human impact and economical analysis have taken place. Other ministries such as the Ministry of Agriculture and The Ministry of regional Development and Local Governments cooperate with responsible authorities during this process. The Ministry of Welfare has also been involved as they administrate the monitoring of drinking and bathing water.

The spatial planning process started in 1998, and the legislation was approved in 2002. Spatial plans must be elaborated at all levels: Rural municipalities, towns, districts (26 administrative units), planning regions (5) and state level. The update cycle is 20 years at national level and 12 years at regional and local levels. The involvement of the public is a two stage process: just after the decision to elaborate or revise a plan, and after the first draft has been prepared. Development plans (7 years cycle) is also produced at all levels.

While the territorial approach is related to administrative units, former experience with a basin approach exists in relation to land reclamation. Provisions for the implementation of specific issues related to environ-

mental objectives and RBMPs have been produced through a regulation on spatial planning of local municipalities, deciding that spatial planners should ask of specific terms from environmental boards and Basin Authorities for introducing them into plans. Spatial plans and RBMPs are however not harmonised in timing, and a risk exists for lack of coordination among municipal plans and RBMPs. Moreover due to the transboundary character of the River basins collaboration on the water issues is being established, but as Russia and Belarus are not covered by the WFD, special arrangements has to be made with these countries.

6.3.4 Estonia

Three river basin districts have been identified: East-Estonian (international, shared with Russia) river basin district (19047 km^2), West-Estonian river basin district (23478 km^2) and Koiva (international, shared with Latvia) river basin district (1335 km^2), see Figure 6.4.

Figure 6.4 River Basin Districts in Estonia

In order to facilitate the preparation of river basin management plans and to emphasise the detailed differences of various regions in Estonia, so called sub-districts have been established. Each river basin district includes 1-3 sub-districts. It is foreseen that the practical implementation will be carried out in the sub-district level. Thus each of the 3 river basin district will be a summary of information and measures elaborated in the sub-district level. Altogether there are 8 sub-districts.

The implementation of the WFD in Estonia demanded changes to the National Water Act from1994. The Water Act was amended in 2000 after the adoption of the WFD. Changes took mainly into consideration the principles of WFD by creating legal possibilities to start the preparation of river basin management plans. Moreover, water related legislation was also changed, while amendments to other laws have not yet been made, although a process of implementation is ongoing, and a need for co-operation between different authorities has been identified.

The competent authority is the Ministry of the Environment and its regional offices (8 Regional Environmental Departments). The Ministry of

the Environment is directly responsible for establishing river basin management plans for 3 river basin district. There are 15 regional departments, but only 8 departments have been given the task to coordinate the preparation of river basin management in sub-basins. 8 sub-river basin districts will be used for producing the Management Plans. Those 8 Regional Departments are obliged to coordinate necessary activities to produce the river basin plans for sub-districts. Activities for coordination include cooperation with other Regional Environmental Departments, cooperation with Regional Land Reclamation Bureaus (regional institutions under the Ministry of Agriculture), cooperation with Regional Health Bureaus (regional units of the Ministry of Social Affairs) as well as with municipalities, county governments and with other relevant institutions. The prevailing way of cooperation is the exchange of information, since a lot of information needed for the river basin management plans is available at different institutions. The intense information exchange in the preparation phase is also needed due to the fact that according to the National Water Act the river basin management plans that will be prepared for both river basin districts as well as for sub-districts must be officially approved by all municipalities and county governments located in the river basin district area or sub-river basin district area, as well as by other relevant ministries.

The main difference between river basin district plans and sub-district plans is content and the compliance to the requirements of the WFD. The preparation process of sub-district plans started in 2001. The main purpose of these sub-district plans was to collect and produce necessary information for the preparation of Art. 5 reports, thus the current sub-district plans are mainly descriptive, giving the characterisation of the area and identifying main problems related to water management. Since the process foreseen by the WFD is rather long term, it was decided that sub-district plans must be finalised as soon as possible so that there could be use of these activities that have been carried out in sub-district level. Therefore, the sub-district management plans include mainly the characterisation of the area and programmes of measures drafted based on the main problems. Still, the sub-district plans do not follow directly the principles of cost-recovery, the cost-benefit analysis and cost-effectiveness analysis of program of measures has not been finalised. The implementation of those plans is coordinated through the working group established for each sub-district. The working group must ensure that measures in the programmes of measures could be implemented in the most cost-effective way and so that the main problems could be solved as effectively as possible. It is expected that all sub-district plans will be finalised by the beginning of 2006. After that the sub-district plans will continue with the general process of the implementation of the WFD. The sub-district plans will be revised by the 2008/2009 and at the same time, river basin management plans for 3 districts should be ready.

Apart from the Ministry of Environment, other ministries will be involved in the implementation of the WFD. This includes the Ministries of Agriculture, Social affairs, Economic Affairs and Communication, Finance, Internal Affairs, and Research and Development.

While the Habitat Directive is implemented through other laws, it is secured that the RBMPs also fulfil certain environmental objectives such as

shore protections zones and drinking water zones, which are designated, based on the Nature Protection act.

Spatial planning in Estonia takes place at all levels, the national, the county level, where general land use is planned, and in municipalities taking care of detailed planning of cities and rural municipalities. The city plans should be adopted by 2006 and the comprehensive plans for rural municipalities by 2007. The public is invited to be involved in spatial planning at several stages. Firstly, local government must advertise comprehensive and local plans once a year in newspapers, and within a month from the decision to initiate a plan has been taken, the objectives, size and location of the plan shall be advertised on a relevant newspaper. A system of stakeholder hearings are detailed according to the level of the plan, and the final plan is for public display in two weeks for local plans and 4 weeks for comprehensive and county plans.

6.3.5 Poland

Only 2 River Basin Districts have been assigned in Poland, Oder and Vistula. They are however very large: 118462 km^2 and 194223 km^2 (see Figure 5.5). They are both international, and they are subdivided into 7 water regions, based on hydrographic criteria.

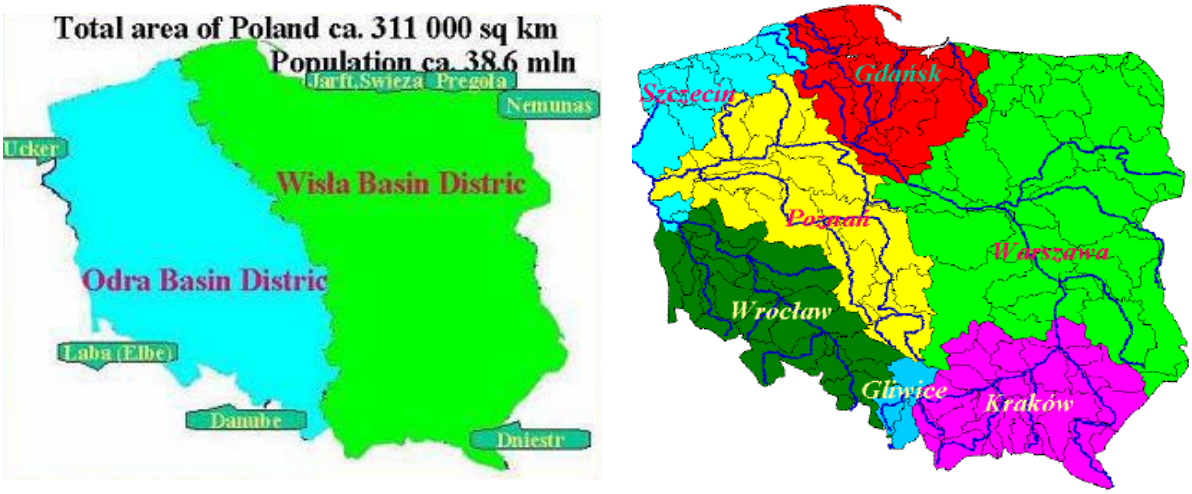

Figure 6.5 River Basin Districts and regions (Voivode) in Poland.

The implementation of the WFD was done through a transposition of the regulations into the Water Act of 2001, as well as the Environment Protection Act from 2001, the Geological and Mining Act from 1994 and the inland Navigation Act from 2000. The Water Act represent a transition from centralised to de-centralised river basin management (Parol-Wiski 2005). While the national competent authority rests with the ministry of Environment and the President of the National Water Management Board, the responsibility for implementation of the water policy in the water regions is put on the Directors of the regional Water Management Boards, and on the Voivode (regional government), as well as on local governments. The Directors of the Regional Water Management Boards also have rights concerning the approval of land use plans, to draft decisions on the conditions for land development and use, and to participate in the exercise of control in water management (Parol-Wiski, 2005). Dur-

ing the implementation process other ministries have been involved, such as the Ministry responsible for infrastructure and the Ministry of Agriculture.

The spatial planning is regulated by the Spatial Planning Act of 2003, working at national, regional and district level. The regional level has full responsibility of strategic and spatial planning at this level, and it consists of the regional assembly and the Voivode, which is the regional representative of the state level. Environmental Impact Assessment of the plans is mandatory at all levels, and public consultations are carried out before the plan is established. There is no predetermined frequency of planning revisions.

6.3.6 Germany

In Germany 10 RBDs have been delimited with sizes ranging from 4366 km² to 98046 km², see Figure 6.6a.

As Germany is a Federal State consisting of 16 Länder (see Figure 5.6b), amendments to former Water Acts have been passed both at federal and Länder-level, and ordinances have been adopted. No amendments to other pieces of legislation have been made.

The national competent Authority is the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and on the Länder level it is the Environment Ministry of the Land. The coordination and development of guidance documents rests with a coordination body: LAWA (Länderarbeitsgemeinschaft Wasser). Due to the large size of some River Basin Districts, and the "spatial misfit" between River Basin Districts and Länder (see Figure 6.4 a and b), the Management Plan will be fitted together from sub-river basin level plans carried out at Länder level and at local level.

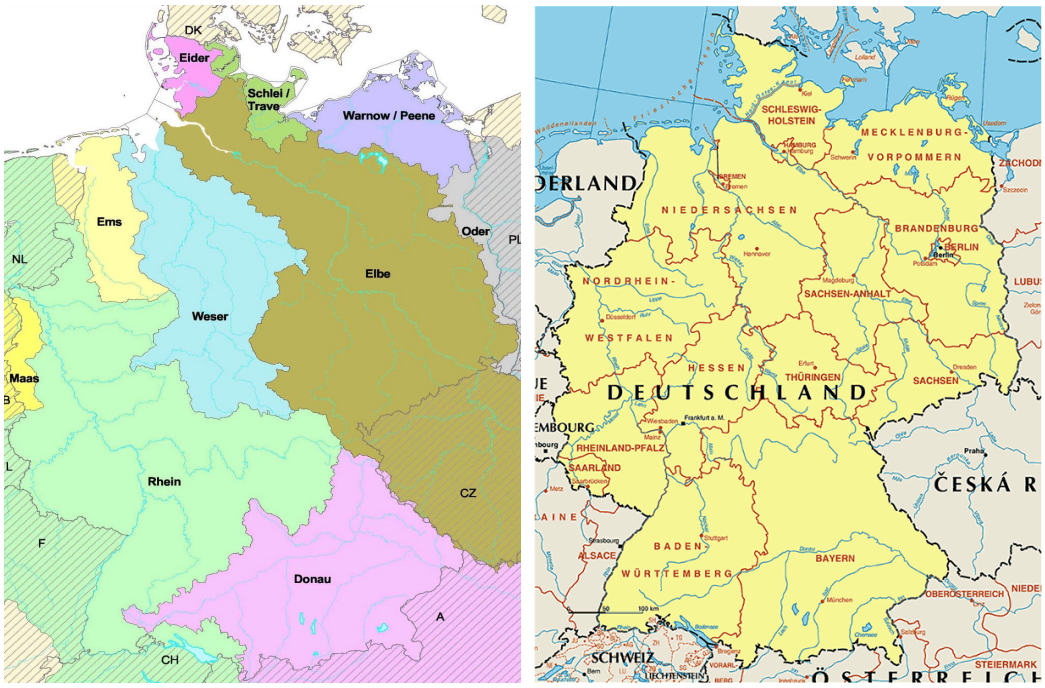

Figure 6.4a and b River Basin Districts and Länder in Germany.

The spatial planning relates to the three main administrative levels in Germany: The Federation, The Federal States and the Municipalities. The Federation has only framework competence in the policy area of spatial planning, and no federal plan exists. The Law on Raumordnung regulates the spatial planning, which consist of the Federal Regional Planning Act (1998) and on the Spatial Planning Acts of the Federal States. The planning objectives are fixed in these, and they have to be observed by the public planning authorities (especially the municipalities). There is no hierarchical plan structure from the federal level and down, but models and action concepts developed among the Federation and the Federal States. Emphasis is thus put on the realisation of plans and the process facilitating this, contrary to the singular development of plans. Sector plans influence the planning process and the spatial plans take into account environmental objectives such as the Habitats Directive. First steps are being taken towards an assessment how the sub-basin level management plans will be able to influence spatial plans and vice versa. There are not yet institutional linkages facilitating this or any orders directing this interaction. There might be first activities on this during the next half year.

6.3.7 Denmark

The administrative structure in Denmark is changing, due to a structural reform, which will be set into force by 2007. The implications are among others that former 13 River Basin Districts (to a large extent following county borders) will be reduced to 4, of which Bornholm (a small island) is the smallest RBD in Europe (587 km^2), and one river basin is international, shared with Germany. The largest will then be 33132 km^2, covering the whole of Jutland and the island of Funen, see Figure 6.7.

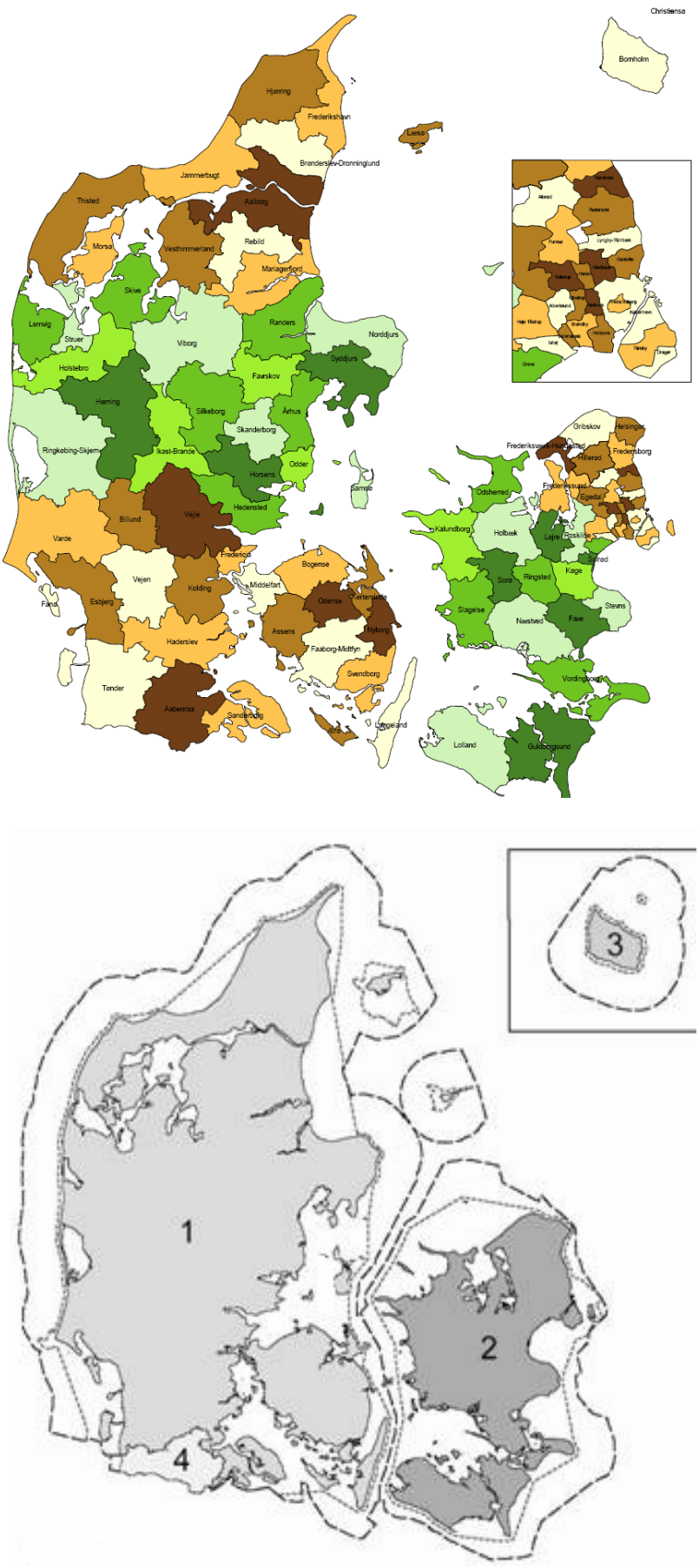

Figure 6.7 The new municipalities and the River Basin Districts and in Denmark

The WFD was implemented by the passing of a new law in 2003: The Law on Environmental Objectives. This law does not only implement the WFD, but includes the implementation of the Habitats Directive as well. Other legislation like the Environment Protection Act and the Planning Act was subsequently amended.

The Ministry of the Environment is the Competent Authority. A structural reform is being implemented in Denmark by 2007, creating fewer and larger municipalities. Counties will be abolished, and fewer and larger administrative units named "regions" will be created. While responsibility for the management plans were beforehand allocated to the counties, the RBMPs will be allocated to the national level, to be carried out in new Regional Environment Centres under the Ministry of the Environment. According to the amendments to the law, municipalities are obliged to produce a water action plan for follow up on the RBMP within a 6 months period after the acceptance of the RBMP. This plan has to be put into force one year after the passing of the RBMP.

Spatial Planning has been carried out at county and municipality level as well as through local plans. With the structural reform, the larger municipalities will be the central planning units and the new regions will get a coordinating role for the municipality plans, securing that they comply with national and regional development goals. The planning period is 12 years with an update every 4 years. Amendments to the Spatial Planning Act decides that the municipality planning shall be carried out within the framework given by the action plans related to water, Natura 2000, forests and other resource plans. RBMPs will therefore play an important role for the spatial plans, and the interactions between national environmental centres and municipality planning units will be crucial.

6.4 Crosscutting analysis

6.4.1 Legal implementation and type of approach to production of management plans (centralized/decentralized)

The Water Framework Directive is now legally founded in all the countries included in this analysis, but adaptation of other legal acts to the WFD is not completed in all countries. This implementation has been carried out through the creation and agreement of new laws or through amendments to existing laws. In many cases the new Acts on Water management also includes the conditions for issuing of water permits, but only in one case does the law cover the implementation of other directives (The Danish Law on Environmental Objectives, which additionally cover the implementation of the Habitats Directive). In some cases, however, the Water Acts also cover other aspects such as protected areas (Lithuania) and permits for the use of the environment (Poland).

In all cases the competent authority at the national level is the Ministry of Environment, possibly supplemented by other authorities such as the President of the National Water Management Board in Poland. The responsibility for the management plans also rests at the national level in all countries but may be produced at decentralized regional centres under national supervision such as in Finland, Estonia, and Denmark. In

Germany the management plans are produced for sub-basin areas, for which the Länder are responsible.

6.4.2 Spatial fit: territorial relationship between management institution and management unit (River Basin District or sub-basins)

As is apparent from the above, the institutions which will produce the management plans do not often correspond in territorial expansion to the river basins. They have not been created for this purpose, but are in many cases regional extensions of national Environmental Agencies – except where the production of management plans are kept at the national level such as in Poland, Lithuania and Latvia. In all countries the River Basin District is basically also the management unit, but as the process has not come so far yet, it is not possible to know how the management units will finally look, where a sub-basin approach will be taken, and if the delimitation of these will be strictly based on hydrographic criteria, such as in Germany or Poland (water regions), or if administrative border will also be taken into account.

6.4.3 Institutional interplay: preliminary comments

The data collected in the questionnaires do not allow a profound analysis of structures for institutional interaction among the institutions producing RBMPs, the spatial planning units such as the municipalities, and other relevant institutional structures, such as those managing the habitat areas and other environmental zones. However, some comments have been made, which indicate that the aspect of interplay is relevant and that some steps have been taken to secure interactions among relevant management issues. In Denmark the water and habitat management is covered by the same law and the same institutions will probably be responsible for the planning issues. There will however, be a need for integrating these plans in the spatial and development planning in the municipalities. For Poland permits for use of the environment is also directly inscribed in the law. Moreover the Directors of the Regional Water Management Boards also acts as parties in administrative proceedings concerning the water region, and they approve of draft local land use plans and decisions on the conditions for land development and use in relation to projects which may have significant impact on the environment. This signifies an established link between the spatial planning and environmental protection institutions. In Finland the environmental objectives referred to in the Nature Conservation Act should be used as guidelines in the drawing up of regional plans, and as the 13 regional environment centers control municipal planning within their respective regions, an institutional relation between the RBMP and spatial planning exist even though there is no straight linkage in legislation level. In Latvia regional planners has to ask for specific provisions from Environmental Boards and Basin Authorities with the purpose to introduce them into the spatial plans. However, spatial plans are elaborated at present and throughout the following years – some municipalities have already completed theirs, and a draft RBMP shall be ready by the end of 2008. It is mentioned that this may create a risk of lack of coordination. In Estonia Environmental objectives implemented through e.g. drinking water zones or shore protection zones is to be taken into account in the RBMP, but the institutional aspects for securing this is not known for this analysis. In Lithuania a system of Coordination Boards for each RBD has been

set up. These boards have as a major task to facilitate the stakeholder involvement and to ensure that stakeholder interests are represented in RBMPs, but they also comment of programs of measures. Counties and municipalities are members of the stakeholder group. For Germany it is stated that the habitats directive is taken into account in the spatial planning, but it is not known at present how other environmental objectives are carried over to the spatial planning units.

6.4.4 Public involvement

The implementation process of the WFD places much emphasis on public participation in the production of the RBMP's. According to the directive, the public shall have access to a plan and a timetable for the management plan, an interim overview of the issues to be dealt with in the plan, and eventually a draft of the plan for comment during a 6 months period. Those countries that have a longer history of spatial planning are used to involve the public through advertisements, public hearings or meetings. In the perspective of the WFD however, it will be an important task to identify the relevant stakeholders, as the stakeholders, management plans and the water bodies that are planned for may be located far from each other. This is for instance the case for the Hamburg Harbour where management plans to a large extent involves upstream land use, while stakeholders may both relate to the use of the water and to the land users in the river basin. For countries with no long history of spatial planning, guidelines for public participation will be produced and used, either as a part of twinning agreements (as the polish twinning agreement with France), or based on the CIS guidelines. These guidelines, however, do not deal with the aspects of institutional interplay, which will also be relevant for the public participation process.

6.5 Final remarks

The present questionnaire has served as information on elements in the national implementation of the WFD in perspective of the integration with spatial planning. It was only possibly to scratch in the surface of the challenges that faces the different institutions when new and extensive environmental objectives are planned for and will need to be integrated in the environmental and spatial planning and development process in the respective countries. A deeper understanding of these would need analysis at the case-study level.

6.6 Persons responding to the questionnaire:

Lithuania: Aldona Margeriene et al., Environmental Protection Agency.

Latvia: Sigita Sulca, LEGMA.

Estonia: Rene Reisner and Mariina Hiiob, Ministry of the Environment, Water Department.

Poland: Malgorzata Parol – Wiski, Ministry of Environment, Poland.

Germany: Ralf Kott, Authority for Urban Development and Environment, Hamburg.

Denmark: Peter Schriver and Per Norskov Kristensen, North Jutland County.

Finland: Ville Hokka and Milla Mäenpää, Finnish Environment Institute (SYKE).

7 Conclusions

The report has illustrated the advanced thinking behind the Water Framework Directive, in terms of integration of policies and instruments for water management as well as for other environmental goals. The WFD harmonises many years of water related legislation and sets out a resource oriented water management, with the identification of main pressures, the Programme of Measures and the River Basin Management Plans as central elements.

It is, however, a quite demanding task to integrate not only different water issues, but also other environmental objectives. Moreover, to secure that sector policies takes the objectives into account is not an easy task. Thus, there is much European legislation being developed outside the framework of water management that nevertheless influences heavily on water pressures. Prominent examples are sector- and land use policies like the Common Agricultural Policy, the Biomass Action Plan, Trans European Network Policies and other transport policies, as well as Thematic Strategy on Urban Environment. A need for procedures and processes securing integration of water goals in these policies is evident. Moreover, River Basins Management Plans and programme of Measures may have implications for broader environmental goals, which should be taken into account.

Several pieces of EU legislation may act as levers for this integration of policies. The SEA directive is an important tool for this purpose – also at a local level. However, it may need more precise interpretations as well as practical experience to decide, for River Basin Management Plans and Programs of Measures as well as for sector policies and plans, when a SEA should be invoked. Moreover, EU participates in several conventions, aiming at facilitating the management of transboundary water bodies such as the Baltic Sea and large rivers.

Another integrating perspective is the spatial aspect. While physical planning is considered a matter confined to the Member States, EU has developed several strategies and perspectives on spatial aspects of environmental management, such as the European Spatial Development perspective and the Guiding Principles for Sustainable Spatial Development of the European Continent. Analysis of the directives has demonstrated that quite a number of directives use spatial designations as a management instrument. Also for this aspect the WFD act as an integrating framework, as it promotes a "total coverage" planning for water management, which is going to take place in the River Basins. A register of areas requiring special protection in terms of protecting ground water or surface water or due to habitat protection for habitats or species, which are directly depending on water, is being established within WFD. This includes most designations, thus making a summary of protections in relation to water. Explicit management plans are only required in the WFD, while they are optional for the Natura 2000 sites. Moreover, spatial development frameworks help in co-operation beyond regional or national boundaries, which is needed when dealing with whole river basins, and in pin-pointing vulnerable areas such as coastal zones.

It has been discussed – also in the national cases – if interactions between water plans and other spatial planning procedures will take place, and which problems may appear due to the change in management units that the WFD imposes in many countries. It demands institutional adaptation and sensitivity to integrate physical and environmental planning, and at the practical level, the adjustment of timing and level of land use planning and water planning as well as the territorial planning boundaries needs to be taken into account and implemented in the institutional set-up.

Countries are already approaching these issues in different ways. Platforms for consultation of stakeholders are being implemented in some countries and mandatory reflection of water goals in other physical planning in others.

A number of potential conflicts arise when looking at the sector policies and their possible implications for water objectives. It is however striking that taken together, a large part of the legislation analysed, actually supports each other and that at the level of legislation, the EU goals of Policy Coherence and Environmental Integration in Policies have come some way with the WFD, and the implementation procedures prescribed.

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Abbreviations

CAP	Common Agricultural Policy
EC	European Commission
ESDP	European Spatial Development Perspective
ICZM	Integrated Coastal Zone Management
PP	Public Participation
RBD	River Basin District
RPMP	River Basin Management Plan
EIA	Environmental Impact Assessment
WFD	Water Framework Directive
RBD	River Basin District
RPMP	River Basin Management Plan
ICZM	Integrated Coastal Zone Management
ESDP	European Spatial Development Perspective
PP	Public Participation
PoM	Programme of Measures
SEA	Strategic Environmental Assessment

Appendix A: legislation to be repealed following the implementation of the WFD

a) Seven years after the entry into force of WPD (2007)

1) Directive concerning the Quality required of Surface Water intended for Drinking Water (Surface Water Directive) 75/440/EEC (Official Journal L 194 , 25/07/1975 P. 0026 - 0031DE L 328 25/07/1975 P. 0034-0039).

Amended by:

- *Council Directive 79/869/EEC concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States*
- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment*

Objective: to reduce and prevent pollution of surface water intended for the abstraction of drinking water.

This Directive (as amended) concerns surface water used or intended for the abstraction of drinking water after appropriate treatment and supplied by public distribution networks. The Directive sets the minimum quality requirements to be met by surface fresh water. Surface water is classified on the basis of its characteristics into three categories with different limit values. A standard method of treatment is defined for each category. The Member States set the values for the parameters and the frequency of analysis of surface water in accordance with the guidelines set out in the Directive. Member States may set more stringent requirements than laid down in the Directive. A timetable is set for the Member States to implement national programmes to improve surface water.

http://europa.eu.int/scadplus/leg/en/lvb/l28006a.htm

2) Directive concerning the methods of measurement and frequencies of sampling and analysis of surface water intended for the abstraction of drinking water in the Member States 79/869/EEC

Amended by:

- *Council Directive 81/855/EEC of 19 October 1981; adapting, consequent upon the accession of Greece*
- *Council Directive 90/656/EEC on the transitional measures applicable in Germany with regard to certain Community provisions relating to the protection of the environment*
- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment*

Objective: To harmonise the national regulations on monitoring the quality of surface water.

The Directive (as amended) establish reference methods of measurement and frequencies of sampling and analysis for the parameters listed in Annex II to Council Directive 75/440/EEC and which define the physical, chemical and microbiological characteristics of surface water intended for the abstraction of drinking water. The Member States are encouraged to use these reference methods of measurement. The frequencies of sampling and analysis may not be less than the minimum annual frequencies, unless the quality of the analysed water is considerably superior to that required under the current Directives. The Commission must produce a regular consolidated report based on the sampling and analysis information supplied by the Member States.

http://europa.eu.int/scadplus/leg/en/lvb/l28006b.htm

3) Council Decision establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community 77/795/EEC (Exchange of Information Decision)

Amended by

- *Decision 86/574/EEC amending Decision 77/795/EEC establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community*

- *90/2/EEC amending Annex I to Council Decision 77/795/EEC*

Objective: Decision establishes common procedure for the exchange of information on the quality of surface fresh water in the Community.

Each Member State shall designate a central agency and the information referred to in Decision shall be forwarded to the Commission through the central agency in each Member States. The Commission shall assess the effectiveness of the procedure for the exchange of information and, within not more than three years of the notification of this Decision, shall submit proposals, where appropriate, to the Council with a view to improving the procedure and, if necessary, harmonizing the methods of measurement. A Committee for the adaptation of this Decision to technical progress is set up, consisting of representatives of the Member States with a representative of the Commission as Chairman. The Committee shall adopt its own rules of procedure.

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Decision&an_doc=1977&nu_doc=795

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&numdoc=31986D0574&model=guichett&lg=en

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&numdoc=31990D0002&model=guichett&lg=en

b) Thirteen years after the entry into force of WPD

4) Directive on the quality required of shellfish waters 79/923/EEC; (Shellfish Waters Directive) (Official Journal L 281 , 10/11/1979 P. 0047 – 0052).

Amended by:

- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment*

Objective: To improve and to protect the quality of shellfish water.

These Directives concern the quality of shellfish waters. Shellfish waters are waters which can support shellfish life (bivalve and gasteropod molluscs). Member States shall designate those coastal and brackish waters to be considered as shellfish waters. The Directive sets the minimum quality criteria which must be met by shellfish waters. Member States shall set the values to be applied to shellfish waters in accordance with the guidelines in the Directive. They may set more stringent values than those laid down in the Directive.

http://europa.eu.int/scadplus/leg/en/lvb/l28009.htm

5) Directive on the quality of fresh waters needing protection or improvement in order to support fish life 78/659/EEC (Fish Life Directive)

Amended by:

- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment*

- *Regulation (EC) No 807/2003 adapting to Decision 1999/468/EC the provisions relating to committees which assist the Commission in the exercise of its implementing powers laid down in Council instruments adopted in accordance with the consultation procedure (unanimity)*

Objective: To safeguard fish populations from harmful consequences of pollutant substances discharged into water.

This Directive, as amended, concerns the protection and/or improvement of the quality of running or standing fresh waters which support or which, if pollution were reduced or eliminated, would become capable of supporting certain fish species. Waters in natural or artificial fish ponds used for intensive fish-farming are excluded from the scope of the Directive. Member States are required to designate the fresh waters which are to be considered suitable for fish-breeding. These are subdivided into salmonid waters (waters which support or become capable of supporting fish belonging to species such as salmon, trout, grayling or whitefish) and cyprinid waters (waters which support or become capable of supporting fish belonging to the cyprinids or other species such as pike, perch and eel). The Directive lays down the minimum quality criteria to be met by such waters. The Member States are required to set the values which they will apply to such waters in accordance with the guidelines contained in the Directive. They may set more stringent requirements than those laid down in the Directive. Provision is also made for derogation from the Directive in certain cases

http://europa.eu.int/scadplus/leg/en/lvb/l28010.htm

6) Directive on the protection of groundwater against pollution caused by certain dangerous substances 80/68/EEC (Groundwater directive) (and amended)

Amended by:

- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment.*

Objective: To combat pollution by harmonising the laws of the Member States on the discharge of dangerous substances into groundwater and by monitoring of the quality of such water.

The purpose of these Directives is to prevent the discharge of certain toxic, persistent and bio-accumable substances into groundwater, excluding discharges of domestic effluents from isolated dwellings, or discharges containing substances listed in Directive 80/68/EEC in very small quantities and concentrations, and discharges of matter containing radioactive substances.

There are two lists of dangerous substances drawn up for the protection of groundwater: direct discharge of substances in list I is prohibited and discharge of substances in list II must be limited. All indirect discharges of substances in list I and all direct or indirect discharges of substances in list II are subject to prior authorization. The authorization lays down the conditions that have to be met for discharges.

http://europa.eu.int/scadplus/leg/en/lvb/l28017b.htm

7) a) Directive on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community 76/464/EEC, Directive on Hazardous Substances (Official Journal L 129 , 18/05/1976 P. 0023 – 0029)

(The Article 6 was repealed at the same time the WFD came into force.)

Amended by:

- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment.*

Objective : To harmonise the legislation of the Member States on discharges of dangerous substances into the aquatic environment.

Directive applies to inland surface water, territorial waters, internal coastal waters and groundwater. To eliminate pollution of these waters, two lists of dangerous substances to be monitored are established: pollution caused by discharges of substances on list I must be ended, and pollution caused by products on list II must be reduced.

Quality objectives and emission standards are laid down for the substances on list I, based on the best available technology. These are compulsory unless the Member States prove that the quality objectives are

being met and continuously maintained. All discharges require prior authorisation by the competent authority in the Member State concerned. The authorisation is granted for a limited period and lays down the emission standards. It is up to the Member States to ensure compliance with the emission standards.

For the substances on list II, the Member States adopt and implement programmes to preserve and improve water quality. All discharges are subject to prior authorisation by the competent authority in the Member State concerned, once again laying down the emission standards.

The Member States systematically monitor water quality and may take more stringent measures than provided for by Directive 76/464/EEC. Specific provisions on groundwater are included.

A procedure is laid down for revising and adding to the lists or transferring specific substances from list II to list I.

http://europa.eu.int/scadplus/leg/en/lvb/l28017a.htm

7. b) Dangerous Substances directives

There are also Directives that are legislated to specify Directive on Hazardous Substances. These Directives – in compliance with Articles 6 and 12 of Directive 76/464/EEC, lay down limit values, and quality objectives for emission standards for mercury, cadmium hexachlorocyclohexane etc. in discharges from industrial plants, establish a monitoring procedure and require Member States to cooperate with one another in the case of discharges affecting the waters of more than one Member State. The Directive applies to the waters referred to in Article 1 of Directive 76/464/EEC with the exception of groundwater. The Directive on Hazardous Substances and directives introduced here were amended by Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment. The Commission is in the process of preparing a proposal for community-wide emission controls and environmental quality standards for the first 33 priority substances as in WFD Article 16 (6-7) requires (see next chapter 2.5.3).

Dangerous Substances Directive
On 12 June 1986 the Council adopted Directive 86/280/EEC on limit values and quality objectives for discharges of certain dangerous substances included in List I of the Annex to Directive 76/464/EEC (Official Journal L 181, 4.7.1986).

This Directive was amended by Council Directives 88/347/EEC, 90/415/EEC and 91/692/EEC.

Objective: To limit discharges of dangerous substances into the aquatic environment of the Community.

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1986&nu_doc=280

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1988&nu_doc=347

http://europa.eu.int/scadplus/leg/en/lvb/l28017a.htm

Mercury Discharge Directives

a) Directive on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry Directive, 82/176/EEC.

Amended by the following measures:

(Directive 90/656/EEC of 4 December 1990; No longer in force)

Directive 91/692/EEC of 23 December 1991

b) Directive on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry, 84/156/EEC (Official Journal L 74, 17.3.1984).

This Directive was amended by Directive 91/692/EEC.

Objective of these Directives: To limit discharges of mercury into the aquatic environment of the Community.

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1982&nu_doc=176

http://europa.eu.int/scadplus/leg/en/lvb/l28014.htm

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1984&nu_doc=156

Cadmium Discharge Directive

On 26 September 1983 the Council adopted Directive 83/513/EEC on limit values and quality objectives for cadmium discharges (Official Journal L 291, 24.10.1983).

This Directive was amended by Council Directive 91/692/EEC.

Objective: To limit discharges of cadmium into the aquatic environment of the Community.

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1983&nu_doc=513

Hexachlorocyclohexane Discharge Directive

On 9 October 1984 the Council adopted Directive 84/491/EEC on limit values and quality objectives for discharges of hexachlorocyclohexane (Official Journal L 274, 17.10.1984).

This Directive was amended by Council Directive 91/692/EEC.

Objective: To limit discharges of hexachlorocyclohexane into the aquatic environment of the Community.

http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=1984&nu_doc=491

Appendix B: Legislation being developed following obligations in the WFD

a) Priority substances under the Water Framework Directive

Article 16 of the Water Framework Directive set out a "Strategy against pollution of water" and outlines the steps to be taken. The first step of the strategy was the establishment of a list of priority substances to become Annex X of the Directive. The preparation of the priority list included a procedure called *COMMPS* which was developed to identify the substances of highest concern at Community level.

The objective of the decision 245/2001/EC of the European Parliament and the Council is to establish a list of priority substances in the field of water policy, for which quality standards and measurements for the reduction of emission controls will be set at Community level. The list identifies 33 substances or group of substances, which have been shown to be of major concern for European Waters, including anthracene, benzene, cadmium, tributylen and naphthalene. Within this list, 11 substances have been identified as priority hazardous substances which are of particular concern. These substances will be subject to cessation or phasing out of discharges, emissions and losses within an appropriate timetable. Rest of the substances are subject of review for identification as possible "priority hazardous substances". The Commission is in the process of preparing a proposal for community-wide emission controls and environmental quality standards for the first 33 priority substances as in Article 16 (6-7) requires. In this process, article 16(5) requires that a stakeholder consultation shall take place. During the preparation of the proposal, the Commission is engaged in a stakeholder consultation process.

http://europa.eu.int/comm/environment/water/water-dangersub/pri_substances.htm#wfd

b) Groundwater protection against pollution under the Water Framework Directive (Article 17)

The WFD (Article 17) sets out "Strategy to prevent and control pollution of groundwater" or an obligation to adopt a Daughter Directive concerning groundwater protection. The commission has fulfilled the obligation by adopting a proposal for a new Directive to protect groundwater from pollution on 19th September 2003 (COM(2003)550).

The proposed Directive introduces, for the first time, quality objectives, obliging Member States to monitor and assess groundwater quality on the basis of common criteria and to identify and reverse trends in groundwater pollution. The proposed Directive will ensure that ground water quality is monitored and evaluated across Europe in a harmonised way, but allows to take into account the local characteristics. Based on an EU-wide approach, it represents a proportionate response to the requirements of the WFD related to the assessment of the chemical status

of groundwater and the identification and reversal of significant and sustained upward trends in pollutant concentrations.

http://europa.eu.int/comm/environment/water/water-framework/groundwater.html

http://europa.eu.int/scadplus/leg/en/lvb/l28139.htm

c) Other measures

European Action programme on flood risk management

The consequences of the flood in Europe can be severe and Europe has recent years faced some major floods, which have caused damage for billions of Euros. Millions people live in the areas at risk of extreme floods, along rivers (like Rhine) or in coastal areas. In addition to economic and social damage, floods may have severe environmental consequences. Floods are natural phenomena which cannot be prevented, but human activity affects the probability and the consequences of them. Many Member States are already taking flood protection measures, but now also measures at the level of the European Union have been taken.

To develop and implement a concerted EU Action Programme on flood risk management, the Commission has proposed Communication on Flood Risk Management (Communication Flood risk management; Flood prevention, protection and mitigation 4255/2001/EC (20.11.2001)). The Member States and the Commission has worked together to develop and implement a co-ordinated flood prevention, protection and mitigation action programme.

On the basis of the discussions in the Environment Council, the Commission is proposing to move forward the European action programme through three distinct but closely linked actions 'package':

- facilitating the exchange of experiences and knowledge and increasing the awareness (e.g. research projects like EFAS and FLOODsite),

- a targeted approach to the best use of funding tools, for example the Common Agricultural Policy and the new Cohesion Policy,

- a proposal for a legal instrument.

Both the Commission and the Council agree that the development of river basin management plans under the Water Framework Directive and of flood risk management plans are elements of integrated river basin management. Therefore, one of the guiding principles of the approach to be developed is that there is a strong linkage with the Water Framework Directive.

http://europa.eu.int/comm/environment/water/flood_risk/index.htm

Based on these preconditions a Directive on the assessment and management of floods has been proposed to the Parliament and the Council (EC 2006).

Appendix C: Measures under other legislation to be included in Programmes of measures

1. Directive concerning the quality of bathing water 76/160/EEC (and amended) (Bathing Water Directive) (Official Journal L 31 of 05.02.1976).

Amended by:

- *Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment. (Official Journal L 377 of 31.12.1991)*

Objective: To reduce and prevent the pollution of bathing water.

This Directive (as amended) concerns the quality of bathing water, excluding water intended for therapeutic purposes and water used in swimming pools. The Directive lays down the minimum quality criteria to be met by bathing water. The criteria concern the physical, chemical and microbiological parameters and the mandatory limit values and indicative values for them. Also it sets up the minimum sampling frequency and method of analysis or inspection of such water.

Member States fix the values that they apply to bathing water in accordance with the guidelines of Directive and may use more stringent values than in Directive. There is also a procedure for adapting methods of analysis and mandatory and indicative parametric values to technical progress. Derogations may be made if they meet the objective of protecting public health.

An annual summary report is presented by the Commission on the implementation of Directive. This report is prepared on the basis of a questionnaire or outline drawn up by the Commission in accordance with the procedure laid down in Directive 91/692/EEC.

A new proposal for a Directive concerning the quality of bathing water

There is a new proposal for a Directive concerning the quality of bathing water (COM(2002)581final. The proposed Directive would replace present Directive 76/106/EEC. It would bring consistency with the Sixth Environment Action Programme and with the Water Framework Directive strategy in favour of sustainable development and with the European legislation on water, particularly the Water Framework Directive. It would include integrated management of water quality, a revision and rationalisation of the parameters used, taking account of scientific advances and focusing on two indicators of faecal pollution and a reduction of the health risks linked to bathing. It would also bring better information made available to the public more quickly and an enhancement of the participatory processes for players involved in developing and implementing the legislation. The Member States would have more margins to apply the Directive's demands.

The proposal sets out the parameters to be used in determining water quality, the methods for assessing and classifying bathing water, the bathing water profile, its monitoring frequency and the standards for handling samples

http://europa.eu.int/scadplus/leg/en/lvb/l28007.htm

2. Directive on the conservation of wild birds 79/409/EEC (Birds Directive)

Amended by:

- *Directives 85/411/EEC, 86/122/EEC, 90/656/EEC are no longer in force.*
- *Commission Directive 91/244/EEC of 6 March 1991 amending Council Directive 79/409/EEC on the conservation of wild birds*
- *Council Directive 94/24/EC of 8 June 1994 amending Annex II to Directive 79/409/EEC on the conservation of wild birds*
- *Commission Directive 97/49/EC of 29 July 1997 amending Council Directive 79/409/EEC on the conservation of wild birds*

Objective: To provide long-term protection and conservation of bird species naturally living in Europe.

Directive and its amending acts aim at providing long-term protection and conservation of all bird species naturally living in the wild within the European territory of the Member States (except Greenland). It also includes the eggs of these birds, their nests and their habitats and regulate the exploitation of these species. Directive establishes a general scheme for the protection of all bird species. it is prohibited to deliberately kill, capture, destroy, damage or collect their nests and eggs or to disturb or to detain the bird species covered by the Directives. Also, the sale, transport for sale and so on, is prohibited. The Member States must conserve, maintain or restore the biotopes and habitats of these birds by creating protection zones, maintaining the habitats, restoring destroyed biotopes and creating biotopes. Special measures for the protection of habitats are set up for certain bird species identified by the Directives (Annex I) and migratory species.

http://europa.eu.int/scadplus/leg/en/lvb/l28046.htm

3. Directive on the quality of water intended for human consumption 80/778/EEC, as repealed by Directive 98/83/EC (Drinking water Directive)

Objective: To lay down at Community level minimum quality and control standards for water intended for human consumption. To define the essential quality standards which water intended for human consumption must meet.

The Directive aims to protect human health by laying down healthiness and purity requirements for drinking water within the Community. It applies to all water intended for human consumption, excluding natural

mineral waters and waters which are medicinal products. Member States shall ensure that drinking water does not contain any concentration of micro-organisms, parasites or any other substance which constitutes a potential human health risk and meets the minimum requirements (microbiological and chemical parameters and those relating to radioactivity) laid down by the Directive. Member States shall lay down the parametric values corresponding at least to the values set out in the Directive and regularly monitor the quality of water intended for human consumption by using the methods of analysis specified in the Directive (or equivalent methods). They must also take any action needed in order to guarantee the healthiness and purity of water intended for human consumption, like corrective actions needed to restore water quality or restrict its use the distribution of such water. Consumers must be informed of any such measures.

http://europa.eu.int/scadplus/leg/en/lvb/l28079.htm

4. Directive on the control of major-accident hazards involving dangerous substances 96/82/EC (Major Accidents Directive, SEVESO I and II)

Amended by:

- *Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances (Official Journal L 345 of 31.12.2003).*

Objective: to prevent major accidents involving dangerous substances and limit their consequences for man and the environment, with a view to ensuring high levels of protection throughout the Community.

The Seveso II Directive followed the first Seveso Directive from the year 1982 (named after the Italian town which suffered exposure to an accidental release of dioxin in 1976) and introduced important changes and new concepts. It focuses on protection of the environment, and was the first to cover substances considered dangerous for the environment, in particular aquatoxics. It introduced new requirements relating to safety management systems, emergency plans and land-use planning and tightened up the provisions on inspections and public information. Directive is applicable to any establishment (with some exceptions, for example military establishments or waste landfills) where dangerous substances are present, or likely to be produced as a result of an accident, in quantities listed in the Annex of the Directive.

The Directive sets out general obligations of the operators, authorities and Member States. For example, the operators are obligated to take all measures necessary to prevent major accidents, to limit their consequences and to prove to the competent authority. There is a notification procedure under the principle that it is illegal for enterprises to hold large quantities of dangerous substances without informing the authorities. The competent authority must identify establishments or groups of establishments where the risk or consequences of a major accident could be increased due to the location and the proximity of the establishments and their holdings of dangerous substances and ensure an exchange of information and cooperation between the establishments. Member States

must ensure that the objectives of preventing major accidents are taken into account in their land-use policies, notably through controls on the siting of new establishments, modifications to existing establishments and new developments (transport links, residential areas, etc.) in the vicinity of existing establishments. The requires laid by Directive concern also information to be provided following a major accident (operator, competent authority, to public, to Commission).

(http://europa.eu.int/scadplus/leg/en/lvb/l21215.htm)

5. Directive on the assessment of the effects of certain public and private projects on the environment 85/337/EEC (Official Journal L 175, 05/07/1985 P. 0040 – 0048) (as amended by Directive 97/11/EC) (Environmental Impact Assessment Directive) Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

Amended by:

- *Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment*

Objective: To assess the environmental effects of those public and private projects which are likely to have significant effects on the environment.

The EIA procedure ensures that environmental consequences of projects are identified and assessed before authorisation of the project. The public is heard and all results are taken into account in the authorisation procedure of the project. The public is also informed of the decision afterwards. The EIA Directive outlines which project categories are subject to an EIA, which procedure shall be followed and the content of the assessment.

New Directive (2001/42/EC) supplements the environmental impact assessment system for projects introduced by Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment which introduced a system for prior assessment, by the Member States, of the possible effects of public and private projects on the environment. Directive 85/337/EEC covers measures affecting the natural environment or landscape, like construction work. The new Directive 97/11/EC introduces a system of prior environmental assessment at the planning stage.

(http://europa.eu.int/comm/environment/eia/home.htm)

(http://europa.eu.int/scadplus/leg/en/lvb/l28036.htm)

(http://europa.eu.int/scadplus/leg/en/lvb/l28137.htm)

6. Directive on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture 86/278 /EEC (Sewage Sludge Directive)

The objective: To regulate the use of sewage sludge in agriculture in such a way as to prevent harmful effects.

According to the Directive, using of sewage sludge in agriculture is allowed, but there are several requirements to be met. The sludge must not diminish the quality of the soil and of surface and ground water. The use of sewage sludge is totally prohibited if the concentration of one or more heavy metals in the soil exceeds the limit values laid down in Annex IA. Sludge must be treated before being used but the Member States may authorise the use of untreated sludge if it is injected or worked into the soil. Sludge and soil on which it is used must be sampled and analysed. The use of sludge is also restricted in some areas. The Member States must keep records according to the Directive. Member States may take more stringent measures than those provided for in Directive.

(http://europa.eu.int/scadplus/leg/en/lvb/l28088.htm)

7. Directive concerning urban waste water treatment 91/271/EEC (Urban Wastewater Treatment Directive)

Amended by:

- *Commission Directive 98/15/EC of 27 February 1998 amending Council Directive 91/271/EEC with respect to certain requirements established in Annex I thereof (Text with EEA relevance) (Official Journal L 67 of 07.03.1998)*

Objective: To harmonise measures on urban waste water treatment throughout the Community.

This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors. Its aim is to protect the environment from any adverse effects due to discharge of such waters. Industrial wastewater entering collecting systems, and the disposal of waste water and sludge from urban waste water treatment plants, are both subject to regulations and/or specific authorisations on the part of the competent authorities. Annex II requires Member States to draw up lists of sensitive and less sensitive areas which receive the treated waters. These lists must be updated regularly. The treatment of urban water is to be varied according to the sensitivity of the receiving waters. The Directive lays down specific requirements for discharges from certain industrial sectors of biodegradable industrial wastewater not entering urban wastewater treatment plants before discharge to receiving waters. The amending Directive (98/15/EC) clarifies the rules relating to discharges from urban wastewater treatment plants in order to put an end to differences in interpretation by the Member States.

(http://europa.eu.int/scadplus/leg/en/lvb/l28008.htm)

8. Directive concerning the placing of plant protection products on the market 91/1414/EEC (with amended directives) (Plant Protection Products Directive)

Amended by:

- *Council Directive 97/57/EC of 22 September 1997(Official Journal L 265 of 27.09.1997); establishing Annex VI to Directive 91/414/EEC concerning the placing of plant protection products on the market (Official Journal L 230, 19/08/1991 P. 0001 – 0032).*

- *With several commission directives:*

- Commission Directive 93/71/EEC of 27 July 1993 [Official Journal L 221 of 31.08.1993];
- Commission Directive 94/37/EC of 22 July 1994 [Official Journal L 194 of 29.07.1994];
- Commission Directive 94/79/EC of 21 December 1994 [Official Journal L 354 of 31.12.1994];
- Commission Directive 95/35/EC of 14 July 1995 [Official Journal L 172 of 22.07.1995];
- Commission Directive 95/36/EC of 14 July 1995 [Official Journal L 172 of 22.07.1995];
- Commission Directive 96/12/EC of 8 March 1996 [Official Journal L 65 of 15.03.1996];
- Commission Directive 96/46/EC of 16 July 1996 [Official Journal L 214 of 23.08.1996];
- Commission Directive 96/68/EC of 21 October 1996 [Official Journal L 277 of 30.10.1996];
- Commission Directive 2000/80/EC of 4 December 2000 [Official Journal L 309 of 09.12.2000];
- Commission Directive 2001/21/EC of 5 March 2001 [Official Journal L 69 of 10.03.2001];
- Commission Directive 2001/28/EC of 20 April 2001 [Official Journal L 113 of 24.04.2001];
- Commission Directive 2001/36/EC of 16 May 2001 [Official Journal L 164 of 20.06.2001];
- Commission Directive 2001/47/EC of 25 June 2001 [Official Journal L 175 of 28.06.2001];
- Commission Directive 2001/49/EC of 28 June 2001 [Official Journal L 176 of 29.06.2001];
- Commission Directive 2001/87/EC of 12 October 2001 [Official Journal L 276 of 19.10.2001];
- Commission Directive 2001/99/EC of 20 November 2001 [Official Journal L 304 of 21.11.2001];
- Commission Directive 2001/103/EC of 28 November 2001 [Official Journal L 313 of 30.11.2001];
- Commission Directive 2002/18/EC of 22 February 2002 [Official Journal L 55 of 26.02.2002];
- Commission Directive 2002/37/EC of 3 May 2002 [Official Journal L 117 of 04.05.2002];
- Commission Directive 2002/48/EC of 30 May 2002 [Official Journal L 148 of 06.06.2002];
- Commission Directive 2002/64/EC of 15 July 2002 [Official Journal L 189 of 18.07.2002];
- Commission Directive 2002/81/EC of 10 October 2002 [Official Journal L 276 of 12.10.2002];
- Commission Directive 2003/5/EC of 10 January 2003 [Official Journal L 8 of 14.01.2003];
- Commission Directive 2003/23/EC of 25 March 2003 [Official Journal L 81 of 28.03.2003];
- Commission Directive 2003/31/EC of 11 April 2003 [Official Journal L 101 of 23.04.2003];
- Commission Directive 2003/39/EC of 15 May 2003 [Official Journal L 124 of 20.05.2003];
- Commission Directive 2003/68/EC of 11 July 2003 [Official Journal L 177 of 16.07.2003];
- Commission Directive 2003/70/EC of 17 July 2003 [Official Journal L 184 of 23.07.2003].

Objective: to lay down uniform rules concerning the conditions and procedures for authorising plant protection products.

This Directive (as amended) provides for the establishment of a positive Community list of active substances, the use of which can be seen in advance to be acceptable for human or animal health or the environment. It represents a system for the authorisation by the Member States of different preparations containing the active substances in the positive list, in accordance with the requirements laid down in the Directive and according to uniform principles set out in Annex VI to the Directive. It also includes harmonised rules concerning the requirements on information, protection of information and confidentiality, concerning labelling and packaging and concerning the development of plant protection products. The directive introduces programme to evaluate the active substances currently on the market which are to be included in the positive list referred.

(http://europa.eu.int/scadplus/leg/en/lvb/l113002a.htm)

9. Directive concerning the protection of waters against pollution caused by nitrates from agricultural sources 91/676/EEC (Nitrates Directive) (Official Journal L 375, 31.12.1991).

Objective: To reduce or prevent water pollution caused or induced by nitrates from agricultural sources.

The Directive requires that Member States must identify surface waters and groundwater affected or which could be affected by pollution by nitrates, according to the procedure and criteria set out in the Directive. Member States should identify vulnerable zones which contribute to pollution and establish action programmes for them. The Member States must also establish codes of good agricultural practice to be implemented by farmers on a voluntary basis. The Member States must monitor water quality, applying standardised reference methods to measure the nitrogen compound content. The Directive authorises Member States to take additional measures or to reinforce the action programmes in order to attain the objectives of the Directive.

(http://europa.eu.int/scadplus/leg/en/lvb/l28013.htm)

10. Directive on the conservation of natural habitats and of wild fauna and flora 92/43/EEC Habitat Directive

Amended by:

- *Council Directive 97/62/EC of 27 October 1997 adapting to technical and scientific progress Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Official Journal L 305 of 08.11.1997)*

- *Acts of Accession of the 10 new Member States (OJ L 236 of 23.09.2003)*

Objective: To maintain biodiversity by conserving natural habitats and wild flora and fauna in the European territory of the Member States.

This Directive, known as the "Habitats Directive", is intended to help maintain biodiversity in the Member States by defining a common framework for the conservation of wild plants and animals and habitats of Community interest. The Directive establishes an European ecological network known as "Natura 2000". The network comprises "special areas of conservation" designated by Member States in accordance with the provisions of the Directive, and special protection areas classified pursuant to Directive on the conservation of wild birds (79/409/EEC).

Annexes I (Natural habitat types of Community interest) and II (Animal and plant species of Community interest) to the Directive list the habitats and species whose conservation requires the designation of special areas of conservation. Some of them are defined as "priority" habitats or species (in danger of disappearing). Annex IV lists animal and plant species in need of particularly strict protection. Special areas of conservation are designated in three stages, following the criteria set out in the annexes. Member States must take all necessary measures to guarantee the conservation of habitats in special areas of conservation, and to avoid their deterioration. The Directive provides for co-financing of conservation measures by the Community. The Member States and the Commission must encourage research and scientific work that can contribute to the objectives of the Directive.

(http://europa.eu.int/scadplus/leg/en/lvb/l28076.htm)

11. Directive concerning integrated pollution prevention and control 96/61/EC Integrated Pollution Protection Control Directive – IPPC. (Official Journal L 257 of 10.10.1996).

Objective: To prevent or minimise emissions to air, water and soil, as well as waste, from industrial and agricultural installations in the Community, with a view to achieving a high level of environmental protection.

The Directive defines the basic obligations to be met by all (new or existing) the industrial installations concerned. Integrated pollution prevention and control concerns highly polluting industrial and agricultural activities, as defined in Annex I (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, livestock farming, etc.).These basic obligations cover a list of measures for tackling discharges into water, air and soil and for tackling waste, wastage of water and energy, and environmental accidents. They serve as the basis for drawing up operating licences or permits for the installations concerned. Accordingly, the Directive lays down a procedure for applying for, issuing and updating operating permits. It sets minimum requirements to be included in any such permit (compliance with the basic obligations, emission limit values for pollutants, monitoring of discharges, minimisation of long-distance or transboundary pollution). An exchange of information on best available techniques (serving as a basis for emission limit values) is organised between the Commission, the Member States and the industries concerned.

(http://europa.eu.int/scadplus/leg/en/lvb/l28045.htm)

Appendix D: Questionnaire

Watersketch

Water Framework Directive

National implementation inventory questionnaire

Exploring the planning aspects of the national level implementation of the water framework directive

Questionnaire introduction to Watersketch partners and interview-persons:

This questionnaire is related to the Interreg IIIb project, Watersketch, and it focuses on the National Implementation of the Water Framework Directive, and the relationship to spatial planning aspects.

The questionnaire is to be completed by the Watersketch partners, together with national level responsible administrators. The questions should be answered based on a face-to-face dialogue between the two. It may be necessary to ask for help from national planning agency employees, if certain aspects related to general planning procedures couldn't be answered during the interview. The Watersketch partner should do this.

1. General information:

- Interviewer and interviewed:
- Country:
- Implementation date:
- List of competent authorities (WFD, Annex I)
    - National level (e.g. responsible ministry / ministries):
    - River Basin District level:

2. National implementation of WFD:

- A. "Have any new laws, statutory orders or other pieces of legislation been passed by the Parliament or a competent authority with the aim of implementing the WFD?
- B. Has existing law been amended as a result of the implementation of the WFD?
    - If yes to amendments/change of existing laws, statutory orders, etc., please state the name of the laws (preferably in English)

- Does the law(s) for implementing the WFD replace existing laws related to water protection: yes/no

- Does the law(s) for implementing the WFD cover also other national objectives, such as habitat protection, permits, among others? yes/no

    - If yes, could you specify which?

- Have amendments to any other pieces of legislation been necessary following the implementation of the WFD: yes/no

    - If yes, in which piece of legislation

- Have other ministries than the one you represent been involved in the implementation process: yes/no

    - If yes, which ministries and concerning which issues (for instance administration of monitoring or assessment of different pressures)?

3. The Water Framework Directive

- How many River Basin Districts are there in your country?

- What is the size range of River Basin Districts?

- Have the water bodies been classified before: yes/no

    - If yes, which criteria are used in this classification?

    - If yes, does the WFD imply criteria that are more demanding than former criteria?

- Which authority undertakes the classification related to WFD?

- Has any national guidelines been prepared in which the WFD is addressed?

    - If yes, in which areas (e.g. identification of pressures, impact assessment)?

    - If yes, has the River Basin District been involved in the preparation? How?

- If there are no national guidelines, which guidelines have been followed (e.g. Common Implementation Strategy Guidance Documents)?

- Has or will guidelines for public participation be created at national level? Yes/no

SPATIAL PLANNING AND WFD

"Spatial planning refers to the methods used largely by the public sector to influence the future distribution of activities in space. It is undertaken with the aims of creating a more rational territorial organisation of land uses and the linkages between them, to balance demands for development with the need to protect the environment, and to achieve social and economic objectives. Spatial planning embraces measures to co-ordinate the spatial impacts of other sector policies, to achieve a more even distribution of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses." (European Commission 1997, Compendium of European Spatial Planning Systems, p.24).

Most countries have spatial planning units at different geographical levels, which uses spatial management instruments and plans for the coordination of activities in space. Under the water Framework Directive several tasks involve the assessment and planning of activities in space (general description of the river basin district, art 5, assessment of pressures, river basin management plans and monitoring setup). The aim of the following parts of the questionnaire concerns spatial planning in general and how the interaction between existing spatial planning procedures and WFD is and will be.

1. Spatial planning framework and process in general

- At which levels is spatial planning undertaken (e.g. town plans, regional plans, national plans)
- By which authority are new (national or regional,) spatial planning themes being decided? (e.g. decisions on area designations at national, regional or municipality level)
- Which laws/regulations cover spatial planning at national, regional and local level?
- What is the frequency of spatial planning (updating) at the respective levels
- How and when, in the process, is the public involved in the planning process
- Do environmental objectives affect on spatial planning practises in your country?
    - If yes, give examples.

2. Implementation of the River Basin Management Plan

- At which spatial level (national, regional, local) is the river basin management plan produced?
- Which authority produces the river basin management plan?
- Is there any national attempts or guidelines for preparation of program of measures?

- If yes, could you specify
- If no, how will you proceed

- Do any regional instruments for regulating diffuse source pollution exist?
- How are protected areas (art. 6) related to water bodies taken into account in the River Basin Management Plan?

3. Potential problems

- Which problems do you anticipate in the implementation process, and at which stage?
- Is WFD conflicting with existing national legislation: yes/no
  - If yes, could you specify (which legislation)?

4. Others

- Are environmental objectives of WFD realistic to achieve in your country: yes/no
- How, in your view will the present spatial planning process accommodate the environmental objectives of WFD (good ecological status or potential)?

Appendix E: Participants in the Vilnius Seminar:

Veronica Schulte, TuTech, Germany

Walter Leal, TuTech, Germany

Jörg Janning, Ministry of Environment, Lower Saxony state, Germany,

Juha Hiedanpää, University of Turku, SERI, Finland

Seppo Hellsten, SYKE, Finland

Juha Riihimäki, SYKE, Finland

Teemu Ulvi, SYKE, Finland

Milla Maenpää, SYKE, Finland

Sigita Sulca, LEGMA, Latvia

Evija Zielisa, LEGMA, Latvia

Indrikis Barkans, Ministry of Regional development and Local governments, Latvia

Miroslaw Imbierowicz, TU Lodz, Poland

Barbara Kozlowska, TU Lodz, Poland

Arkadiusz Dudczak, Vojevodship, Lodz, Poland

Malgorzata Parol-Wiski, Ministry of Environment, Poland

Rene Reisner, Ministry of Environment, Estonia

Marina Hiiob, Ministry of Environment, Estonia

Antanas Kontautas, Klaipeda University, Lithuania

Aldona Margeriene, Environmental Protection Agency, Lithuania

Mindaugas Gudas, Environmetnal protection Agency, Lithuania

Evelina Tuzauskiene, Ministry of Environment, Lithuania

Vaidota Palionis, Vilnius Municipality, dept. of Environment protection, Lithuania

Ricardas Sabaliauskas, Vilnius County Spatial planner, Lithuania

Dovile Dimindaviciute, Municipal Enterprise, “Kauno Planas”, Lithuania

Linas Kliucininkas, Kaunas University of Technology, Lithuania

Jolita Mockuviene, kaunas University of Technology, Lithuania

Peter Nordskov Kristensen, North Jutland County, Denmark

Henning Steen Hansen, NERI, Denmark

Pia Frederiksen, NERI, Denmark

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DMU Danmarks Miljøundersøgelser

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The report introduces the ecosystem based approach to integrated natural resource manage-ment, which is behind the European Water Framework Directive. Moreover, how former Euro-pean legislation on water is integrated into this framework. The report gives an introduction to the legislation, the ways that policy coherence in the area of water management is met through the Framework Directive, the measures that it prescribes, and the possible gaps that may need to be addressed in the future. Moreover, spatial aspects of river basin management and the in-teraction between physical planning and water plans is discussed and tools for integration be-tween different environmental objectives and in sector policies are discussed. A survey of the national implementation of the Water Framework Directive in countries around the Baltic Sea has been carried out.

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