



Convention on Protection and Use of Transboundary Watercourses and International Lakes
Working Group on Monitoring and Assessment

WGMA2002/10

Working paper:
Future work under the Convention linked to Monitoring and Assessment

THE FUTURE OBJECTIVES AND ACTIVITIES OF UN/ECE WORKING GROUP ON MONITORING AND ASSESSMENT (WGMA)

1. THE ORGANISATION OF THE CONVENTIONS

United Nations Economic Commission for Europe (UNECE) Environment and Human Settlements Division takes care of following Conventions:

- Long-range Transboundary Air Pollution
- Protection and Use of Transboundary Watercourses and International Lakes (Protocol on Water and Health)
- Transboundary Effects of Industrial Accidents
- Environmental Impact Assessment in a Transboundary Context (Protocol on Strategic Environmental Assessment)
- Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters
- Civil Liability

The structure of the activities under the Water Convention on the protection and Use of Transboundary Watercourses and International Lakes (Water Convention, Helsinki 1992) can be demonstrated with following simplified Figure 1:

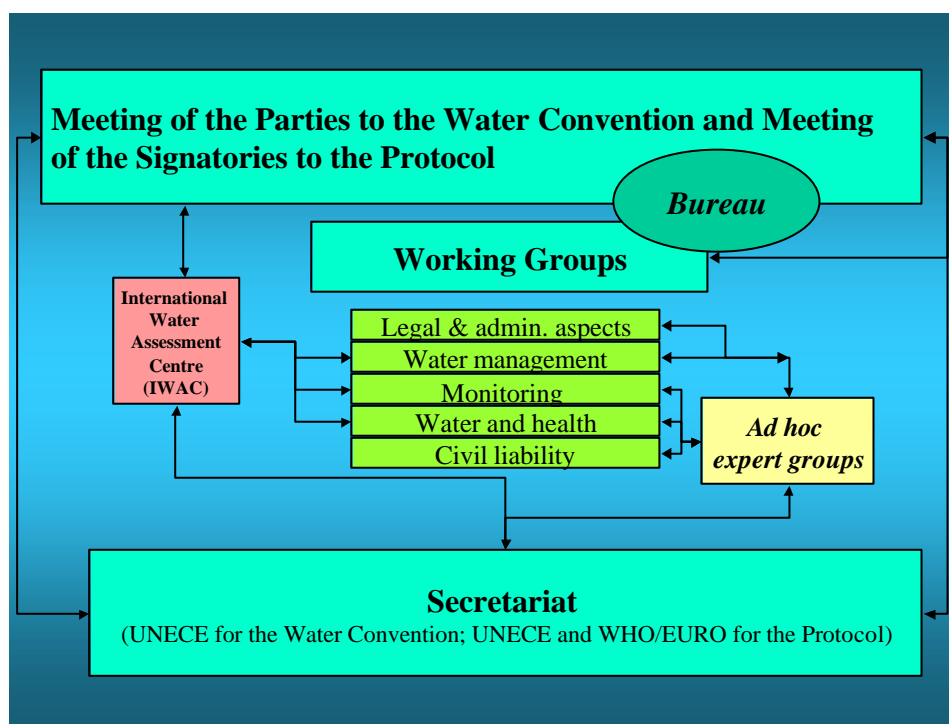


Figure 1. The structure of different activities under Water Convention

The activities are focused in the Working Groups (WG). Ad hoc expert groups for certain limited tasks can also be established. At present there are four active working groups, which are assisted by the Secretariat. These WGs are:

- WG on Legal and Administrative Aspects (Chair Phani Daskalopoulou-Livada, Greece)
- WG on Water Management (Chair Milan Matuska, Slovakia)
- WG on Monitoring and Assessment (Chair Lea Kauppi, Finland)
- WG on Water and Health (Chair Mihaly Kadar, Hungary).

The International Water Assessment Centre (IWAC) is working closely together with the working groups. IWAC has been established in 2000 under the UNECE Convention. RIZA from the Netherlands hosts the secretariat of IWAC and acts as its facilitator. IWAC

intends to form a link between policy makers and experts in the field of monitoring and assessment.

The tasks of the Working Groups are presented in the Terms of Reference as follows:

1. The Working Groups on Legal and Administrative Aspects, on Water Management, on Monitoring and Assessment, and on Water and Health shall be responsible for the implementation of the relevant programme areas of the work plan. They shall examine experience and draw up draft recommendations, codes of practice and other soft-law instruments. They shall review policies, strategies and methodologies of relevance to human health and safety as well as the protection and use of waters; examine the implications of such policies, strategies and methodologies; assist the Meeting of the Parties to the Convention and the Meeting of the Signatories to the Protocol on Water and Health, if applicable, in developing response measures; and promote the harmonization of rules and regulations on specific areas.

2. The Working Groups shall provide guidance – in between the meetings of the Parties - in the implementation of the work plan. The Working Groups may advise the Bureau to make arrangements to further develop the work plan, adapt it to changing circumstances and avoid, to the extent possible, duplication of efforts with water-related activities of other United Nations bodies and other international organizations.

3. The Working Groups shall take initiatives to strengthen the application of the Convention, including the preparation of draft decisions, proposals and recommendations, and a draft work plan for consideration by the Meeting of the Parties to the Convention, and mobilize resources.

4. Each Working Group may formulate recommendations related to the work of the other Working Groups.

5. The Working Groups shall seek, where appropriate, the services of relevant UN/ECE bodies as well as other competent international bodies and specific committees to implement the Convention and its Protocol.

6. In the interest of consistency, the Working Groups shall review relevant activities of the UN/ECE programme of work that have a bearing on water as well as human health and safety; keep themselves informed of the relevant work done and planned under other international conventions, particularly the UN/ECE environmental conventions; and keep themselves abreast of water-related activities of other United Nations bodies and other international organizations. If need be, the Working Groups shall also assist Parties in the implementation of the water-related parts of Agenda 21, particularly chapter 18.

7. Except as provided for in the terms of reference of the Bureau of the Meeting of the Parties, a Working Group shall hold no more than one ordinary meeting per year. Working Groups may hold joint meetings.

8. The Working Groups shall elect their own officers. The Chairpersons of the Working Groups shall be members of the Bureau. The Chairpersons shall report to the Meeting of the Parties about the achievements of their Working Groups.

2. BACKGROUND

The Working Group on Monitoring and Assessment (WGMA) has been very active during the latter half of the 1990s. It has published e.g. several guidelines for monitoring and assessment of transboundary watercourses and international lakes, and carried out pilot projects to test these guidelines. Guidelines on Monitoring and Assessment of Transboundary Rivers have been adopted in 1996 and its 1st revision in 2000. Guidelines on Transboundary Groundwaters have been adopted in 2000, too.

In the strategy of monitoring guidelines the DPSIR-framework (Driving Forces-Pressures-State-Impact-Responses) created by European Environment Agency (EEA) has been used as the basis for different activities and solutions.

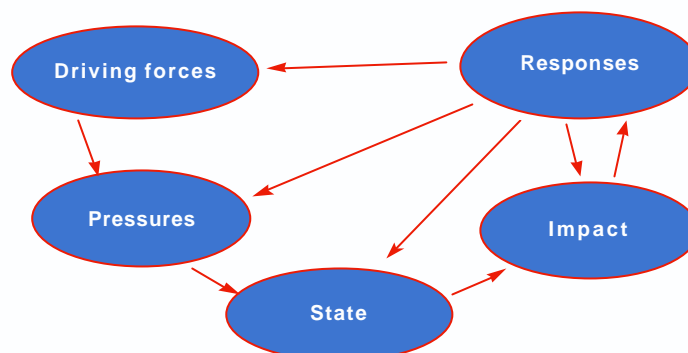


Figure 2: The Driving Forces-Pressures-State-Impact-Responses (DPSIR) framework (EEA)

In this scheme driving forces describe the human activities, like industry and agriculture, that are the main sources of problems or threats. The pressures describe the stress that the problem puts on the functions/uses of the river basin. The state of the river basin is described in terms of concentrations, hydrological or ecosystem characteristics. The impact describes the loss of function/use, like toxicity or bad taste of drinking water. Responses describe the policies that have been or are being adapted to deal with the problem.

The actual implementation procedures of monitoring activities are based on the following framework of the monitoring cycle (Figure 3).

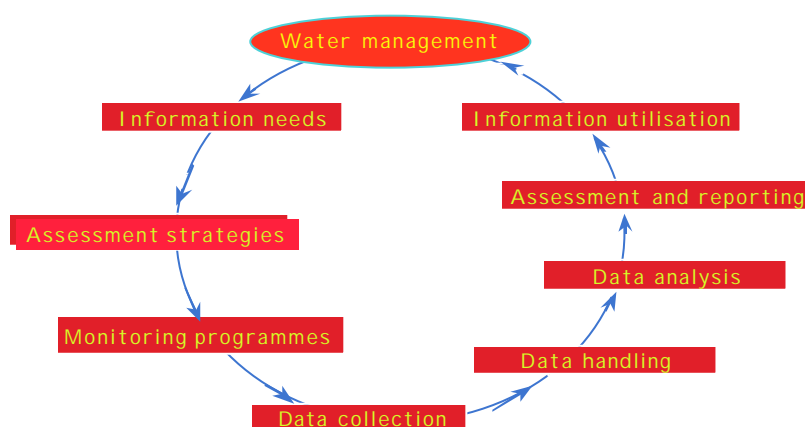


Figure 3. The monitoring cycle

The preparation of the monitoring programmes shall always start with the careful inventory of the different information needs. After the monitoring programmes have been started to produce data, different ways to handle and analyze data and the assessment of data have become more important in monitoring.

Finally, the reporting for water management has opened the possibilities to utilize the monitoring data in practice. The reports should give justifiable information for developing e.g. water protection measures. And visa versa, the needs in water management should give information how to develop the monitoring programmes further. Thus, water management aspects form always a very important phase in the monitoring cycle.

The Protocol on Water and Health urges the development of guidance on monitoring and assessment of health aspects. It is to be discussed whether a full integration of water

environment and health aspects in the guidelines is desirable or separated guidelines for monitoring and assessment of water and health aspects should be developed.

Integration may ask for a different approach during the next review of the guidelines. First, the Protocol on Water and Health is not limited to transboundary waters as it addresses: (i) surface freshwaters; (b) groundwaters; (c) estuaries; (d) coastal waters which are used for recreation or for the production of fish by aquaculture or for the production or harvesting of shellfish; (e) enclosed waters generally available for bathing; (f) water in the course of abstraction, transport, treatment or supply; and (g) waste water throughout the course of collection, transport, treatment and discharge or reuse. Second, future monitoring guidelines will not be targeted to the water management sector only, but to a broader group of users that includes the health sector.

3. POSSIBILITIES TO RE-ORGANISE THE WATER RELATED WORKING GROUPS

The implementation of monitoring programmes in practice very quickly reveal the real target of monitoring: the aim is to produce relevant information for different needs in water management. In many countries these two topics, water management and all the water related monitoring activities, are therefore closely connected to each other, the same organizations being responsible for the implementation of the both tasks.

For these reasons it would be very reasonable also for UNECE in future to consider how to increase and activate co-operation between the present Working Groups to produce more useful results for Member States for water management purposes. In this context it could be useful to study also possibilities to merge the activities of the Working Group on Water Management and the Working Group on Monitoring and Assessment to one new Working Group on Water Resources (Figure 4). The new WGWR should prepare the strategy of the future activity and a detailed time table for the coming years. This alternative should then be discussed in the Meeting of Parties at the end of 2003.

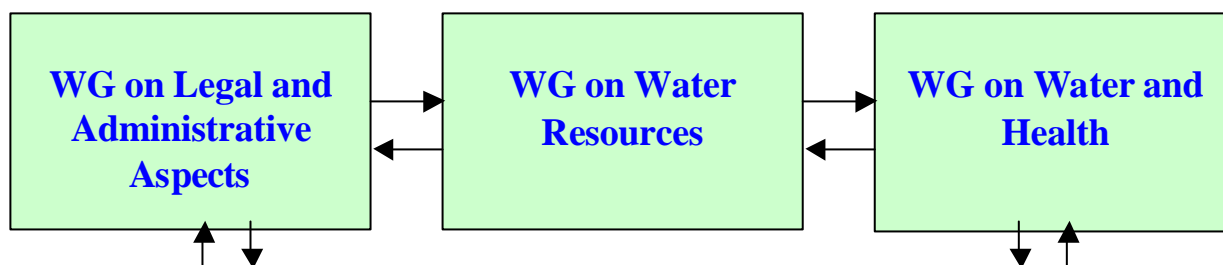


Figure 4. The possible new organization scheme under the Water Convention of UNECE

This evaluation should be carried out carefully taking into account the advantages and disadvantages of this solution for Member States in implementing the Convention on Protection and Use of Transboundary Watercourses and International Lakes. Also the ways to intensify the co-operation with the two other working groups (WG on Legal and Administrative Aspects and Working Group on Water and Health) should be considered.

The following chapters will discuss the future work plan only for WGMA. If the proposal to merge the WGMA and WGWM realizes, the work plan has to be amended in order to take into account the requirements of water management.

4. PREPARATION OF GUIDELINES

In the work programme of the WGMA the preparation and dissemination of monitoring guidelines has played a central role. This task needs to be continued also in the future,

taking, however, into account the experiences on the implementation of the present guidelines (In the Annex some ideas are put for discussion).

There are some central elements concerning the preparation of water related guidelines, which should be included in the workplan:

- Preparation of the guidance document for **monitoring strategy**. The character of this document depends on the organizational solution discussed in the previous chapter, but it can be characterised as recommendations to governments. The target group of these guidelines is composed of decision makers, those responsible for transboundary co-operation and those responsible for the design of monitoring and assessment programmes. Several elements for the strategic document already exist, since in the lake guidelines the strategic and the technical level of activities has already been treated separately.
- Revision of existing **technical guidelines** (Transboundary Rivers, Transboundary Groundwaters, International Lakes) as well as preparation of **new guidelines**, such as Transboundary Estuaries, Quality Assurance and Ecological Assessment Strategies. The target groups of these documents are specialists and operational staff in the field of monitoring and assessment.
- Development of the step-wise approach. From the very beginning **cost-effectiveness** and **tailor-made approaches** have been an essential element in the development of Guidelines. The point was raised, however, by representatives last year, that many ECE region countries cannot afford to establish or maintain monitoring and assessment systems recommended in the present guidelines. Therefore, a strategy for **step-wise approach** for setting up adequate and sustainable information systems is needed. It could be a useful guide for countries with economies in transition in the ECE region, but could also be applied in developing countries. In the new pilot projects on transboundary rivers in Eastern Europe and Central Asia expected to start in the near future there is an urgent need for this kind of guidance.
- To be adopted by the 4th Meeting of the Parties to the Convention, the revised guidelines should be ready in 2005 and the preparations have to start after the 2003-meeting of the WGMA. This leaves enough time for the development of documents on estuaries and on step-wise approaches as well as on water and health aspects.
- The work programme has strong links with the IWAC work plan. For the drafting or updating of different documents use can be made of the discussion platform that is initiated via the IWAC website. Moreover, WGMA pilot projects will make use of the advisory support and training facilities of IWAC.
- The WGMA should take into account the related activities of the **EU** (especially the implementation of the Water Framework Directive (WFD) and other water related directives), **EEA** (especially the State of Environment reports and Environmental Signals reports) and **Eurostat** (the Joint Questionnaires with OECD). The main principle should be the **harmonization of guidelines** as far as possible.

As a summary, the preparation of guidelines for transboundary watercourses has been the most important activity of the WGMA during the first 10 years of the Convention. The result has been significant in promoting the monitoring of water resources in MSs. We are at the moment in the phase, where the most important guidelines are ready for use, and only revision is needed from time to time. A good basis for establishing the monitoring networks and reliable data production has been created.

4. ASSESSMENT AND REPORTING

The development and testing of guidelines has now reached the point that the full-scale or step-wise implementation of the monitoring programmes is possible. This should be reflected also in the work plan of WGMA. During the planning period 2003-2009 the focus should clearly be shifted to assessment of monitoring data.

There are different types of assessment and reporting activities, which could justifiably fit to the work plan of WGMA as follows:

- The development of general **guidelines** for the use, assessment and reporting of the monitoring data.
- Pilot projects for **demonstration of recommended practices** on transboundary rivers, groundwaters, lakes and estuaries may serve as test cases of guidelines and technical reports. Via these pilot projects support can be given to countries in transition for the implementation of the recommended practices. The target group of these pilot projects are transboundary commissions and those specialists involved in preparing the monitoring and assessment in the context of transboundary co-operation.
- **State of the Transboundary Watercourses-report** could be in the near future the concrete product of the harmonized monitoring carried out in transboundary watercourses. This assessment should be carried out every three years. The preparation of this report (content, timetable etc.) should be done in close co-operation with EEA.
- **Thematic reports** concerning transboundary watercourses may discuss different e.g. regionally important themes. The need and themes for special reports should each time be discussed in the WGMA.
- The need for special **statistics** for Transboundary Watercourses and International Lakes should be discussed with MSs, Eurostat and EEA.
- One of the key questions is to produce a relevant set of **indicators** for transboundary watercourses.

The need to establish a special core group to evaluate the demand and possibilities to start this type of activity in WGMA should be discussed.

5. IWAC SUPPORT

IWAC will be an important actor in the implementation of water related conventions. The interactive IWAC website will serve as a source of technical information for the WGMA. It will offer a platform for discussion on subjects relevant for the monitoring and assessment of waters. Each forum will have a forum manager.

These discussion fora are an excellent source of information for the drafting of technical documents mentioned under Chapter 4. Examples of such fora could be, e.g.: indicators, assessment strategies, (ecological) classification systems, implementation of Water Framework Directive, technical aspects of sampling, statistical aspects of monitoring. Inventories on transboundary waters include the monitoring and assessment practices, the environmental status assessment, but also the state of co-operation and development in sustainable management of transboundary waters.

Together with IWAC special courses could be organized for MSs. In the years 2003-2009 a set of special courses on the implementation of WFD could significantly help the non-members of EU to develop monitoring procedures and, in a wider perspective, water management.

6. CO-OPERATION WITH OTHER ORGANIZATIONS

There are several organizations, which could help WGMA in fulfilling the tasks given in the Convention. Following bodies are the most important ones:

European Union

Legislation of the European Union is a major tool for defining the way how European waters should be used, protected and restored in the 21st century. The current protection of European surface waters is governed by many EU directives such as the Urban Waste

Water Treatment Directive, the IPPC Directive, the Nitrates (from Agricultural Sources) Directive, the Drinking Water Directive, and the Bathing Water Quality Directive.

However, the most important water related directive is the EU Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (so called Water Framework Directive, WFD). The WFD establishes a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters in the EU area. The main aims of the WFD are to prevent further deterioration and protect and enhance the status of aquatic ecosystems, promote sustainable water use, and mitigate the effects of floods and droughts. It will give also very detailed programme for the monitoring of different waterbodies.

Within a river basin where use of water may have transboundary effects, the requirements for the achievement of the environmental objectives established under this Directive, and in particular all programmes of measures, should be co-ordinated for the whole river basin district. For river basins extending beyond the boundaries of the Community, Member States should endeavour to ensure the appropriate co-ordination with the relevant non-member States.

European Environment Agency

The European Environment Agency's core task is to provide decision-makers with the information needed for sound and effective policies to protect the environment and support sustainable development.

The Agency ensures this information is available to the general public through its publications and website. The EEA does not make or enforce European Union environment policy or legislation: this is the responsibility of the European Commission and the other EU institutions. The information provided by the EEA focuses in particular on assessing the current and future state of the environment across Europe and the pressures upon it.

The Agency's tasks also include disseminating best practices in environmental protection and technologies, and supporting the European Commission in disseminating information on the results of environmental research. The Agency both gathers and distributes its data and information through the European environment information and observation network (EIONET), which brings together just over 300 environment bodies, agencies, public and private research centres and centres of expertise across Europe. The EEA is responsible for coordinating the EIONET.

The Agency currently has 29 member countries and is the first EU body to open its doors to the 13 countries in central and eastern Europe and the Mediterranean basin that have applied for membership of the EU.

Eurostat

Eurostat, the Statistical Office of European Communities, provides the European Union with statistics at European level enabling comparisons between countries and regions. Inland waters are a priority area for Eurostat. Data on water resources, water abstraction and use, and waste-water treatment and discharges will be provided through the Eurostat/OECD Joint Questionnaire.

Global Environment Monitoring System (GEMS)

The United Nations Environment Programme's GEMS/WATER (Global Environment Monitoring System, Freshwater Quality Programme) aims to improve the understanding of fresh water quality issues around the world. Monitoring, assessment, and capacity building activities are a major element of the programme. The implementation of the GEMS/WATER Programme involves several UN agencies active in the water sector, as well as various authorities, institutions and organisations around the world.

EU Water Initiative

As part of the EU Water Initiative for the World Summit on Sustainable Development in Johannesburg (August 2002), Denmark has taken the lead in developing a NIS component (Integrated water resources management including transboundary river basin management). The EU Water Initiative NIS component will be split in different blocks as follows:

Block 1: Legal and regulatory framework

This building block mainly consists of: (a) action to be taken by each of the countries individually (for example those laid down in the Environmental Performance Reviews in NIS); (b) action to be taken by each country in support of bilateral or multilateral agreements, such as harmonization of regulations among riparian countries; (c) action to be taken to draw up or revise (according to the Water Convention and the EC Water Framework Directive needs) bilateral or multilateral agreements; and (d) action to be taken to facilitate ratification of the ECE Water Convention and other environmental conventions and protocols of relevance to water.

Block 2: Establishment and strengthening of institutions responsible for water management

This building block mainly consists of: (a) action to be taken by each of the countries individually (for example those laid down in the Environmental Performance Reviews in NIS); and (b) action to be taken to comply with the ECE Water Convention and the EC Water Framework Directive. The latter includes the establishment of joint bodies for transboundary waters (e.g. river commissions or basin authorities), institutional arrangements for consultations and mutual assistance, and institutional arrangements linking the protection of transboundary inland waters and coastal waters.

Block 3: Improvement of infrastructure and non-structural measures related to water and human health

This block is closely linked to the activities that are described under the thematic focus "urban water supply and sanitation (annex 1), and will aim to assist in implementing the targets set by each of the Parties to the Protocol on Water and Health in the local, national and transboundary contexts. Apart from infrastructure (e.g. collective systems in urban and rural areas; storages including reservoirs; irrigation systems; etc.), it involves non-structural measures such as surveillance and early-warning systems, contingency plans and response capacities in relation to water-related diseases.

Block 4: Monitoring and assessment in river basins

This block involves information needs analysis; tailor-made monitoring and assessment strategies; monitoring programmes, including warning and notification systems; data management; reporting and quality management for rivers, lakes/reservoirs, groundwaters and estuaries. It is linked to block 3 insofar as health-related surveillance, warning and notification systems are concerned, and blocks 1 and 2 insofar as laws/regulations and joint bodies are concerned.

Block 5: Access to information and public participation in water management

This block is closely linked to the Aarhus Convention's implementation, and involves activities on public participation in decision-making in the pan-European context, the context of transboundary waters, the national context and the local contexts. It also involves access to justice on matters related to the water environment. As public information is concerned, this block is linked to block 4.

Block 6: Concerted action programmes

This block is intended to provide - by means of demonstration projects - how water resources are managed in an integrated manner on the basis of catchment areas, with the aims of linking social and economic development to the protection of natural ecosystems and of relating water-resource management to regulatory measures concerning other environmental mediums. Such an integrated approach will apply across the whole of a catchment area, whether transboundary or not, including its associated coastal waters, the whole of a groundwater aquifer or the relevant parts of such a catchment area or groundwater aquifer.

On the assumption that work on the background paper for the NIS environment strategy and work on the EU Water Initiative will continue in autumn 2002, one could make use of arrangements already made under the Water Convention to draft a mid-term (until 2006) and long-term (beyond 2006) strategy on transboundary aspects. Each of the chairpersons of the existing working groups (legal and administrative aspects, water management, monitoring and assessment, water and health) has been made responsible for drafting inputs to the strategy (preliminary final versions should be ready in spring 2003). This includes a number of brainstorming sessions, the use of special internet forums established under the IWAC's web site, and in-depth discussions at the forthcoming working

group meetings. This process also gives us ample opportunities to carry out work on the respective parts of the EU Water Initiative's NIS package related to IWRM.

Annex: The Work plan of WGMA for the years 2002-2009

	2002	2003	2004	2005	2006	2007	2008	2009
I Organisational changes (evaluation of the possibilities to combine the work of WGMA and WGWM to WGWR, the preparations of the common work plan for 2003-2009, the decision of MoP)								
Evaluation of the possibilities to establish a combined WG on Water resources (WGWR)	◆	◆						
Preparation of the work plan of (WGWR), acceptance of MoP	◆	◆		◆	◆		◆	◆
Preparation of Strategy Document on WGWR for the years 2006-2015 (All water management, monitoring and assessment issues). Acceptance of MoP in 2006, revised in 2015.			◆	◆	◆			
II Preparation of Guidelines (including the pilot testing)								
Guidelines on M&A of Transboundary Rivers				◆				
Guidelines on M&A of Transboundary and International Lakes				◆				
Guidelines on M&A of Transboundary Groundwaters				◆				
Guidelines on M&A of Transboundary Estuaries	?							
Guidelines on M&A of Hygienic Water Quality of Transboundary Waterbodies and International Lakes (together with WGWH)				◆	◆		◆	◆
Guidelines on M&A of (point and non-point) loading discharged to the Transboundary Waterbodies (River Basins)		◆	◆	◆	◆			
Guidelines on Quality Assurance in M&A of Transboundary Waterbodies								
III Assessment and Reporting								
Report of the State of the Transboundary Waterbodies and International Lakes (including the loading to them)	◆	◆	◆	◆	◆	◆	◆	◆
Guidelines for use, assessment and reporting monitoring data		◆	◆					
Special reports of different relevant topics								
IV IWAC co-operation								
Courses on the implementation of WFD for non-members of EU		◆	◆	◆	◆	◆	◆	◆
Consultation								
Other activities								
V Co-operation with other organisations								
EEA/Reporting and Indicators		◆	◆	◆	◆	◆	◆	◆
Eurostat/Regional environmental statistics (Special statistics for Transboundary Watercourses and International Lakes)			◆		◆		◆	
EU Water Initiative-NIS component	◆	◆						

◆ Ready document for acceptance; ◆ Meeting of Parties; ◆ Eurostat/OECD JQ; ◆ the core group activity; ◆ EEA activity; ◆ IWAC activity