



Baltic River Basin Management Handbook

Strategies for Sustainable River Basin Management

Principles, tools and systems to extend spatial planning on water courses
– main outcomes of Baltic Sea Region Interreg IIIB project WATERSKETCH



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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

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Introduction to the Handbook

*Edited by Walter Leal Filho, Seppo Hellsten,
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The approaches taken in the management of water resources have evolved over a long period of time: from being unlegislated, government – centred, single issue or sectoral based, or based on the technological knowledge at the time- as it was often the case in the past- to the position of recent times where environmental, social and economic aspects all have to be considered and supported by technology, not made subservient to it. For many years, river management has been viewed essentially as river manipulation – straightening, establishing flood defences, damming etc. and left in the hands of engineers. Thankfully, this line of thought has changed and rivers are increasingly being perceived as they are: living water bodies, host to a diverse fauna and flora and important for both economic purposes (e.g. the use of waterways to transport goods) and for recreation and leisure.

Decisions related to the conservation of river basins pertain to a long timescale and have long-term implications. In order to succeed, such decision processes must take into account the individual profiles, requirements and eco-physical conditions of river basins for the next 20 to 30 years, not only in terms of hydrology, but also in terms of residential and industrial developments. Climatic elements for example are one part of the decision-making process and their impacts can make the process easier (or more difficult) depending on the effectiveness and existence of adaptation measures. Climatic factors can often indirectly affect the planning of a river basin since flood occurrence or dry periods cannot be excluded in river basin planning.

Due to the various problems related to river basin management, general approaches in many countries at present point towards one trend: the focus is now on how best to practically achieve integrated catchment management that emphasises systems thinking and community involvement. The subject of river basin planning and management in the Baltic Sea Region (BSR) has always been a topic, which is both important and complex. The issue has gained a new momentum with the introduction of the EU Water Framework Directive (2000/60/EC), which is probably the most substantial piece of EC water legislation to date. Published in the Official Journal of the European Union on 22 December 2000, the Water Framework Directive (WFD) has been implemented over the past six years, both as a result of the concerns of European Member States regarding the deterioration of water systems, as well as an outcome of moving towards integrated water management systems. The WFD requires all inland and coastal waters to reach „good status“ by 2015. It will do so by establishing a river basin district structure, within which demanding environmental objectives will be set, including ecological targets for surface waters.

As part of the WFD a timetable has been set out for both initial transposition into Member States' legislation and thereafter for the implementation of requirements. Attempts to promote sustainable river basin management in the BSR, which have until now been uncoordinated, have been greatly boosted by the WFD, which gives a new momentum in respect of addressing the needs arising from tourism, recreation and economic use of waterways for transport and fishing.

Among others, the WFD has the following main objectives:

1. expanding the scope of water protection to all waters, surface waters and groundwater;
2. achieving „good status“ for all water bodies by a specified deadline;
3. creating a common pan-European quality standard for water bodies;
4. developing economic analysis of water use;
5. involving citizens more closely in river basin management;
6. streamlining water related legislation.

Moreover, the WFD provides a framework for the development of integrated and coherent water management by means of the so-called river basin management plans (RBMP) that cover groundwater, surface waters, transitional waters and coastal waters for the whole of a river basin, including transboundary river basins.

Due to its complexity, the implementation of the WFD requires not only concerted action among the relevant stakeholders, but also the particular participation of spatial planners. In addition, implementation needs to be supported by multiple criteria decision support systems addressing the ecological and socio-economic dimensions of river basin management, all of which are urgently needed if the WFD is to be fully implemented on time.

This background and the need to provide a foundation from which the implementation of the WFD in Baltic Sea Region countries may be pursued more systematically, has provided a basis upon which the project “Principles, Tools and Systems to Extend Spatial Planning in Watercourses” (WATERSKETCH) has been designed.

The main aims of the project, which is funded by the Interreg IIIIB Programme (Baltic Sea Region) of the European Commission, include finding answers to the following questions:

1. What are the main directives and conventions related to the use of river basins as well as to river basin management?
2. How are these demands expressed in land use planning on a regional level now and in future, especially in relation to the development of river basin plans according to the WFD?
3. What are the most common problems in the river basins of the Baltic Sea Region?
4. Are there any common tools to be utilised in river basin management?
5. How can we disseminate information on sustainable river basin planning?

The partners of the WATERSKETCH project are:

- Finnish Environment Institute, SYKE, Finland (lead partner)
- TuTech Innovation GmbH, Germany
- National Environmental Research Institute, University of Aarhus, Denmark
- County of North Jutland, (replaced later by Danish Ministry of Environment), Denmark
- Lodz Technical University, Faculty of Process Environmental Engineering, Poland
- Kaunas University of Technology, Lithuania
- Coastal Research and Planning Institute, Lithuania
- Hamburg Ministry for Urban Development and the Environment, Germany
- North Ostrobothnia Regional Environment Centre, Finland
- Kainuu Regional Environment Centre, Finland
- University of Turku, Satakunta Environmental Research Institute, Finland
- Regional Council of Satakunta, Finland
- Northern Environmental Research Network, Finland
- Council of Oulu Region, Finland
- Joint authority of Kainuu region, Finland

This "Baltic River Basin Management Handbook" is one of the project outputs and aims to provide users (e.g. spatial

planners, environmental officers, engineers, scientists) with a set of information, which may assist their efforts in addressing the various challenges faced in respect of river basin management as a whole and in the implementation of the Water Framework Directive in particular. The Handbook is divided into four parts. Part 1 offers an overview of the regulatory framework of the Directive. Part 2 presents a set of tools utilised in river basin management. Part 3 contains a set of case studies from the following regions:

- Hamburg, Germany
- Limfjord, Denmark
- Lodz, Poland
- Kokemäenjoki, Finland
- Oulujoki, Finland
- Minija, Lithuania

Finally, part 4 contains a description of the lessons learned and a number of conclusions. Here, special attention is paid to the application of the transnational experiences gathered as part of the project, which will be of direct relevance to those working in this field. This is one of the special features of this handbook.

Thanks to its international dimension, transnational approach and cross-sectoral structure, the information provided in this Handbook will provide practical assistance to all those interested in the WFD and for its implementation.

