

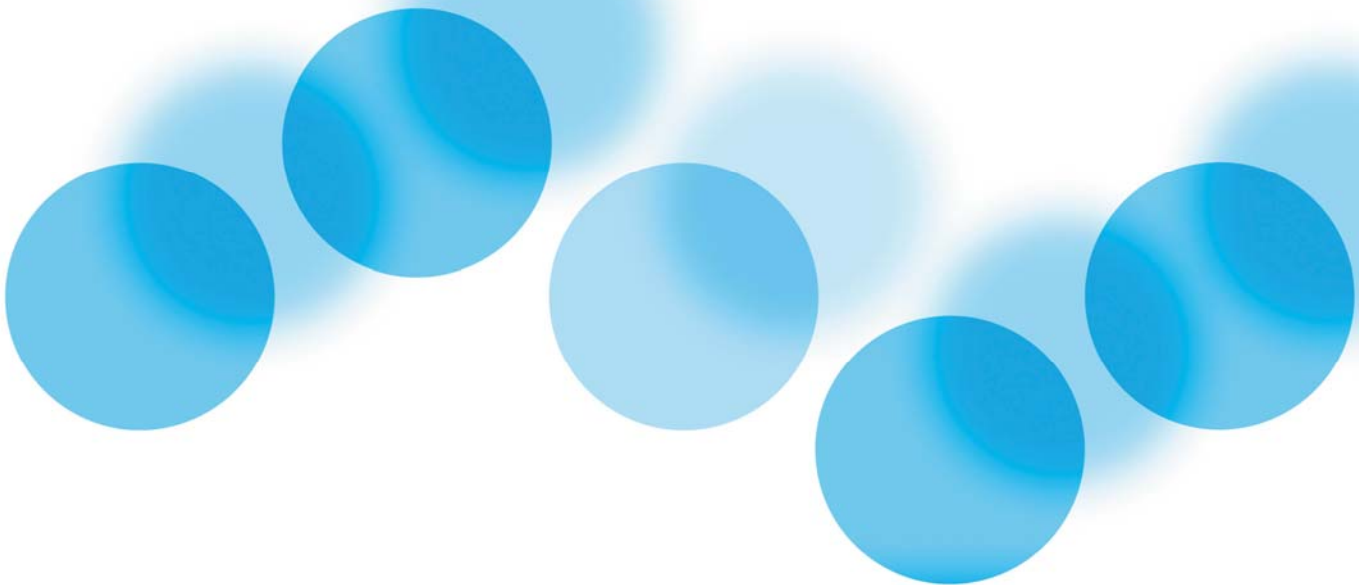


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DANUBE
REGIONAL
PROJECT

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Development of operational tools for monitoring, laboratory and information management

Objective 1: Review and assessment of TNMN Final Report



WORKING FOR THE DANUBE AND ITS PEOPLE

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ABBREVIATIONS

AOX	Adsorbable Organic Halogens
DABLAS	Danube Black Sea Task Force Project
DOC	Dissolved Organic Carbon
DRB	Danube River Basin
DRP	Danube Regional Project
DRPC	Danube River Protection Convention
EC/EEA	European Commission / European Environment Agency
ECO EG	Ecological Expert Group
EG	Expert Group
EI	Environmental Institute
EQO	Environmental Quality Objectives
EQS	Environmental Quality Standards
EU	European Union
EU WFD	EU Water Framework Directive
GEF	Global Environment Facility
ICPDR	International Commission for the Protection of the Danube River
JDS	Joint Danube Survey
MLIM EG	Monitoring, Laboratory and Information Management Expert Group
OSS	Open Source Software
PHS	Priority Hazardous Substances
PS	Priority Substances
RBM EG	River Basin Management Expert Group
RBMP	River Basin Management Plan
TNMN	Trans-National Monitoring Network
TOC	Total Organic Carbon
UNDP	United Nations Development Programme
WFD CIS	WFD Common Implementation Strategy
WISE	Water Information System for Europe

1. OBJECTIVES OF THE ASSIGNMENT

The objective of the assignment on Development of operational tools for monitoring, laboratory and information management is the following:

- > To review the current TNMN network taking into account the requirements of the ICPDR and to provide a recommendation for the upgrade of the TNMN in line with the WFD and other drivers including developments on data reporting at a European level (e.g. Water Information System for Europe – WISE);
- > To develop a biological monitoring database in line with the recommendations of the ICPDR's MLIM EG; and,
- > To prepare harmonised water quality objectives and standards for nutrients leading to an agreed water classification system (compliant with the WFD) for the Danube River Basin.

2. STATE OF MATTER

The Danube Regional Project (DRP) has been established to contribute to the sustainable human development in the Danube River Basin (DRB) through reinforcing the capacities in the basin to develop effective co-operation to ensure the protection of the Danube River. The objective of the DRP is to complement the activities of the International Commission for the Protection of the Danube River (ICPDR) to provide a regional approach to the development of national policies and legislation and the definition of actions for nutrient reduction and pollution control in the DRB.

This project represents an activity within the DRP's objective of "Reinforcement of monitoring, evaluation and information systems to control transboundary pollution, and to reduce nutrients and harmful substances" and aims primarily to assist the ICPDR's Monitoring and Assessment Expert Group (MA EG) with the development (or upgrade) of operational tools necessary for the water quality management. Specifically this is to: review, and where necessary, upgrade the Trans-National Monitoring Network (TNMN) to reflect the changes in monitoring under the EU Water Framework Directive and other drivers; to develop and assist with implementing a biological database; and, to prepare harmonised water quality objectives and standards for nutrients for the Danube River Basin. This assignment builds on previous work undertaken by the MLIM EG and in Phase 1 of the UNDP/GEF Danube Regional Project.

The proposal for the revision of TNMN was presented to the MA EG at its 1st meeting (1st Progress Report) and an opinion of the Danube monitoring experts was requested. To ensure an effective feedback from the MA EG, four small drafting groups were then created to deal with particular issues of the TNMN revision (Monitoring Strategy, Hydromorphology, Biology, Chemistry). The drafting groups were asked to propose revision of the TNMN concept presented by UNDP/GEF and to send it to the Secretariat by 30 April. However, in the meantime, the Drafting Group on Monitoring Strategy revised substantially the major philosophy of the original TNMN concept. This caused a delay in responses from the other Drafting Groups and did not enable the UNDP/GEF Project Team to keep the originally planned time schedule.

At the 2nd MA EG meeting in May 2006 following aspects of the new TNMN revision (Strategy for the development of WFD compliant monitoring programmes at the basin-wide level) were addressed:

- > The number of sampling sites in each proposed type of the surveillance monitoring can be up to 100, which may theoretically lead to 200 sites altogether; however, as the sites for both types of monitoring may be the same, the real number of sites will be lower.
- > There is a major difference between the surveillance monitoring of specific pressures (SM2) and the operational monitoring – SM2 will continue even though a good status will be achieved.
- > The operational monitoring will provide information on the status/compliance of the water bodies; the list of monitoring sites for each relevant water body should be attached.
- > Harmonized reporting on the status of a water body can be problematic as there are at present practically no agreed common metrics for BQE (reference given to IC exercise); In the initial phase the status assessment will be based on the national methods used for preparation of national reports.
- > Monitoring of trends is required by WFD and the monitoring frequency once in six years is insufficient for this purpose – that is why it is recommended to continue with the current TNMN frequency in SM2.

- > The surveillance monitoring of ecological status (SM1) will focus on water bodies – we need to nominate the relevant water bodies and to list the monitoring sites for those bodies.
- > In case of SM2, every relevant river crossing a national border should have a monitoring station.
- > SM1 was agreed to be carried out once in six years; the countries will decide in which year of the 6-year cycle they will monitor. Reporting will be performed in the 6th year of the cycle.
- > In future, there will be a revision of water body delineation (Germany, Austria).

Based on the above-mentioned comments the Drafting Group on Monitoring Strategy finalized the TNMN Strategy Paper (version 6.4).

The MA EG at its 2nd meeting asked the UNDP/GEF DRP to continue with its assistance to the TNMN upgrade taking into account the latest outcomes from the Drafting Group as well as the reporting needs of the EU WFD. In reference to this request the UNDP/GEF DRP agreed to extend its support activities to the MA EG.

In the initial phase of the contract extension activities the project team prepared two reporting templates for the Surveillance Monitoring of Surface Water Status and for the Operational Monitoring. The data fields in the templates were focussed on the basic characteristics of the monitoring sites and on description of the monitoring variables (quality elements, frequencies, analytical methodologies). A guiding document for preparation of the templates was Reporting Sheets for Reporting Monitoring Requirements prepared by EC DG ENV. The templates were distributed to the MA EG members in September 2006. The responses to the enquiry received until 15 October 2006 were used for preparation of 5th Progress Report and distributed to the MA EG.

The MA EG at its 3rd meeting discussed the technical details provided in the 5th Progress Report and decided upon the monitoring variables for Surveillance monitoring of specific pressures (SM2). All those decisions were referred to during revision of Chapter 4 of this report.

The proposals for Surveillance monitoring of surface water status (SM1) and Operational monitoring have informational character and can be used by national monitoring experts as a help during design of surveillance and operational monitoring networks at the country level.

The philosophy that was referred to during preparation of the final version of Chapter 4 in this report corresponds with the TNMN Strategy Paper version 7.x.

Based on the agreements of the 3rd MA EG meeting and collecting the information on monitoring sites and monitoring variables the consultants prepared a final version of the report, which was submitted to the ICPDR. The ICPDR at its 9th Ordinary Meeting in December 2006 endorsed the Summary Report to EU on monitoring programmes designed under Article 8 ("WFD Roof report on Monitoring"). The MA EG was mandated to prepare the final draft (version 2) of the Summary Report to EU on monitoring programmes designed under Article 8 ("WFD Roof report on Monitoring") for submission to the European Commission by completing the annexes with the lists of monitoring sites based on information not available in November 2006. These annexes, which represent an essential outcome of this project activity, were updated by the Project Team in January 2007 and submitted to the 4th MA EG. The MA EG at its 4th meeting made a final review of the design of monitoring programmes and proposed minor changes to it. All those changes were incorporated into this report to produce its final version. The revision of TNMN as proposed by the TNMN Strategy Paper and by this report was also endorsed by the River Basin Management Expert Group of the ICPDR.

3. PROPOSAL FOR SURVEILLANCE MONITORING I: MONITORING OF SURFACE WATER STATUS

The design of surveillance monitoring I (SM 1) is based on WFD Annex V, 1.3.1. The monitoring network is based on the national surveillance monitoring networks and the operating conditions are harmonized between the national and basin-wide levels to minimise the efforts and maximise the benefits. The criteria for selecting monitoring points have been modified to meet the scale of the Danube River Basin District. Surveillance monitoring I will be carried out to provide an assessment of the overall surface water status in the Danube River Basin District.

3.1. Selection of monitoring sites

Surveillance monitoring will be carried out on a sufficient number of surface water bodies to provide an assessment of the overall surface water status within each catchment or sub-catchment within the Danube River Basin District. The selection of monitoring sites is based on the criteria given in WFD Annex V, 1.3.1., but has been modified to address the large scale of the Danube River Basin District. According to the agreed strategy the Contracting Parties should select the monitoring sites primarily in those water bodies, in which the rate of water flow is significant within the river basin district as a whole; each river shown in the Danube River Basin District overview map shall have at least one monitoring site applying the following criteria:

- > rivers with catchments of $4000 \text{ km}^2 < x < 8000 \text{ km}^2$ shall have one surveillance monitoring site;
- > rivers with catchments $> 8000 \text{ km}^2$ shall include one monitoring point per 8000 km^2 ;
- > the Danube River shall have at least one monitoring site in each Danube river section type.

For the considerations on selection of the monitoring sites also an additional set of criteria, which are in line with the WFD, was recommended:

- > Significant bodies of water cross a Contracting Parties State boundary;
- > Sites identified under the Information Exchange Decision 77/795/EEC; and
- > at such other sites as are required to estimate the pollutant load which is transferred across the Contracting Parties state boundaries, and which is transferred into the marine environment.

Applying the basic geographical criteria as mentioned above and referring to the sub basins as given in the Roof report 2004 the following indicative table was prepared that provides a rough estimate of the minimum number of SM 1 sites:

Table 1: A rough estimate of the minimum number of SM 1 sites

River	Mouth at Danube [rkm]	Length [km]	Size of catchment [km²]¹	Average discharge [m³/s]	Minimum # Monitoring Points
Danube River	0	2,780	801,463	6,460	10
Lech	2,497	254	4,125	115	1
Naab	2,385	191	5,530	49	1
Isar	2,282	283	8,964	174	1
Inn	2,225	515	26,130	735	3
Traun	2,125	153	4,257	150	1
Enns	2,112	254	6,185	200	1
Morava/March	1,880	329	26,658	119	3
Raab/Rába	- ²	311	10,113	88	1
Vah	1,766	398	18,296	161	2
Hron	1,716	278	5,463	55	1
Ipel/Ipoly	1,708	197	5,108	22	1
Sió ³	1,498	121	9,216	39	1
Drau/Drava	1,382	893	41,238	577	5
Tysa/Tisza/Tisa	1,214	966	157,186	794	20
Sava	1,170	861	95,719	1,564	12
Tamis/Timis	1,154	359	10,147	47	1
Morava (CS)	1,103	430	37,444	232	5
Timok	846	180	4,630	31	1
Jiu	694	339	10,080	86	1
Iskar	636	368	8,684	54	1
Olt	604	615	24,050	174	3
Yantra	537	285	7,879	47	1
Arges	432	350	12,550	71	1
Ialomita	244	417	10,350	45	1
Siret	155	559	47,610	240	6
Prut	132	950	27,540	110	3
TOTAL					88

¹ For the purpose of comparison the size of the catchments was calculated using GIS on the basis of the DRBD overview map. These values may differ slightly from the official data, because other methods of calculation have been used.

² The Raab/Rába flows into the Mosoni Duna, an arm of the Danube, at rkm 14.

³ Sió River is the outflowing river of Lake Balaton, which has in itself a catchment area of 5,737 km². The total catchment area of Lake Balaton and Sió River is 14,953 km².

Using the templates prepared on a basis of a WFD reporting sheets an enquiry was organized in 2006/2007 to collect the national nominations for the SM 1 sites. The list of the SM1 sampling sites in the Danube River Basin District is presented in Annex 1.

3.2. Quality elements and frequency of monitoring

The selection of quality elements results from the requirements for surveillance monitoring as defined in Annex V, 1.3.1. WFD. Surveillance monitoring will be carried out for each monitoring site for a period of one year during the period covered by a river basin management plan for

- > parameters indicative of all biological quality elements,
- > parameters indicative of all hydromorphological quality elements,
- > parameters indicative of all general physico-chemical quality elements,
- > priority list pollutants which are discharged into the river basin or sub-basin, and
- > other pollutants discharged in significant quantities in the river basin or sub-basin,

unless the previous surveillance monitoring exercise showed that the body concerned reached good status and there is no evidence from the review of impact of human activity in Annex II that the impacts on the body have changed. In these cases, surveillance monitoring will be carried out once every three river basin management plans.

Surveillance monitoring I has to be undertaken for at least a period of one year during the period of a RBMP. The deadline for the first RBMP is 22 December 2009. The monitoring programmes must start by 22 December 2006. The first results will be needed for the first draft RBMP to be published at the end of 2008, and then for the finalised RBMPs at the end of 2009. This is a formal requirement of WFD. As for the minimum requirements on monitoring frequencies for all quality elements, monitoring shall be carried out at least once during the surveillance monitoring period.

Table 2: Timeframe for monitoring

<i>Quality element</i>	<i>Rivers</i>	<i>Lakes</i>	<i>Transitional</i>	<i>Coastal</i>
Biological				
Phytoplankton	6 months	6 months	6 months	6 months
Other aquatic flora	3 years	3 years	3 years	3 years
Macro invertebrates	3 years	3 years	3 years	3 years
Fish	3 years	3 years	3 years	
Hydromorphological				
Continuity	6 years			
Hydrology	continuous	1 month		
Morphology	6 years	6 years	6 years	6 years
Physico-chemical				
Thermal conditions	3 months	3 months	3 months	3 months
Oxygenation	3 months	3 months	3 months	3 months
Salinity	3 months	3 months	3 months	
Nutrient status	3 months	3 months	3 months	3 months
Acidification status	3 months	3 months		
Other pollutants	3 months	3 months	3 months	3 months
Priority substances	1 month	1 month	1 month	1 month

WFD Monitoring Guidance points out that some determinands and quality elements will be very variable (natural, anthropogenically caused and due to sampling error) in particular water bodies. A lot of monitoring in terms of numbers of sites and frequency of monitoring might thus be required to obtain high or sufficient levels of confidence and precision in a water body's status. There will of course be a cost implication for Member States for the required monitoring. It is likely therefore, that the levels of confidence and precision achievable will be balanced against the costs, i.e. an

assessment of the cost-effectiveness of the monitoring programme may be undertaken. In short, the provision of reliable information from monitoring programmes will allow measures to be effectively and efficiently targeted.

3.2.1. Parameters indicative of all biological quality elements

For rivers, the biological parameters chosen to be indicative of the status of each biological element such as the aquatic flora, macro-invertebrates and fish must be monitored for. For example, in the case of the aquatic flora, the parameters might be (i) presence or absence of indicator species or (ii) the population structure. WFD indicates that monitoring of the biological quality elements must be at an appropriate taxonomic level to achieve adequate confidence and precision in the classification of the quality elements.

A basic design of surveillance parameters for biological quality elements for consideration is as follows:

- > Phytoplankton: Chlorophyll (biomass), species composition and abundance. Determination down to species level.
- > Phytobenthos (diatom algae): Species composition and abundance. Determination down to species level.
- > Macrophytes (water plants): Species composition and abundance. Determination down to species level. Abundance per growth form (submerged, floating, emerged water plants, flab, duckweed and riparian plants).
- > Benthic invertebrates: Species composition and abundance. Determination down to species level.
- > Fish: Species composition, abundance and age structure. The use of the Austrian Fish Index and EFI to be considered.

The List of biological quality elements reported by Danube countries to be used in SM 1 as well as their monitoring frequencies applied at the national level are given in Annex 2.

3.2.2. Parameters indicative of all hydromorphological quality elements

Surveillance monitoring shall be carried out for each monitoring site for a period of one year during the period covered by a river basin management plan for parameters indicative of all hydromorphological quality elements. Hydromorphological elements supporting the biological elements listed in WFD are following:

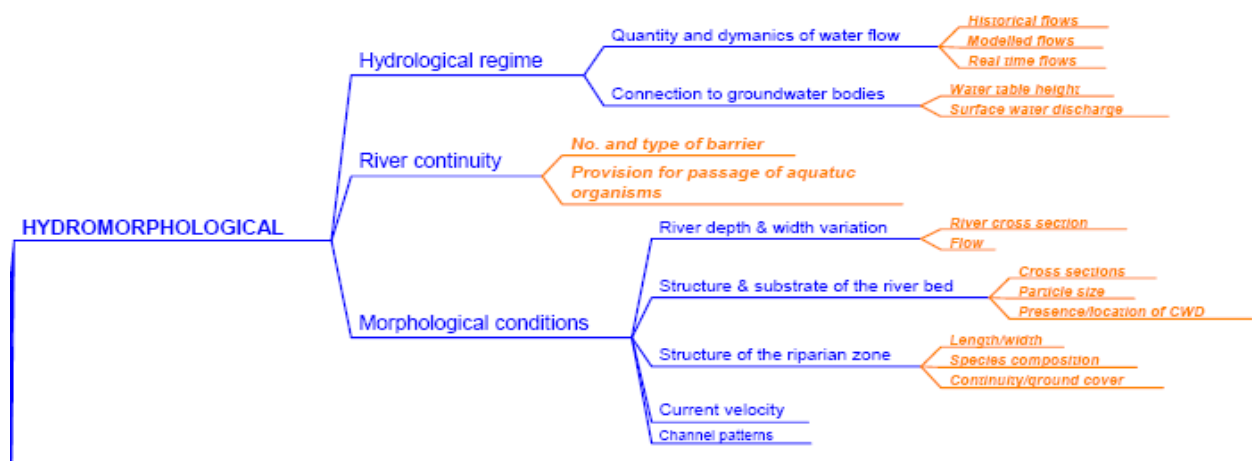
- > Hydrological regime
 - o quantity and dynamics of water flow
 - o connection to groundwater bodies
- > River continuity
- > Morphological conditions
 - o river depth and width variation
 - o structure and substrate of the river bed
 - o structure of the riparian zone

According to the Roof report 2004, the most important hydromorphological pressures are related to hydropower use, navigation and flood defence measures. In this report it is also stressed that:

- > Methods for the assessment of significant hydromorphological alterations need to be harmonised. A type-specific approach would be advisable.
- > Further research is needed on the link between hydromorphological pressures and the response of the biota. Ecological classification systems should be developed in a way to also assess hydromorphological degradation. Common methods would be needed (e.g. common sampling method, common approach for the analysis and interpretation of results, stressor specific multimetric classification systems).
- > Future monitoring networks need to include sites that are “at risk” of failing to reach the environmental objectives due to impacts from hydromorphological pressures.

At present, the analysis of hydromorphological quality elements within TNMN is limited only to quantity of water flow. To comply with WFD, TNMN has to be amended with a regular analysis of a full set of hydromorphological parameters. More important, at this point, is setting of a jointly harmonized methodological approach throughout the whole Danube River Basin.

Proposal for selection of hydromorphological quality elements for rivers as given in the WFD Monitoring Guidance is presented below. The mandatory quality elements specified in Annex V.1.2 are indicated in blue; the recommended quality elements are in orange.



The tables below represent an example of parameters for monitoring in respect of surveillance monitoring hydromorphology in flowing and coastal waters. The Dutch Monitoring Guidance was applied as the source document.

The compulsory quality elements from the Water Framework Directive are taken as a starting point for the tables. One or more indicators are given for each quality element. There are two types of indicators. On the one hand there are indicators that basically represent the hydromorphological functioning (such as depth division, water balance); on the other hand there are a number of indicators that are strongly linked to human intervention (such as % length of artificial embankment).

Table 3: Quality elements and parameters surveillance monitoring hydromorphology for rivers

Quality element	Sub-elements	Parameter
<i>Continuity</i>		<i>Number, location and possibility to cross barriers</i> <i>Accessibility/connectivity for fish</i>
<i>Hydrological regime</i>	<i>Quantity and dynamics of the water flow</i>	<i>Water level</i> <i>Discharge, current velocity</i> <i>Degree of free run-off</i> <i>Degree of natural discharge pattern</i>
	<i>Connection with groundwater bodies</i>	<i>Groundwater level</i>
<i>Morphological conditions</i>	<i>Variation of depth and width of the river</i>	<i>River course</i> <i>Cross section and degree of naturalness</i>
	<i>Structure and substrate of the river bed</i>	<i>Presence of artificial river bed</i> <i>Degree of naturalness in substrate composition of the river bed</i> <i>Erosion/sedimentation structures</i>
	<i>Structure of the riparian zone</i>	<i>Presence of embankment zone</i> <i>Land use of embankments</i> <i>Land use of flood plain/river valley</i> <i>Possibility for entirely natural inundation</i> <i>Possibility for entirely natural meandering</i>

Table 4: Quality elements and parameters surveillance monitoring hydromorphology for coastal waters.

Quality element	Sub-elements	Parameter
<i>Tidal regime</i>	<i>General</i>	<i>1. Tidal amplitude</i> <i>2. Discharge flow of freshwater</i>
	<i>Velocity wave</i>	<i>3. Wave climate category</i>
	<i>Dominant direction of flow</i>	<i>4. Dominant direction of flow and current velocity</i>
<i>Continuity</i>		
<i>Morphology</i>	<i>General</i>	
	<i>Depth variation</i>	<i>5. Water depth variation</i> <i>6. Hypsometric curve or depth division</i>
	<i>Structure and substrate of bed</i>	<i>7. Type of soil (natural, artificial)</i> <i>8. Composition of substrate</i>
	<i>Structure of the tidal zone</i>	<i>9. Type of inter tidal area (banks, tidal flats, dry shoal)</i> <i>10. Type of bank (natural, artificial)</i> <i>11. Coast and embankment zone</i> <i>12. Land use of tidal zone</i>

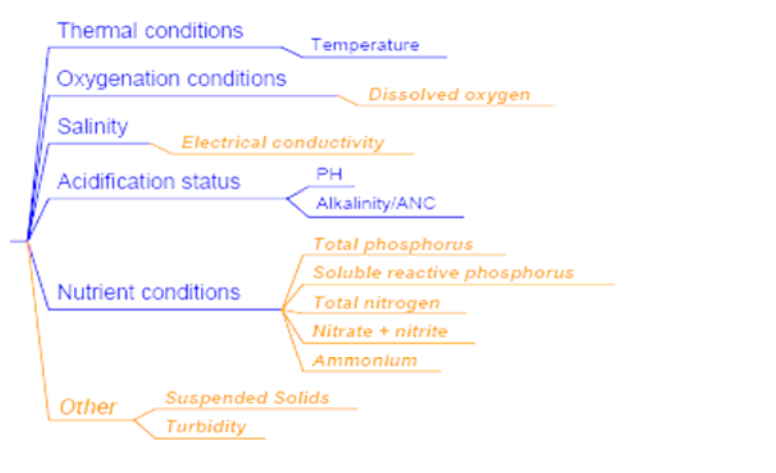
All the parameters shown above should be taken as an example only. At present, there is a discussion on specification of appropriate hydromorphological parameters for the Joint Danube Survey 2, which is to be performed in 2007. The parameters that will be agreed for that purpose

could afterwards serve as a basis for final agreement on the parameters indicative of all hydromorphological quality elements for the SM 1.

The List of hydromorphological quality elements reported by Danube countries to be used in SM 1 as well as their monitoring frequencies applied at the national level are given in Annex 2.

3.2.3. Parameters indicative of all general physico-chemical quality elements

Proposal for selection of physico-chemical quality elements for rivers as given in the WFD Monitoring Guidance is presented below. The mandatory quality elements specified in Annex V.1.2 are indicated in blue; the recommended quality elements are in orange.



The List of physico-chemical quality elements reported by Danube countries to be used in SM 1 as well as their monitoring frequencies applied at the national level are given in Annex 2.

3.2.4. Priority list pollutants and other pollutants discharged into the river basin or sub-basin.

These substances are described in the WFD. Substances in this list need not be monitored if it can be explained that they are not present in the river basin (on the basis of monitoring or discharge data, for example). Until such an explanation will be available from the results of national screenings all the 33 priority substances identified in the Decision No. 2455/2001/EC should be on the list of determinands:

Table 5: List of priority substances

	CAS number ⁽²⁾	EU number ⁽³⁾	Name of priority substances or groups of substances
	15972-60-8	240-110-8	Alachlor
	120-12-7	204-371-1	Anthracene
	1912-24-9	217-617-8	Atrazine
	71-43-2	200-753-7	Benzene
	not applicable	not applicable	Brominated diphenylethers
	7440-43-9	231-152-8	Cadmium and its compounds
	85535-84-8	287-476-5	C10-13-chloroalkanes
	470-90-6	207-432-0	Chlorfenvinphos
	2921-88-2	220-864-4	Chlorpyrifos
	107-06-2	203-458-1	1,2-Dichloroethane
	75-09-2	200-838-9	Dichloromethane
	117-81-7	204-211-0	Di(2-ethylhexyl)phthalate (DEHP)
	330-54-1	206-354-4	Diuron
	115-29-7	204-079-4	Endosulfan
	959-98-8	not applicable	(alpha-endosulfan)
	206-44-0	205-912-4	Fluoranthene
	118-74-1	204-273-9	Hexachlorobenzene
	87-68-3	201-765-5	Hexachlorobutadiene
	608-73-1	210-158-9	Hexachlorocyclohexane
	58-89-9	200-401-2	(gamma-isomer, Lindane)
	34123-59-6	251-835-4	Isoproturon
	7439-92-1	231-100-4	Lead and its compounds
	7439-97-6	231-106-7	Mercury and its compounds
	91-20-3	202-049-5	Naphthalene
	7440-02-0	231-111-4	Nickel and its compounds
	25154-52-3	246-672-0	Nonylphenols
	104-40-5	203-199-4	(4-(para)-nonylphenol)
	1806-26-4	217-302-5	Octylphenols
	140-66-9	not applicable	(para-tert-octylphenol)
	608-93-5	210-172-5	Pentachlorobenzene
	87-86-5	201-778-6	Pentachlorophenol
	not applicable	not applicable	Polyaromatic hydrocarbons
	50-32-8	200-028-5	(Benzo(a)pyrene)
	205-99-2	205-911-9	(Benzo(b)fluoranthene)
	191-24-2	205-883-8	(Benzo(g,h,i)perylene)
	207-08-9	205-916-6	(Benzo(k)fluoranthene)
	193-39-5	205-893-2	(Indeno(1,2,3-cd)pyrene)
	122-34-9	204-535-2	Simazine
	688-73-3	211-704-4	Tributyltin compounds
	36643-28-4	not applicable	(Tributyltin-cation)
	12002-48-1	234-413-4	Trichlorobenzenes
	120-82-1	204-428-0	(1,2,4-Trichlorobenzene)
	67-66-3	200-663-8	Trichloromethane (Chloroform)
	1582-09-8	216-428-8	Trifluralin

Other polluting substances

There is still a lack of clarity about the definition of 'other polluting substances'. A proposal for an EC Directive on environmental quality standards and pollution control in the field of water policy lists eight other pollutants: DDT, Aldrin, Dieldrin, Endrin, Isodrin, Carbontetrachloride, Trichloroethylene and Tetrachloroethylene.

Moreover, for each river basin, the international commission should establish a list of the relevant substances that also determine the choice of substances in the river basin if they are discharged. The ICPDR agreed on the additional priority substances out of which following determinands belong into this category: Arsenic, Copper, Zinc and Chromium.

The priority and other polluting substances reported by Danube countries to be used in SM 1 as well as their monitoring frequencies applied at the national level are given in Annex 2.

4. PROPOSAL FOR SURVEILLANCE MONITORING II: MONITORING OF SPECIFIC PRESSURES

TNMN Strategy Paper explains that Surveillance Monitoring II (SM 2) is supplementary to Surveillance Monitoring I and aims at monitoring of specific pressures of basin-wide importance. This monitoring programme has somewhat the character of operational monitoring *sensu* WFD, since it is geared to monitor specific pressures and trends. On the other hand it is conceived as a long-term monitoring scheme (in general no exclusion of sites as it is foreseen for WFD operational monitoring). It is, therefore, classified as pressure-specific surveillance monitoring. Selected quality elements or specific determinands will be monitored at higher frequencies than in Surveillance Monitoring I while other quality elements will not be monitored at all. A denser monitoring programme is needed on specific pressures in the Danube River Basin District in order to allow a sound and stable long-term trend assessment of specific pollutants and to achieve a sound estimation of pollutant loads being transferred across states of Contracting Parties and into the Black Sea.

Surveillance Monitoring II is based on the old TNMN and will be fitted to respond to the pressures of basin-wide importance identified in the Danube Basin Analysis Report (Part A).

The monitoring network is based on the national monitoring networks and the operating conditions are harmonized between the national and basin-wide levels to minimise the efforts and maximise the benefits.

The objective of the Surveillance monitoring of specific pressures is to provide an assessment of long-term trends of specific pollutants and create a sound basis for estimating loads being transferred into the marine environment. Monitoring will provide information for:

- > Supplementing and validating the risk assessment detailed in the Danube Basin Analysis (WFD Roof Report 2004) according to Annex II of WFD;
- > Efficient and effective design of future monitoring programmes;
- > Assessment of long-term changes resulting from widespread anthropogenic activity.

4.1. Selection of monitoring sites

The selection of monitoring sites is based on the following criteria:

- > Monitoring sites that have been monitored in the past and are therefore suitable for long-term trend analysis; these include sites:
 - o Located just upstream/downstream of an international border;
 - o Located upstream of confluences between Danube and main tributaries or main tributaries and larger sub-tributaries (to enable estimation of mass balances);
 - o Located downstream of the major point sources;
 - o Located to control important water uses.
- > Sites required to estimate pollutant loads (e.g. of nutrients or priority pollutants) which are transferred across boundaries of Contracting Parties, and which are transferred into the marine environment.

An enquiry was made in the Danube countries in cooperation with the MA EG during 2005/2006 with the view of collecting the candidate sites for SM 2. For nomination of the sites it was required

that the existing monitoring sites of TNMN should be reviewed in light of the new requirements and in view of the altered objectives for pressure-specific monitoring as identified in the Danube Basin Analysis Report (WFD Report 2004). The presented selection of sampling points is based on the current TNMN monitoring sites. A list of the monitoring sites is presented in Annex 3.

4.2. Quality elements and frequency of monitoring

The physico-chemical determinands and biological quality elements were selected based on the current monitoring of TNMN and the monitoring needs of WFD.

The collected data and assessments will be site-specific, not water body specific. The monitoring programme will be designed in a way in order to allow nutrient modelling with the trans-national "Danube Water Quality Model".

The monitoring programmes will address the pressures of basin-wide importance identified in the Danube Basin Analysis Report (Part A):

- > Organic pollution
- > Nutrient pollution
- > Hydromorphological alterations
- > Hazardous substances

At this stage the surveillance monitoring of specific pressures will not include hydromorphological quality elements. A concerted hydromorphological monitoring will be performed during the second Joint Danube Survey in 2007. An experience gathered during that exercise will serve as a basis for future considerations on incorporation of hydromorphological quality elements into SM 2.

4.2.1. Parameters indicative of selected biological quality elements

To cover pressures of basin-wide importance as organic pollution, nutrient pollution and general degradation of the river, following biological quality elements are proposed for SM2:

- > Phytoplankton
- > Benthic invertebrates
- > Phytobenthos (benthic diatoms)

PHYTOPLANKTON - chlorophyll-a

For the SM2 the quantitative analysis – phytoplankton biomass is proposed. The concentration of the chlorophyll-a ($\mu\text{g}\cdot\text{L}^{-1}$) has a long tradition and the long term results are available. Sampling frequency should be at least once a month within the vegetation period (April - September). Samples should be taken below water surface - up to 0,5 m of the water column. The method of analysis is ISO 10260: 1992 Water quality – Measurement of biochemical parameter – Spectrometric determination of the chlorophyll-a concentration. The agreed frequency is once in a month during the vegetation period.

BENTHIC MACROINVERTEBRATES - Saprobic index and number of families

Timing of the sampling should be focussed preferably to the low flow and autumn period due to the stable water regime (once a year). The natural substrate of the large rivers is recommended for

sampling. Preferably quantitative sampling should be done. Kick net can be used similarly as described for small rivers. Other quantitative samplers can be used as, e.g., described in ISO 9391 (Sampling in deep waters for macro-invertebrates - guidance on the use of colonization, qualitative and quantitative sampling). A selection of the method depends on the depth of the river, on the type of substrate and other factors. The sample should be sieved through a mesh of 500 µm. As detailed as possible identification of the benthic invertebrates is recommended. The agreed metrics are as follows:

Mandatory parameters: Saprobic index and number of families are (1 x year, annually); Both Pantle&Buck and Zelinka&Marvan SI are acceptable since the differences in results provided by these two methods are considered not to be significant.

Optional parameters: ASPT and EPT taxa.

PHYTOBENTHOS (benthic diatoms) – an optional parameter

Sampling should be focussed preferably to the autumn period due to the stable water regime as in the case of macro-invertebrates (once a year). Areas of the river bed with naturally occurring hard surfaces (e.g. large pebbles, cobbles, boulders) are recommended wherever possible (EN 13946: Guidance standard for routing sampling and pre-treatment of benthic diatoms from rivers). Riffles are preferred for the sampling. Determination of the diatoms should be to the species level (EN 14407: Guidance standard for identification, enumeration and interpretation of benthic diatom samples from running waters). IBD index (probability of the occurrence within seven scale water quality classes), IPS index (sensitivity to the pollution) and EPI-D index (tolerance or resistance of the species to the pollution level) are suggested to be used for assessment.

4.2.2. Parameters indicative of general physico-chemical quality elements and priority list pollutants and other pollutants discharged into the river basin or sub-basin

WFD Monitoring Guidance points out that some determinands and quality elements will be very variable (natural, anthropogenically caused and due to sampling error) in particular water bodies. A lot of monitoring in terms of numbers of sites and frequency of monitoring might thus be required to obtain high or sufficient levels of confidence and precision in a water body's status. There will of course be a cost implication for Member States for the required monitoring. It is likely therefore, that the levels of confidence and precision achievable will be balanced against the costs, i.e. an assessment of the cost-effectiveness of the monitoring programme may be undertaken. In short, the provision of reliable information from monitoring programmes will allow measures to be effectively and efficiently targeted.

As regards sampling frequencies in future TNMN, the TNMN Strategy Paper proposes that the minimum requirement given in the WFD for the surveillance monitoring may not always be adequate to achieve an acceptable level of confidence and precision in an assessment of certain quality elements. The Directive for such cases enables to increase the frequencies of at least some surveillance monitoring parameters and monitor more than once every sixth year at those surveillance sites designed to detect long-term changes.

Therefore, it seems reasonable to increase for selected quality elements the surveillance frequency of the monitoring cycle within the TNMN in order to provide a sound picture on the status of the basin. The sampling frequency used in TNMN at present enables to preserve the current level of long-term considerations and trend assumptions, as well as to maintain current statistical confidence interval. Continuing the operation of TNMN on an annual basis would result in

achievement of a sound and stable overview on the status of surface waters in the Danube River Basin. Depending on the specific quality elements an “increase” in sampling frequency may be the maintenance of the current sampling frequency. The current practice to perform monthly sampling for chemical determinands proved to be satisfactory for achieving statistical confidence (calculation of 90 percentile and mean values) at reasonable costs. It is also recommended to maintain the current sampling frequency for TNMN load assessment programme 26 times per year.

The current list of TNMN determinands was applied as a primary source for proposal of the new list of chemical determinands for the surveillance monitoring of specific pressures. The reason for this was an intention to maintain and extend the valuable information, which has been collected in the TNMN database. Following documents, activities and formal commitments were taken into account as supplementary factors:

- > The Danube List of Priority Substances
- > WFD Guidance Document No. 7 on Monitoring
- > Joint Danube Survey
- > Aquaterra Danube Survey
- > ICPDR reporting obligations to Black Sea Commission

Moreover, the considerations on the target determinand set were also based on:

- > Knowledge of use patterns of a substance (quantity and locations);
- > Pathways for inputs (diffuse and/or point source);
- > Existing information on potential ecological impacts;
- > Risk assessment performed in line with the Annex II of WFD;
- > Potential existing indications of toxic impacts (primarily using the outcomes of the 6th EU Framework Programme project AQUATERRA).

The first draft list of chemical determinands with a respective justification was proposed in the 1st Progress report. Afterwards, the Drafting Group on Chemistry commented and amended this proposal. Based on these inputs the final draft list was elaborated.

The list of chemical quality elements to be used in SM 2 as well as their proposed monitoring frequencies are shown below.

Owing to the fact that during flooding events substantial portions of the annual loads of suspended solids and nutrients are transported it would be worth to consider increased sampling frequencies for these parameters during flooding.

Monitoring in Reni for the load assessment programme is based on a special list agreed with the Black Sea Commission. In this case the heavy metals should be reported as total.

Table 6: List of chemical quality elements to be used in SM 2 as well as their proposed monitoring frequencies

	Surveillance Monitoring 2	
	Water concentrations	Water load assessment
Parameter		
Flow	anually / 12 x per year	daily
Temperature	anually / 12 x per year	
Transparency (1)	anually / 12 x per year	
Suspended Solids (5)	anually / 12 x per year	anually / 26 x per year
Dissolved Oxygen	anually / 12 x per year	
pH (5)	anually / 12 x per year	

5. PROPOSAL FOR OPERATIONAL MONITORING OF SURFACE WATER STATUS

The design of operational monitoring is based on WFD Annex V, 1.3.2. and will be carried out at the national level. The operational monitoring will be undertaken in order to

- > establish the status of those bodies identified as being at risk of failing to meet their environmental objectives, and
- > assess any changes in the status of such bodies resulting from the programmes of measures.

5.1. Selection of monitoring sites

Operational monitoring has to be undertaken for all water bodies that have been identified as being at risk of failing the relevant environmental objectives under Article 4 (review of the environmental impact of human activities (Annex II) and/or from the results of the surveillance monitoring). Monitoring must also be carried out for all bodies into which priority substances are discharged.

The operational monitoring, however, has certain specificity; it is focused only on relevant parameters (i.e. indicating risk of failure) and it expires once a good status was achieved. On the other hand, new monitoring sites may become necessary when new pressures arise so that water bodies are no longer in the good status. EU Member States can amend their operational monitoring programmes during the duration of a River Basin Management Plan where an impact is found not to be significant or the relevant pressure is removed, and the ecological status is no longer less than good.

Using the templates prepared on a basis of a WFD reporting sheets an enquiry was organized in 2006/2007 to collect the national nominations for the operational monitoring sites. The list of the sampling sites for the operational monitoring in the Danube River Basin District is presented in Annex 4.

5.2. Quality elements and frequency of monitoring

The selection of parameters for the operational monitoring is individual for a particular sampling site that represents an affected water body.

The sampling frequency is not constant as this monitoring is expected to be operational only for a limited time. Therefore, the overall outgoing information from an operational monitoring on a basin-wide level will be variable in time and space and its structure would not fit very well with the proposed frame for the surveillance TNMN focused on the long-term perspectives.

For these reasons the TNMN Strategy Paper does not define the needs for operational monitoring any further. The details of implementing operational monitoring are therefore strictly a national task. The working list of the quality elements for the operational monitoring at particular sites is presented in Annex 4. Further information on monitoring methods as well as on the sampling frequencies is given in Annex 5.

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ANNEX 1: LIST OF MONITORING SITES FOR SURVEILLANCE MONITORING I - MONITORING OF SURFACE WATER STATUS

SURVEILLANCE MONITORING 1

Template description			
Attribute name	Description of the attribute	Values and codelists	Example values
RIVER	Name of the river		Danube
NAME	Locally used name of the sampling station		Jochenstein
LONGITUDE	Coordinates should be given in decimal degrees in ETRS89		
LATITUDE	Coordinates should be given in decimal degrees in ETRS89		
ALTITUDE	Altitude in metres		290
RKM	River kilometer		2204
PROFILE	Location in profile; left, middle, right	L, M, R	L
CATCH_AR	Total area of the catchment upstream the sampling point in km ²		77086
TNMN_CODE	TNMN code (if TNMN site)		L2130
EIONET	Code of the station in the EIONET		DE_RV_BY11
IED 77/795/EWG	Code of the station in the monitoring network in accordance with the Information Exchange Decision 77/795/EWG		G12
WB	Code for water body according to Article 5 report (Roof Report)		DE1_134693_157710
DRBC_CODE	Code for common water type in the Danube River Basin		Eastern Alpine Foothills Danube (Danube Section Type 3)
SURVEIL	Is it a surveillance site in the national programme?	Yes = Y, No = N	Y
OPERAT	Is it also an operational site in the national programme?	Yes = Y, No = N	Y
REFERENCE	Is the sampling site a reference site?	Yes = Y, No = N	N
IC	Is the sampling site part of the intercalibration network?	Yes = Y, No = N	N
RISK	Is the water body at risk or possibly at risk?	Yes = Y, No = N	Y
RISK CAT	Risk category	HYMO = hydromorphology, ORGP = organic pollution, NUTR = nutrients, PSUB = priority substances, OTH = other	HYMO
MODIFIED	Is the water body heavily modified?	Yes = Y, No = N, ND = not decided	ND
SHARED	Is it a shared water body between countries?	Yes = Y, No = N	Y
PROTECTED	Is the monitoring site in a protected area? (RAMSAR and World Heritage Convention, UNESCO/MAB and/or IUCN category II or Natura 2000 site with a size of > 1000 ha).	Yes = Y, No = N	N
EU-DIRECTIVES	Is it a monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive...)?		76/464/EWG, Nitrate-Directive
OTHER_MON	Is the monitoring site part of other existing monitoring networks?	Yes = Y, No = N	Y
QUANTITY	Is quantitative data available (from which gauging station...)?		Y, station: Achleiten
PHP	Is it possible to analyze phytoplankton?	Yes = Y, No = N	Y
MAPH	Is it possible to analyze macrophytes?	Yes = Y, No = N	Y
MZB	Is it possible to analyze macrozoobenthos?	Yes = Y, No = N	Y
PHB	Is it possible to analyze phytobenthos?	Yes = Y, No = N	Y
FISH	Is it possible to analyze fish?	Yes = Y, No = N	Y
COMPLIANCE	For which biological quality elements are available data compliant with WFD?	MZB = macrozoobenthos, PHB = phytobenthos, PHP = phytoplankton, MAPH = macrophyta, FISH = fish	MZB
PS_EMISSION	Is information available of emission for priority substances to this water body?		N
HYMO	Is data available on hydromorphology?		Y

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFIL	CATCH_AR	TNMN_CODE	EIONET	IED	WB	DRBC_CODE	SURVEIL	OPERA	REFERE	IC	RISK	RISK CAT	MODIFIE	SHARED	PROTEC	EU-DIRECTIVES	OTHER_MON	QUANTITY	PHP	MAPH	MZB	PHB	FISH	COMPLIANC	PS_EMIS	HYMO	
						E				7/7/95/EWG									D		TED												
Germany																																	
Danube	Jochenstein Kraftwerk Oberwasser	4625681	5377251	290	2204	L	77086	L2130	DE_RV_BY11	G12	DE1_134693_157710	Eastern Alpine Foothills Danube (Danube Sector Type 3)	Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Achletten	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Naab	Heitzenhofen Brücke	4495800	5443320	337	18		5426		DE_RV_BY16		DE14_5843_88511		Y	Y	N	N	Y	NUTR	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Heitzenhofen	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Isar	Platting Br. B	4565060	5404160	316	9,1		8839		DE_RV_BY17		DE16_3962_77990		Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Platting	N	Y	Y	Y	Y	MZB, PHB, MAPH, FISH	P	Y	
Inn	Passau-Ingling Chemistry; Oberwasser; Biologie Unterwasser	CH: 4606160; BIO:4606057	CH: 5380360; BIO: 5380760	300	4,2		26049		DE_RV_BY20		DE18_4560_67807		Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Passau-Ingling	N	Y	Y	Y	Y	MZB, PHB, MAPH, FISH	P	Y	
Danube	Chemistry; Deggendorf Br. B11; Biologie; of Deggendorf km 2287	CH: 4570578; BIO: 4568809	CH: 5410161; BIO: 5411352	307	2284,6		38125				DE1_183099_255218	Eastern Alpine Foothills Danube (Danube Sector Type 2)	Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Pfelling	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Danube	Chemistry; Kelheim Pegel; Biologie; Kloster	CH: 4490200; BIO: 4489284	CH: 5419940; BIO: 5419446	340	CH: 2414,8; BIO:2416		22950		DE_RV_BY24		DE1_341486_349461	Eastern Alpine Foothills Danube (Danube Sector Type 2)	Y	N	N	N	N		N	N	N		Y	Y, station Kelheim	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Danube	Chemistry; Dillinger Messstation; Biologie Schäfstall Pegel	CH: 4389417; BIO:4415719	CH: 5382266; BIO: 5399239	420	CH: 2538; BIO:2505		11315	L2140	DE_RV_BY09		DE1_437941_514553	Eastern Alpine Foothills Danube (Danube Sector Type 2)	Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, station Dillingen	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Danube	Niederaltach, uh Isarmündung	4574239	5404540	307	2276,2						DE1_183099_255218	Eastern Alpine Foothills Danube (Danube Sector Type 2)	Y	Y	N	N	Y	HYMO	Y	N	N		Y	Y, station: Pege Hofkirchen	Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Lech	Feldheim KW-OW	4420744	5399437	398	1,5		3926		DE_RV_BY13		DE12_0_19594		Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG, Nitrate-Directive	Y	Y, KW Rair	Y	N	N	N	Y	PHP, FISH	P	Y	
Wertach	Ettringen Wehr UW	4400765	5330357	681	40,2		681				DE124_0_8000		Y	Y	N	N	Y	HYMO, NUTR	Y	N	N		Y	Y, station Türkheim	N	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Lech	Augsburg Hochablass	4421205	5356810	483	47		2350				DE12_39106_46896		Y	Y	N	N	Y	HYMO	Y	N	N		Y	Y, station Haunstetter	N	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Danube	Wiblingen upstream mouth of Ille	3571597	5359039	470	2589		5384		DE_RV_BW20		BW_6-05	Eastern Alpine Foothills Danube (Danube Sector Type 1)	Y	N	N	N	Y	HYMO		N	N	76/464/EWG, Nitrate-Directive	Y		Y	Y	Y	Y	Y	MZB, PHB, PHP, MAPH, FISH	P	Y	
Austria																																	
Drau	Lavamünd	14,94353639	46,64110026	348	5,71	L	11040		AT_RV_21500097	21500097			Y	N	N	N	N		Y	N	N	76/464/EWG Nitrate-Directive Fish-Directive	?	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Thaya	Bernhardshä	16,88986836	48,71639567	155	16,2	R	12490		AT_RV_31100037				Y	Y	N	N	Y	HYMO ORGP NUTR OTH	ND	Y	Y	76/464/EWG Nitrate-Directive	Y (GGK A-CZ)	Y	Y	Y	Y	Y	Y	PHB, MZB	N	Y	
March	Marchegg	16,91707	48,28035	135	15	R	26655		AT_RV_31100077				Y	Y	N	N	N		ND	Y	Y	76/464/EWG Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	PHB, MZB	N	Y	
Inn	Ingling	13,4369015	48,55454013	295	3,8	M	26048		AT_RV_40502037				Y	Y	N	N	Y	HYMO	Y	Y	N	76/464/EWG Nitrate-Directive Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Donau	Jochenstein	13,70720311	48,5197913	290	2203,8	M	77020	L2220	AT_RV_40607017	40607017		Western Alpine Foothills Danube (Danube Sector Type 2)	Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive Fish-Directive	Y (Regensburger Vertrag)	Y	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y
Donau	Hainburg	16,99244606	48,164744	138	1879,9	R	49539		AT_RV_31000377	31000377			Y	Y	N	N	Y	OTH	N	N	Y	76/464/EWG Fish-Directive	Y	Y	Y	Y	Y	Y	Y	PHB, MZB	N	Y	
Donau	Enghagen	14,51233404	48,24018113	241	2113	R	83992		AT_RV_40907057	40907057		Eastern Alpine Foothills Danube (Danube Sector Type 3)	Y	N	N	N	Y	HYMO	Y	N	N	76/464/EWG Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Traun	Ebelsberg	14,36065653	48,26906699	251	1,6	L	4275		AT_RV_40709117				Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Donau	Nußdorf	16,37025717	48,26233018	163	1934,7	R	101700	L2180	AT_RV_92001017			Lower Alpine Foothills Danube (Danube Sector Type 4)	Y	N	N	N	N		Y	N	N	76/464/EWG Nitrate-Directive Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Mur	Spießfeld	15,64138156	46,70816114	244	57,93	M	9480		AT_RV_61400137	61400137			Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive	Y (GGK A-SLO)	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Salzach	Oberndorf	12,93321002	47,93986207	387	47,1	M	6120		AT_RV_54110087	54110087			Y	Y	N	N	Y	HYMO	ND	Y	N	76/464/EWG Nitrate-Directive Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Inn	Erl/Kufstein	12,16378578	47,70142578	460	204,03	R	9822		AT_RV_73200987	73200987			Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	
Enns	Pyburg	14,53375446	48,22807393	249			6071		AT_RV_30800027				Y	Y	N	N	Y	HYMO ORGP NUTR	Y	N	N	76/464/EWG Fish-Directive	N	Y	N	Y	Y	Y	Y	PHB, MZB	N	Y	

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFIL	CATCH_AR	TNMN_CODE	EIONET	IED	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	PHP	MAPH	MZB	PHB	FISH	COMPLIANCE	PS_EMIS	HYMO	
						E				77/795/EWG			L	T					D		TED												
Slovenia																																	
Sava	Medno	14,44110879	46,12226132		301	85,97	R	2196,8				1000_5_5	Y	N	N	N	Y	HYMO, ORGP		N	N	N	76/464/EEC, Nitrate-Directive	Y, station: Sava Medno	N	N	N	Y	Y	Y	MZB	partially	partially
Sava	Jesenice na Dolenjskem	15,692053	45,86085589		132		R	10149	L1330	SI_RV_3860		1000_11_17	Y	Y	N	N	Y	HYMO, ORGP, PSUB, OTH		N	not defined yet on bilateral level	N	76/464/EEC, Nitrate-Directive	Y, bilateral monitoring network	Y, station: Sava Jesenice na Dolenjskem	N	Y	Y	Y	Y	MZB	partially	partially
Drava	Dravograd	15,02394512	46,58834635		338		L	12119		SI_RV_2010		1000_11_2	Y	N	N	N	Y	HYMO, ORGP	candidate for HMWB	N	N	N	76/464/EEC, Nitrate-Directive	Y, bilateral monitoring network	Y, Station: Drava HE Dravograd+Meža Otiški vrt	N	N	Y	Y	Y	MZB	partially	partially
Drava	Ormož mos	16,15543439	46,40313762		201		L	15379	L1390	SI_RV_2200		1000_11_18	Y	Y	N	N	Y	HYMO, ORGP, NUTR	candidate for HMWB	N	not defined yet on bilateral level	Y	76/464/EEC, Nitrate-Directive	Y, bilateral monitoring network	Y, Drava Ormož kopališče	Y	Y	Y	Y	Y	MZB	partially	partially
Mura	Ceršak	15,66658229	46,70613384		243		R	9796		SI_RV_1010			Y	Y	N	N	Y	HYMO, ORGP, OTH		N	Y	N	76/464/EEC, Nitrate-Directive	N	Y, Station: Mura Petanjci	N	N	Y	Y	Y	MZB	partially	partially
Mura	Mota	16,27380339	46,53928181		171		L	10392		SI_RV_1082		1000_11_18	Y	Y	N	N	Y	HYMO, ORGP		N	N	Y	76/464/EEC, Nitrate-Directive Fish Directive	N	Y, Station: Mura Petanjci	N	N	Y	Y	Y	MZB	partially	partially
Kolpa	Radoviči(Metlika)	15,34669217	45,64653027		133		L,R	2002		SI_RV_4862			Y	Y	N	N	Y	HYMO, ORGP		N	not defined yet on bilateral level	Y	76/464/EEC, Nitrate-Directive Fish Directive	Y, bilateral monitoring network	Y, Station: Kolpa Metlika + Metliški Obrh Metlika	N	Y	Y	Y	Y	MZB	partially	partially
Croatia																																	
Sava	utok Vrbasa nizv	2597190	4994869		89	409	L			HR_10007			Y	N	N	N	N			ND	Y	N	N	N	Y, station: Davo Crpna Stanica	Y	Y	Y	Y	Y	N	N	N
Sava	ut. Une nizv.Kosutarica	2535739	5011905		92	520	L						Y	N	N	N	N			ND	Y	N	N	N	Y, station: Jasenovac	Y	Y	Y	Y	Y	N	N	N
Sava	ut. Une uzv.Jasenovac	2532497	5012640		96	524	L	30953	L1150	HR_10010			Y	N	N	N	N			ND	N	N	N	N	Y, station: Crnac	Y	Y	Y	Y	Y	N	N	N
Sava	Jankomir	2450604	5070881		120	711	R						Y	N	N	N	N			ND	N	N	N	N	Y, station: Podsused Zicara			Y	Y	Y	N	N	N
Sava	Jesenice/D	2437657	5078936		135	728	R	10834	L1220	HR_10017			Y	N	N	N	N			ND	Y	N	N	N				Y	Y	Y	N	N	N
Drava	Botovo	2534181	5120973		125	226	M	31038	L1240	HR_29130			Y	N	N	N	N			ND	Y	N	N	N	Y, station: 5008 Botovo			Y	Y	Y	N	N	N
Drava	Ormož	2473815	5138872				M		L 1300	HR_29160			Y	N	N	N	N			ND	Y	N	N	N				Y	Y	Y	N	N	N
Kupa	Bubnjarc	2411296	5055282		177		R			HR_16008			Y	N	N	N	N			ND	Y	N	N	N				Y	Y	Y	N	N	N
Una	Donja Suvaja	2471856	4926215				M						Y	N	N	N	N			ND	Y	N	N	N	Y, station: 3215 Donja Suvaja			Y	Y	Y	N	N	N

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFIL E	CATCH_AR	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	PHP	MAPH	MZB	PHB	FISH	COMPLIANCE	PS_EMISSION	HYMO	
Serbia																																	
Danube	Bezdani	45,85421822	18,86437529	83,15	1427	L	210250	L2350	N			CS_D9	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Bogojevci	45,53040293	19,08389184	80,41	1367	L	251253	L2360	CS_RV_42020			CS_D8	DS Type 6		N	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Bacaka Palanka	45,25385608	19,52660155	74,52	1287	L	253737	L2430	CS_RV_42030			CS_D8	DS Type 6	Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Novi Sad	40,25083333	19,86111111	70,76	1258	R	254089	L2370	CS_RV_42035			CS_D8	DS Type 6	Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Zemun	44,84908156	20,41733533	70,14	1174	R	412762	L2380	CS_RV_42045			CS_D6	DS Type 6	Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Pancevo	44,85699913	20,61069118	68,58	1154,8	L	525009	L2390	CS_RV_42050			CS_D5	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Banatska Palanka	44,81833333	21,33444444	62,86	1076,6	M	568648	L2400	CS_RV_42060			CS_D4	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Tekija	44,69900122	22,42357694	50	954,6	R	574307	L2410	N			CS_D3	DS Type 7	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Danube	Radujevac	44,26405437	22,68604104	40	851	R	577089	L2420	CS_RV_42095			CS_D1	DS Type 7	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Tisa	Martonos	46,09982819	20,0640624	75,54	152	R	140130	L2440	CS_RV_94010			CS_TIS_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Tisa	Novi Becej	45,586075	20,13993469	74,03	66	L	145415	L2450	N			CS_TIS_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Tisa	Titel	45,19777849	20,31939558	72,55	8,9	M	157147	L2460	CS_RV_44040			CS_TIS_1		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Sava	Jamena	44,87777529	19,08917353	77,87	195	L	64073	L2470	CS_RV_45084			CS_SA_3		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Sava	Sremska Mitrovica	44,96696531	19,60721794	75,24	136,4	L	87996	L2480	CS_RV_45090			CS_SA_2		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Sava	Sabad	44,77005849	19,70470554	74,22	103,6	R	89490	L2490	CS_RV_45094			CS_SA_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Sava	Ostruznica	44,7216132	20,31424658		17	R		L2500	CS_RV_99246			CS_SA_1		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Velika Morava	Ljubicevski Most	44,58512799	21,13753776	75,09	34,8	R	37320	L2510	CS_RV_47090			CS_VMOR_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	Y	Y	Y	Y	Y		Y	Y
Velika Morava	Varvarin	43,72	21,38			L	31548	L47010	CS_RV_47010			CS_VMOR_3		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	Y	Y	Y	Y	Y		Y	Y
Velika Morava (Juzna Morava)	Mojsinje	43,63	21,49	18,1		L	15390	L47590	CS_RV_47590			CS_JMOR_2		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	Y	Y	Y	Y	Y		N	Y
Velika Morava (Zapadna Morava)	Jasika	43,61	21,3	20,5		R	14721	R47195	CS_RV_47195			CS_ZMOR_1		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	Y	Y	Y	Y	Y		N	Y
Velika Morava (Zapadna Morava)	Kraljevo	43,73	20,74			L		L47130	CS_RV_47299			CS_ZMOR_2		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	Y	N	Y	Y	Y		N	Y
Drina	Badovinac	44,78	19,36	95		R		R45885	CS_RV_45885			CS_DR_1		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	N	Y station: same	Y	N	Y	Y	Y		Y	Y
Drina	Bajina Basta	43,97	19,55		160	R	14797	R45865	CS_RV_45865			CS_DR_4		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	N	Y station: same	Y	Y	Y	Y	Y		Y	Y
Drina (Lim)	Prijepolje	43,38	19,64	74,5		L	3160	L45837	CS_RV_45837			CS_LIM_3		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y station: same	N	N	Y	Y	Y		Y	Y
Tamis	Jasa Tomić	45,43	20,86		116	R		R42401	CS_RV_42401			CS_TAM_2		Y	N	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	N	Y station: same	Y	Y	Y	Y	Y		Y	Y

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFIL E	CATCH_AR	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEI L	OPERA T	REFERE NCE	IC	RISK	RISK CAT	MODIFIE D	SHARED	PROTEC TED	EU-DIRECTIVES	OTHER_MON	QUANTITY	PHP	MAPH	MZB	PFB	FISH	COMPLIANC E	PS_EMIT SION	HYMO	
Bosnia&Herzegovina																																	
Sava	Gradiska	17°15'19"	45°8'58"	93	458	M	40850	L2280			BA_SA_3 (WB_Type_1.15)		Y	Y	N	N	Y	HYMO, OTH	Y	Y	N	N	Y	Y, station Gradiska	Y	Y	Y	Y	Y	MZB, PHP	N	N	
UNA	Kozarska Dubica	16°51'15"	45°13'32"	94	16	M	9300	L2290			BA_UNA_1 (WB_Type_2.14)		Y	Y	N	N	Y	NUTR, OTH	Y	Y	N	N	Y	Y, station: K Dubica	Y	Y	Y	Y	Y	MZB, PHP	N	N	
VRBAS	Razboj	17°29'48"	45°5'329"	90	6,7	M	6020	L3000			BA_VRB_1 (WB_Type_2.14)		Y	Y	N	N	Y	HYMO, OTH	Y	N	N	N	Y	Y, station Razboj	Y	Y	Y	Y	Y	MZB, PHP	N	N	
BOSNA	Modrica	18°25'58"	45°3'13"	87	6	M	10400	L3100			BA_BOS_1 (WB_Type_2.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	N	N	N	Y	Y, station Modrica	Y	Y	Y	Y	Y	MZB, PHP	N	N	
DRINA	Foca	18°45'10"	43°28'31"	398	323	M	5590				BA_DR_7 (WB_Type_2.4)		Y	Y	N	N	N		Y	N	N	N	Y	Y, station: Foca	Y	Y	Y	Y	Y	MZB, PHP	N	N	
DRINA	Badovinc	19°20'55"	44°46'49"	90	17	M	19930				BA_DR_1 (WB_Type_1.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	Y	N	N	Y	Y, station Badovinc	Y	Y	Y	Y	Y	MZB, PHP	N	N	
SAVA	Raca	19°21'513"	44°51'12"	81	175	M	64960				BA_SA_1 (WB_Type_1.15)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	Y	N	N	Y	Y, station: S Raca	Y	Y	Y	Y	Y	MZB, PHP	N	N	
UNA	Novi Grad	16°21'57"	45°0'55"	134	80	M	3200				BA_UNA_2 (WB_Type_3.1)		Y	Y	N	N	N		N	Y	N	N	Y	Y, station: Nov Grad	Y	Y	Y	Y	Y	MZB, PHP	N	N	
BOSNA	Usora	18°4'34"	447°39'319"	149	82	M	6750				BA_BOS_2 (WB_Type_2.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	N	N	N	Y	Y, station: Usora	Y	Y	Y	Y	Y	MZB, PHP	N	N	
Romania																																	
BARLAD	Umbrearest	27,45000076	45,70000076	27,5	0	M	7330		RO_RV_104		RO_XII_1_78_WB3	Eastern Plains	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	Y	N
BUZAU	Racovita	27,46666718	45,29999924	18,9	0	M	5240		RO_RV_109		RO_XII_1_82_WB8	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
SOMES	Rastoci	23,53333282	47,34999847	198,9	184	M	9704		RO_RV_11		RO_II_1_WB7 RO08a	Transylvania Plateau	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive, Habitats Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
SIRET	Sendreni	28,0256	45,40277863	2,4	0	M	44438	L0380	RO_RV_110		RO_XII_1_WB9	Pontic Province	Y	Y	N	N	Y	HYMO	N	N	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
JUIA	Chiperesti	27,76666641	47,1166687	29,9	0	M	5610		RO_RV_117		RO_XIII_1_15_WB 5	Eastern Plains	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
PRUT	Giurgulesti	28,21	45,4694	1,8	0	M	27480	L0420	RO_RV_119		RO_XIII_WB1	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	Y	Y	Y	Fish-Directive, Habitats Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Danube	Bazias	21,39444351	44,79916763	58	1071	L.M.R	570896	L0020	RO_RV_120		RO_XIV_WB3	Carpathian ecoregion	Y	Y	N	Y	Y	HYMO, NUTR, PSUB	N	Y	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	N
Danube	Chiclu-Silistra	27,24388885	44,12166595	13	375	L.M.R	698600	L0280	RO_RV_123		RO_XXI	Pontic Province	N	Y	Y	Y	Y	HYMO, ORGP, NUTR, PSUB	N	Y	N	N		Y	Y	Y	Y	Y	Y	Y	N	Y	N
Danube	Grindu-Ren	28,22611046	45,48055649	4	132	L.M.R	805700	L0430	RO_RV_124		RO_XXI	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	Y	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	N
Danube	Penprava-Valcov	29,60861015	45,41166687	1	18	L.M.R	817000	L0450	RO_RV_125		RO_TT01	Pontic Province	Y	Y	Y	N	Y	ORGP, NUTR, PSUB	N	Y	Y	Y	Fish-Directive, Habitats Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	N
SOMES	Oar (border)	22,86666679	47,78333282	118	0	M	15740		RO_RV_15		RO_II_1_WB11 RO13a	Hungarian Lowlands	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	Y	N	Y	N
CRISUL ALB	Varsand	21,33333206	46,6166687	88,9	0	M	4240		RO_RV_18		RO_3_1_WB6	Hungarian Lowlands	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	Y	N	N	N
CRISUL NIGRU	Zerind	21,51666641	46,6166687	86,4	0	M	3750		RO_RV_20		RO_3_1.142_WB5	Hungarian Lowlands	Y	N	Y	N	N		N	N	N	N	Fish-Directive	Y	Y	Y	Y	Y	Y	N	N	N	N
MURES	Ungheii	24,45000076	46,48333359	330	528	M	4298		RO_RV_25		RO_IV_1WB6	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
TARNAVE	Mihail	23,71666718	46,15000153	226,5	0	M	6151		RO_RV_32		RO_IV_1WB6	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
MURES	Alba Iulia	23,58333206	46,06666565	241,1	346	M	17964		RO_RV_33		RO_IV_1WB6	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
MURES	Nadlac	20,66666794	46,1333313	85,6	0	M	27818		RO_RV_39		RO_IV_1WB13	Hungarian Lowlands	Y	Y	Y	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Habitats Directive	Y	Y	Y	Y	Y	Y	Y	N	N	N
TIMIS	Granicor	20,88333321	45,43333435	72,1	0	M	5673		RO_RV_44		RO_V_2-8	Hungarian Lowlands	N	N	N	N	N		N	N	N	N		Y	Y	N	N	N	N	N	N	N	N
JIU	Zaval	23,83333206	43,83333206	30,9	0	M	10046		RO_RV_52		RO_VII_WB181	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
OLT	Carta (Arpas	24,58277893	45,79083252	360	265	M	10462		RO_RV_60		RO_VI_9	Carpathian ecoregion	Y	Y	N	N	Y	NUTR, PSUB	Y	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	Y
OLT	Izbiceni	24,66666794	43,81666565	32	0	M	24050		RO_RV_67		RO_VI_13	Pontic Province	Y	Y	Y	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
VEDEA	upstream Danube	25,64999962	43,70000076	20	0	M	5430		RO_RV_69		RO_IX_1_8	Pontic Province	Y	Y	N	N	Y	NUTR	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
ARGES	conf. Danube	26,61777878	44,07666779	14	0	M	12550	L0250	RO_RV_81		RO_X_1_14	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	Y	Y	Y	Y	Y	Y	Y	N	N	N
IALOMITA	Tandare	27,86666794	44,6333313	8,5	0	M	10309		RO_RV_87		RO_XI_1_WB12	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
BISTRITA	upstream Bacau	26,89999962	46,6166687	140	0	M	7039		RO_RV_95			Eastern Plains	Y	Y	N	N	Y	ORGP	Y	N	N	N	Fish-Directive, Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
SIRET	Galbeni (Racatau)	26,95000076	46,45000076	115,6	228	M	19492		RO_RV_96			Eastern Plains	Y	Y	N	N	Y	ORGP	Y	N	N	N	Fish-Directive, Nitrate-Directive	N	Y	Y	Y	Y	Y	Y	N	N	N
TROTUS	Adjud	27,18333244	46,1333313	85,6	0	M	4458		RO_RV_98			Eastern Plains	Y	Y	N	N	Y		N	N	N	N		N	Y	Y	Y	Y	Y	Y	N	N	N
Moldova																																	
r.Prut	s.Lipcani	48160	26500	130	658	L	8750	L2230			MD_I_WB1		Y	N					N	N	Y	N		Y	Y, hydrologica station	Y	Y	Y			MZB, PHP	Y	Y
r.Prut	s.Costesti	48749	255850		567	L					MD_I_WB2		Y	N					HYMO	Y	Y	N		Y	Y, hydrologica station	Y	Y	Y			MZB, PHP	N	Y
r.Prut	s.Braniste				546	L					MD_I_WB3		Y	Y					HYMO	Y	Y	N		Y	Y, hydrologica station	Y	Y	Y			MZB, PHP	N	Y
r.Prut	s.Valea Mare				387	L					MD_I_WB4		Y	Y					NUTR	N	Y	N		Y	Y, station Ungheni	Y	Y	Y			MZB, PHP, M APH	Y	Y
r.Prut	s.Giurgulesti	452810	281236		0	L	26500	L2270			MD_I_WB5		Y	Y					NUTR, ORGP	N	Y	N		Y	Y, station, Brinza	Y	Y	Y			MZB, PHP, M APH	Y	Y

SURVEILLANCE MONITORING 1

Template description			
Attribute name	Description of the attribute	Values and codelists	Example values
RIVER	Name of the river		Danube
NAME	Locally used name of the sampling station		Jochenstein
LONGITUDE	Coordinates should be given in decimal degrees in ETRS89		
LATITUDE	Coordinates should be given in decimal degrees in ETRS89		
ALTITUDE	Altitude in metres		290
RKM	River kilometer		2204
PROFILE	Location in profile; left, middle, right	L, M, R	L
CATCH_AR	Total area of the catchment upstream the sampling point in km2		77086
TNMN_CODE	TNMN code (if TNMN site)		L2130
EIONET	Code of the station in the EIONET		DE_RV_BY11
IED 77/795/EWG	Code of the station in the monitoring network in accordance with the Information Exchange Decision 77/795/EWG		G12
WB	Code for water body according to Article 5 report (Roof Report)		DE1_134693_157710
DRBC_CODE	Code for common water type in the Danube River Basin		Eastern Alpine Foothills Danube (Danube Section Type 3)
SURVEIL	Is it a surveillance site in the national programme?	Yes = Y, No = N	Y
OPERAT	Is it also an operational site in the national programme?	Yes = Y, No = N	Y
REFERENCE	Is the sampling site a reference site?	Yes = Y, No = N	N
IC	Is the sampling site part of the intercalibration network?	Yes = Y, No = N	N
RISK	Is the water body at risk or possibly at risk?	Yes = Y, No = N	Y
RISK CAT	Risk category	HYMO = hydromorphology, ORGP = organic pollution, NUTR = nutrients, PSUB = priority substances, OTH = other	HYMO
MODIFIED	Is the water body heavily modified?	Yes = Y, No = N, ND = not decided	ND
SHARED	Is it a shared water body between countries?	Yes = Y, No = N	Y
PROTECTED	Is the monitoring site in a protected area? (RAMSAR and World Heritage Convention, UNESCO/MAB and/or IUCN category II or Natura 2000 site with a size of > 1000 ha).	Yes = Y, No = N	N
EU-DIRECTIVES	Is it a monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?		76/464/EWG, Nitrate-Directive
OTHER_MON	Is the monitoring site part of other existing monitoring networks?	Yes = Y, No = N	Y
QUANTITY	Is quantitative data available (from which gauging station...)?		Y, station: Achleiten
PHP	Is it possible to analyze phytoplankton?	Yes = Y, No = N	Y
MA	Is it possible to analyze macroalgae		Y
MZB	Is it possible to analyze macrozoobenthos?	Yes = Y, No = N	Y
ANGS	Is it possible to analyze angiosperm?	Yes = Y, No = N	Y
FISH	Is it possible to analyze fish?	Yes = Y, No = N	Y
COMPLIANCE	For which biological quality elements are available data compliant with WFD?	MZB = macrozoobenthos, PHB = phytobenthos, PHP = phytoplankton, MAPH = macrophyta, FISH = fish	MZB
PS_EMISSION	Is information available of emission for priority substances to this water body?		N
HYMO	Is data available on hydromorphology?		Y

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMN_CO	EIONET	IED	WB	DRBC_CODE	SURVEIL	OPERAT	REFEREN	IC	RISK	RISK	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	PHP	MA	IMZB	ANGS	FISH	COMPLIANCE	PS_EMISSION	HYMO	
Romania																																	
Black Sea	Golf Musura - Bara Sulina	29,78333	45,1675	0		5 m/ 20 m/ 12 miles					Chilia-Periboina	Black Sea	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	Y	Y	Habitats Directive	Y		Y	Y	Y	Y	Y	N		N	N
Black Sea	Gura Buhaz	28,74361	44,39722	0		0 m/ 5 m/ 20 m					Periboina-Singol Cape	Black Sea	Y	Y	N	N	Y	NUTR, PSUB	N	N	Y	Habitats Directive	Y		Y	Y	Y	Y	Y	N		N	N
Black Sea	Pescarie Constanta Nord	28,675	44,22417	0		0 m/ 5 m/ 20 m					Singol Cape-Eforie Nord	Black Sea	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N		Y		Y	Y	Y	Y	Y	N		N	N
Black Sea	Vama Veche	28,58833	43,75	0		0 m/ 5 m/ 20 m/ 12 miles					Eforie Nord-Vama Veche	Black Sea	Y	Y	Y	N	Y	HYMO, NUTR	N	N	Y	Habitats Directive	Y		Y	Y	Y	Y	Y	N		N	N

ANNEX 2: LIST OF QUALITY ELEMENTS AND MONITORING FREQUENCIES FOR SURVEILLANCE MONITORING I - MONITORING OF SURFACE WATER STATUS

Quality elements - Germany

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	Y	species	Individuals	1	Every three years	CEN when available
Macrophytes	Y	species	Abundance class 1-5 (1	Every three years	CEN when available
Phytobenthos	Y	species	%	1	Every three years	CEN when available
Phytoplankton	Y	species	Individuals/ml and zells/ml	7	Every three years	CEN when available
Fish	Y	species	Individuals	1	Every three years	CEN when available

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	24	temperature	6
Oxygenation	24	O ₂ , BOD 5	6
Salinity	24	Cl	6
Nutrient status	24	NO ₃ -N, NH ₄ -N, P _{total} , o-PO ₄ -P	6
Acidification status	24	pH-value	6
Priority substances	12	see draft daughter directive	1
Other pollutants	4-12	Bavarian list according to "Bayerische Gewässerbestandsaufnahme- und -	1

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuously	m ³ /s	
Connection to groundwater bodies			
River continuity	Once during period of RBMP		not decided
River depth/width variation	Once during period of RBMP		not decided
River bed (structure/substrate)	Once during period of RBMP		not decided
Structure of riparian zone	Once during period of RBMP		not decided
Other parameters	Once during period of RBMP		not decided

Quality elements - Austria

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	yes (1)	species level	individuals / m2 (3)	1 x year	Every three years	national method
Macrophytes	yes	species level	Abundance class 1-5 (3)	1 x year	once during period of RBMP	national method
Phytobenthos	yes	species level	% '(3)	1 x year	Every three years	national method
Phytoplankton	no (2)	-	µg / l	12 x year	Annual	
Fish	yes	species level	Individuals / ha (3)	1 x year	Every three years	CEN

* Examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

(1) national method is available, but adaptations will be necessary

(2) no WFD compliant method available - low relevance of this BQE in the Austrian Danube, method is only measurement of Chlorophyll

(3) units for the evaluation of the ecological status are different indices and metrics that are calculated with the abundance units given here

	Frequency / year	Determinants (list)	Turnus (how often during the period of RBMP)
Thermal conditions	12-24/year	water temperature	annual
Oxygenation	12-24/year	diss. Oxygen, BOD,	annual
Salinity	12-24/year	chloride	annual
Nutrient status	12-24/year	NO3-N, NH4-N, o-PO4-P, totalP, total P dissolved	annual
Acidification status	12-24/year	pH	annual
Priority substances	12/year	list of 33 substances	once during period of RBMP
Other pollutants	12/year	list of some 50 substances of national relevance	once during period of RBMP

	Frequency	Unit	Description	Turnus (how often during the period of RBMP)
Water flow (quantity/dynamics)	12-24/year	m3/s		annual
Connection to groundwater bodies				
River continuity	1x/year	assessment scale according to method	is part of the national morphology assessment system	once during period of RBMP
River depth/width variation	1x/year	assessment scale according to method	is part of the national morphology assessment system	once during period of RBMP
River bed (structure/substrate)	1x/year	assessment scale according to method	is part of the national morphology assessment system	once during period of RBMP
Structure of riparian zone	1x/year	assessment scale according to method	is part of the national morphology assessment system	once during period of RBMP
Other parameters	1x/year	assessment scale according to method	is part of the national morphology assessment system	once during period of RBMP

Quality elements - Czech Republic

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	approved	species predominantly	individuals	2x	3y	national method
Macrophytes	approved	species predominantly	Abundance class 5	1x	3y	national method
Phytobenthos	approved	species predominantly	Abundance class 7	3x	3y	national method
Phytoplankton	approved	species predominantly	individuals /1ml	3x	3y	national method
Fish	approved	species predominantly	individuals	1x	3y	national method

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	12/year	water temperature	every three years during period of first RBMP
Oxygenation	12/year	diss. Oxygen, BOD,COD	every three years during period of first RBMP
Salinity	12/year	chloride	every three years during period of first RBMP
Nutrient status	12/year	NO3-N, NH4-N, total N, o-PO4-P, total P dissolved, Sillicate	every three years during period of first RBMP
Acidification status	12/year	pH, alkalinity	every three years during period of first RBMP
Priority substances	12/year	list of 33 substances	every three years during period of first RBMP
Other pollutants	12/year	pesticides, heavy metals, complexing substances	every three years during period of first RBMP

	Frequency	Unit	Description
Water flow (quantity/dynamics)	once during period of RBMP	m ³ /s	
Connection to groundwater bodies	once during period of RBMP	not decided yet	
River continuity	once during period of RBMP	not decided yet	
River depth/width variation	once during period of RBMP	not decided yet	
River bed (structure/substrate)	once during period of RBMP	not decided yet	
Structure of riparian zone	once during period of RBMP	not decided yet	
Other parameters			

Quality elements - Slovakia

Information on quality elements as it is planned on a national level

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)**
Macrozoobenthos	Y	species level	Individuals/ 1.25 m2	2 x year	every three years	AQEM
Macrophytes	Y	species level	Relative plant mass	1 x year	every three years	STN EN 14148
Phytobenthos	Y	species level	Relative abundance	1 x year	every three years	STN EN 13946
Phytoplankton	Y	species level	Cells/1ml, µg/l	6 x year	every three years	STN 830532
Fish	N	species level	CPUE	not decided yet	not decided yet	STN EN 14011

* examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**examples for turnus

annual
every two years
every three years
once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinants			Turnus (how often during the period of RBMP)
Thermal conditions	12/year	water temperture			annual
Oxygenation	12-25/year	diss. Oxygen, BOD, COD			annual
Salinity	12-25/year	Ca, Mg, chloride, sulphates, conductivity			annual
Nutrient status	12-25year	NO2-N, NO3-N, NH4-N, total N, o-PO4-P, totalP, total P dissolved			annual
Acidification status	12/year	Alkalinity, Acidity, pH			annual
Priority substances	12/year	list of 33 substances			once during period of RBMP
Other pollutants	4-12/year	other relevant substances			once during period of RBMP
	12-25year	suspended solids			annual

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuous	m3/s	
Connection to groundwater bodies	Once during period of RBMP		
River continuity	Once during period of RBMP		
River depth/width variation	Once during period of RBMP		
River bed (structure/substrate)	Once during period of RBMP		
Structure of riparian zone	Once during period of RBMP		
Other parameters	Once during period of RBMP		

Quality elements - Hungary

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	Y	species	Individuals/m ² , abundance class 1-5		2 Annual	AQEM, modified AQEM for large rivers
Macrophytes	Y	species	Covered area, %		1 Annual	*** CEN are drafted
Phytobenthos	Y	species	Not decided yet		1 Annual	*** CEN are drafted
Phytoplankton	Y	species	No. of cells/ml	6 (in vegetation period)	Annual	*** CEN are drafted
Fish	Y	species	CPUE, abundance class 1-5		1 Once during period of RBMP	*** CEN are drafted

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	26	Water temperature	annual
Oxygenation	26	DO, Oxygen Saturation, COD-ps, COD-cr, TOC, BOD-5	annual
Salinity	min 1	conductivity, general compounds, ionic compounds, etc.	annual
Nutrient status	26	TP, PO ₄ -P, TN, NO ₃ -N, NO ₂ -N, NH ₄ -N	annual
Acidification status	min 1	pH, Alkalinity	annual
Priority substances	12	Organic pollutants from the priority list	Once during period of RBMP
Other pollutants	12	Heavy metals (8 ompounds)	annual

	Frequency	Unit	Description
Water flow (quantity/dynamics)	daily	m ³ /s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	not decided yet	not decided yet	
River depth/width variation	not decided yet	not decided yet	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements - Slovenia

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)** Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	agreed	species/genus	individuals / m ²	1 x year	Every three years	national method (2)
Macrophytes	under development	species	Abundance class 1-5	1 x year	Once during period of RBMP	CEN
Phytobenthos	agreed	species	%	1 x year	Every three years	CEN
Phytoplankton	no (1)	species	individuals/ml	6 x year	Annual	CEN
Fish	under development	species	Individuals	1 x year	Once during period of RBMP	CEN

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

(1) no WFD compliant method available - low relevance of this BQE in Slovenian Rivers

(2) compliant with CEN standard

	Frequency / year	Determinants (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4-12/year	water temperature	annual
Oxygenation	4-12/year	O ₂ , BOD-5, COD	annual
Salinity	4-12/year	conductivity	annual
Nutrient status	4-12/year	NO ₃ -N, NO ₂ -N, NH ₄ -N, o-PO ₄ -P, total P	annual
Acidification status	4-12/year	pH	annual
Priority substances	12/year	list of 33 priority substances	once during period of RBMP
Other pollutants	4-12/year	list of nationally relevant substances	once during period of RBMP

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuously	m ³ /s	annual
Connection to groundwater bodies	will be part of the morphology assessment system, which is not ready for action yet		
River continuity	will be part of the morphology assessment system, which is not ready for action yet		
River depth/width variation	will be part of the morphology assessment system, which is not ready for action yet		
River bed (structure/substrate)	will be part of the morphology assessment system, which is not ready for action yet		
Structure of riparian zone	will be part of the morphology assessment system, which is not ready for action yet		
Other parameters	will be part of the morphology assessment system, which is not ready for action yet		

Quality elements - Croatia

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	Internal manual	species	Abundance class 1,3,5	2	Every year	ISO 7828
Macrophytes	N	species	Not decided yet	Not decided yet	Every year	
Phytobenthos	Internal manual	species	Abundance class 1,3,5	2	Every year	
Phytoplankton	Internal manual	species	Abundance class 1,3,5	4-8	Every year	
Fish	N	species	Not decided yet	Not decided yet	Not decided yet	

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4-26	Water temperature	Not decided yet
Oxygenation	4-26	DO, Oxygen Saturation, COD, BOD, PI	Not decided yet
Salinity	4-26	conductivity, Ca, Mg, Na, K	Not decided yet
Nutrient status	4-26	TP, TN, NO ₃ (-N) + NO ₂ (-N), NH ₄ (-N), PO ₄ -P (dissolved)	Not decided yet
Acidification status	4-26	pH, Alkalinity	Not decided yet
Priority substances	2-12	8 metals, 10 organic compounds	Not decided yet
Other pollutants	2-12	mineral oils	Not decided yet

	Frequency	Unit	Description
Water flow (quantity/dynamics)	26/year	m ³ /s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	not decided yet	not decided yet	
River depth/width variation	not decided yet	not decided yet	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements -Serbia

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	Y	species	Abundance class 1-7	2	Every three years	CEN
Macrophytes	N	species	Not decided yet	1	Every three years	
Phytobenthos	N	species	Not decided yet	2	Every three years	
Phytoplankton	N	species	Not decided yet	2	Every three years	
Fish	N	species	Not decided yet	1	Every three years	

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	12_24	Water temperature	annual
Oxygenation	12_24	DO, Oxygen Saturation	annual
Salinity	12_24	conductivity, ca concentration	annual
Nutrient status	12_24	TP, TN, NO ₃ (-N) + NO ₂ (-N), NH ₄ (-N), PO ₄ -P, (dissolved)	annual
Acidification status	12_24	pH, Alkalinity	annual
Priority substances		Atrazine, Benzene, Lead (and its compounds), Mercury (and its compounds), Nickel (and its compounds),	annual
Other pollutants	4_24	Pesticides (50), Heavy metals (11), complexing substances	annual

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuously 6-12/year	m ³ /s m/s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	not decided yet	not decided yet	
River depth/width variation	6-12/year 6-12/year	m ² m ³ /s	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements - Bosnia and Herzegovina

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos		species predominantly	abundance 1-7	4x	annual	
Macrophytes		not decided yet	not decided yet	not decided yet	not decided yet	
Phytobenthos		not decided yet	not decided yet	not decided yet	not decided yet	
Phytoplankton		species predominantly	abundance 1-7	4x	annual	
Fish		species	not decided yet	1x	Once during period of RBMP	

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	12/year	Water temperature	6x
Oxygenation	12/year	DO, Oxygen saturation	6x
Salinity	12/year	conductivity, Ca concentration	6x
Nutrient status	12/year	TP, TN, NO ₃ -N+NO ₂ -N, NH ₄ -N, PO ₄ -P, PO ₄ -P (dissolved)	6x
Acidification status	12/year	pH, Alkalinity	6x
Priority substances	1/year	list of 33 substances	6x
Other pollutants	not decided yet	not decided yet	6x

	Frequency	Unit	Description
Water flow (quantity/dynamics)	12/year	m ³ /s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	once during period RBMP	not decided yet	
River depth/width variation	not decided yet	not decided yet	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements - Romania

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	National method, CEN are drafted
Macrozoobenthos	first draft (Dec. 2006)	species level	Individuals, abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Macrophytes	first draft (July. 2007)	species level	Individuals/m2, abundance class 1-7	1/year	every three years during period of first RBMP	National method, CEN are drafted
Phytobenthos	first draft (Dec. 2006 to July 2007)	species level	Individuals/m2, abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Phytoplankton	first draft	species level	Individuals/ m3, abundance class 1-7	4/year	every three years during period of first RBMP	National method
Fish	first draft (July. 2007)	species level	Individuals	1/year	every three years during period of first RBMP	National method

* Examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	water temperature	every three years during period of first RBMP
Oxygenation	4/year	diss. Oxygen, BOD, COD	every three years during period of first RBMP
Salinity	4/year	Na, K, Ca, Cl, SO4, Mg	every three years during period of first RBMP
Nutrient status	4/year	NO2-N, NO3-N, NH4-N, total N, o-PO4-P, totalP, chlorophyll A, Silicate	every three years during period of first RBMP
Acidification status	4/year		every three years during period of first RBMP
Priority substances	12/year	list of 33 substances, List I, List II	every three years during period of first RBMP
Other pollutants	4/year	other substances	every three years during period of first RBMP

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuous	m3/s	
Connection to groundwater bodies	-		
River continuity	every six years	not decided yet	
River depth/width variation	every six years	not decided yet	
River bed (structure/substrate)	every six years	not decided yet	
Structure of riparian zone	every six years	not decided yet	
Other parameters	once during period of RBMP	not decided yet	

Quality elements - Romania Coastal

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	first draft (Dec. 2006)	species level	Individuals, abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Macrophytes	first draft (July. 2007)	species level	Individuals/m ² , abundance class 1-7	1/year	every three years during period of first RBMP	National method, CEN are drafted
Phytobenthos	first draft (Dec. 2006 to July 2007)	species level	Individuals/m ² , abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Phytoplankton	first draft	species level	Individuals/ m ³ , abundance class 1-7	4/year	every three years during period of first RBMP	National method
Fish	first draft (July. 2007)	species level	Individuals	1/year	every three years during period of first RBMP	National method

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	water temperature	every three years during period of first RBMP
Oxygenation	4/year	diss. Oxygen, BOD, COD	every three years during period of first RBMP
Salinity	4/year	Na, K, Ca, Cl, SO ₄ , Mg	every three years during period of first RBMP
Nutrient status	4/year	NO ₂ -N, NO ₃ -N, NH ₄ -N, total N, o-PO ₄ -P, totalP, chlorophyll A, Silicate	every three years during period of first RBMP
Acidification status	4/year	pH, alkalinity	every three years during period of first RBMP
Priority substances	12/year	OCP, PCBs, Chloro-Benzenes, THMs, Naphtalene , Hg, Cd, Pb, Ni)	every three years during period of first RBMP
Other pollutants	4/year	HM (Fe, Mn, Zn, Cu, Cr, As), Phenol Index, ANADET, Cyanides, Petroleum Hydrocarbons, Triazines, Benzene)	every three years during period of first RBMP
Transparency	4/year	Transparency (Secchi Disk), Turbidity, Colour, Suspended Solids	every three years during period of first RBMP

OD (%), TOC, DOC

Salinity based on electrical conductivity
NO₃+NO₂

	Frequency	Unit	Description

Quality elements - Moldova

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	National method, CEN are drafted
Macrozoobenthos		species level	Individuals/1m ²	3/year	every three years during period of first RBMP	National method, CEN are drafted
Macrophytes		species level	Not decided yet	1/3year	every three years during period of first RBMP	National method, CEN are drafted
Phytobenthos		species level	Not decided yet	3/year	every three years during period of first RBMP	National method, CEN are drafted
Phytoplankton		species level	Individuals/ m3,	4/year	every three years during period of first RBMP	National method
Fish						National method

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	water temperature	every three years during period of first RBMP
Oxygenation	4/year	diss. Oxygen, BOD, COD	every three years during period of first RBMP
Salinity	4/year	Na, K, Ca, Cl, SO ₄ , Mg	every three years during period of first RBMP
Nutrient status	4/year	NO ₂ -N, NO ₃ -N, NH ₄ -N, total N, o-PO ₄ -P, totalP, chlorophyll A, Silicate	every three years during period of first RBMP
Acidification status	4/year		every three years during period of first RBMP
Priority substances	12/year	list of 33 substances, List I, List II	every three years during period of first RBMP
Other pollutants	4/year	other substances	every three years during period of first RBMP

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuous	m ³ /s	
Connection to groundwater bodies	-		
River continuity	every six years	not decided yet	
River depth/width variation	every six years	not decided yet	
River bed (structure/substrate)	every six years	not decided yet	
Structure of riparian zone	every six years	not decided yet	
Other parameters	once during period of RBMP	not decided yet	

ANNEX 3: LIST OF MONITORING SITES FOR SURVEILLANCE MONITORING II - MONITORING OF SPECIFIC PRESSURES

SURVEILLANCE MONITORING II

No	Country	current load AP	River	Name of site	x coord.	y coord.	Altitude	Location in profile	Catchment in km2	TNMN code (if TNMN site)	Code EIONET	Information Exchange Decision 77/795/EWG	Code for WB (Roof Report)	DRBCode for common water type
1	DE		Danube	Jochenstein KW-OW	483116	134214	290	L	77086	L2130	DE_RV_BY11	G12	DE1_134693_157710	Eastern Alpine Foothills Danube (Danube Section Type 3)
2	DE		Danube	Dillingen-Messstation	4389313	5382254	420	R	11315	L2140	DE_RV_BY09		DE1_437941_514553	Eastern Alpine Foothills Danube (Danube Section Type 2)
3	DE		Inn	Kirchdorf-Bruecke	4509558,02	5293742,8	194,5	L	9905	L2150	DE_RV_BY21		DE18_183539_216151	
4	DE		Salzach	Laufen-Messstation	4569801	5311701	390	R	6113	L2160	DE_RV_BY22		DE186_0_58295	
5	AT		Danube	Jochenstein	48 31 16	13 42 14	290	M	77086	L2220		yes	AT_3030700	Section Type 3: Eastern Alpine Foothills Danube
6	AT		Danube	Enghagen	48 14 33	14 29 44	241	R	82992	L2200		yes	AT_4103600	Section Type 3: Eastern Alpine Foothills Danube
7	AT		Danube	Wien-Nussdorf	48 15 45	16 22 15	159	R	101700	L2180		no	AT_4090300	Section Type 4: Lower Alpine Foothills Danube
8	AT		Danube	Hainburg	48 10 02	16 58 54	135	R	131411	L2170		yes	AT_4090402	Section Type 4: Lower Alpine Foothills Danube
9	CZ		Morava	Lanzhot	3646589,42	5396860,43	150	R	9725	CZ1	CZ0401	yes	CZ_41049000	1000_11_15
10	CZ		Dyje	Pohansko	3638593,98	5401035,52	155	R	12540	CZ 2	CZ0402	yes	CZ_41993000	1000_11_18
11	SK		Danube	Bratislava	17,1039669	48,1392319	128	L,M,R	131329	L1840	D002051D	yes	SKD0016	Lower Alpine Foothills Danube (Danube Section Type 4)
12	SK		Danube	Medvedov	17,6519872	47,7935424	108	M	132168	L1860	D017000D	no	SKD0017	Lower Alpine Foothills Danube (Danube Section Type 4)
13	SK		Danube	Komarno	18,1203017	47,7511691	103	M	151961	L1870	D034051D	no	SKD0018	Lower Alpine Foothills Danube (Danube Section Type 4)
14	SK		Váh	Komarno	18,1423259	47,7609114	106	M	19661	L1960	V787501D	yes	SKV0027	1000_11_18
15	HU		Danube	Medve/Medvedov	474737	173906		M	131605	L1470	HU_RV_01FF02		HU_RW_AAA626_1790-1850_S	Lower Alpine Foothills Danube (Danube Section Type 4)
16	HU		Danube	Komarom/Komarno	474504	180715		LMR	150820	L1475	HU_RV_01FF07		HU_RW_AAA626_1708-1790_M	Hungarian Danube Band (Danube Section Type 5)
17	HU		Danube	Szob	474838	185132		LMR	183350	L1490	HU_RV_02FR51		HU_RW_AAA626_1481-1708_M	Hungarian Danube Band (Danube Section Type 5)
18	HU		Danube	Dunafoldvar	464838	185600		LMR	188700	L1520	HU_RV_03FF06		HU_RW_AAA626_1481-1708_M	Hungarian Danube Band (Danube Section Type 5)
19	HU		Danube	Hercegszanto	455454	184816		LMR	211503	L1540	HU_RV_03FF01		HU_RW_AAA626_1433-1481_S	Pannonian Plain Danube (Danube Section Type 6)
20	HU		Sio	Szekszard-Palank	462247	184313		M	14693	L1604	HU_RV_04FF11		HU_RW_AAB026_0000-0079_S	
21	HU		Drava	Dravasabolcs	454703	181202		M	35764	L1610	HU_RV_05FF18		HU_RW_AAB256_0070-0199_S	
22	HU		Tisza/Sajo	Sajopuspoki	481659	202023		M	3224	L1770	HU_RV_08FF10		HU_RW_AAB659_0069-0125_S	
23	HU		Tisza	Tiszasziget	461108	200617		LMR	138498	L1700	HU_RV_11FF12		HU_RW_AAA506_0160-0243_S	
24	HU		Tisza	Tiszabecs	480615	224947		LMR	138498	L1700			HU_RW_AAA506_1724-0745_S	
25	HU		Szamos	Csenger	475125	224044					HU_RV_07FF09		HU_RW_AAA856_0000-0050_S	
26	HU		Sebes-Koros	Korosszakal	470113	213922					HU_RV_12FF03		HU_RW_AAB680_0015-0058_S	
27	HU		Fekete-Koros	Sarkad	464138	212548					HU_RV_12FF02		HU_RW_AAA250_0000-0020_S	
28	HU		Feher-Koros	Gyulavari	463744	212005					HU_RV_12FF01		HU_RW_AAA510_0000-0010_S	
29	HU		Maros	Nagylak	460942	204212					HU_RV_11FF21		HU_RW_AAA835_0032-0050_S	
30	SLO		Drava	Ormoz	5140540	5589180	186	L	15379	L1390	SI_RV_2200	2199		
31	SLO		Sava	Jesenice na Dolenjskem	5079861	5554108	137	R	10149	L1330	SI_RV_3860	3860		

No	Country	current load AP	River	Name of site	x coord.	y coord.	Altitude	Location in profile	Catchment in km2	TNMN code (if TNMN site)	Code EIONET	Information Exchange Decision 77/795/EWG	Code for WB (Roof Report)	DRBCode for common water type
32	HR		Danube	Batina	2681137	5082781	86	M	210250	L1315	HR_29010	no	WB were not defined for RR	HR_Type 10/Lowland very large rivers, Danube (Danube Section Type 6)
33	HR		Danube	Borovo	2693774	5028274	79	R	243147	L1320	HR_25071	no	WB were not defined for RR	HR_Type 10/Lowland very large rivers, Danube (Danube Section Type 6)
34	HR		Drava	Ormoz	2473815	5138872		M		L 1300	HR_29160	no	WB were not defined for RR	HR_Type 7a/Lowland very large rivers, Drava and Mura (1000_11_12)
35	HR		Drava	Botovo	2534181	5120973	125	M	31038	L1240	HR_29130	no	WB were not defined for RR	HR_Type 7a/Lowland very large rivers, Drava and Mura (1000_11_12)
36	HR		Drava	Donji Miholjac	2632597	5071385	90	M	37142	L1250	HR_29111	no	WB were not defined for RR	HR_Type 9a/Lowland very large rivers, Drava lower part (1000_11_12)
37	HR		Sava	Jesenice/D	2437657	5078936	135	R	10834	L1220	HR_10017	no	WB were not defined for RR	HR_Type 7b/Lowland very large rivers, Sava upper part (1000_11_13)
38	HR		Sava	us. Una/ Jasenovac	2532497	5012640	96	L	30953	L1150	HR_10010	no	WB were not defined for RR	HR_Type 8/Lowland very large rivers, Sava medium part (1000_11_12)
39	HR		Sava	Zupanja	2673873	4989519	85	L	62890	L1060	HR_10001	no	WB were not defined for RR	HR_Type 9b/Lowland very large rivers, Sava lower part (1000_11_12)
40	RS		Danube	Bezdan	455115	185152	83,15	L	210250	L2350			CS_D9	
41	RS		Danube	Bogojevo	453149	190502	80,41	L	251253	L2360			CS_D8	
42	RS		Danube	Novi Sad	401503	195140	74,52	R	254085	L2370			CS_D8	
43	RS		Danube	Zemun	445057	202502	70,76	R	412762	L2380			CS_D6	
44	RS		Danube	Pancevo	445125	203638	70,14	L	525009	L2390			CS_D5	
45	RS		Danube	Banatska Palanka	444906	212004	68,58	M	568648	L2400			CS_D4	
46	RS		Danube	Tekija	444156	222525		R	574307	L2410			CS_D3	
47	RS		Danube	Radujevac	441551	224110		R	577085				CS_D1	
48	RS		Danube	Backa Palanka	451514	193136		L	253737	L2430			CS_D_8	
49	RS		Tisza	Martonos	460559	200351	75,54	R	140130	L2440			CS_TIS_2	
50	RS		Tisza	Novi Becej	453510	200824	74,03	L	145415	L2450			CS_TIS_2	
51	RS		Tisza	Titel	451152	201910	72,55	M	157147	L2460			CS_TIS_1	
52	RS		Sava	Jamena	445240	190521	77,67	L	64073	L2470			CS_SA_3	
53	RS		Sava	Sremska Mitrovica	445802	193626	75,24	L	87996	L2480			CS_SA_2	
54	RS		Sava	Sabac	444612	194217	74,22	R	89490	L2490			CS_SA_2	
55	RS		Sava	Ostruznica	444318	201851		R		L2500			CS_SA_1	
56	RS		Velika Morava	Ljubicevski Most	443506	210815	75,09	R	37320	L2510			CS_VMOR_2	
57	BA		Sava	Gradiska	17°15'19"	45°8'58"	93	M	40850	L2280			BA_SA_3, (WB_Type_1.15)	
58	BA		UNA	Kozarska Dubica	16°51'15"	45°13'32"	94	M	9300	L2290			BA_UNA_1, (WB_Type_2.14)	
59	BA		VRBAS	Razboj	17°29'48"	45°5'329"	90	M	6020	L3000			BA_VRB_1, (WB_Type_2.14)	
60	BA		BOSNA	Modrica	18°25'58"	45°3'13"	87	M	10400	L3100			BA_BOS_1, (WB_Type_2.14)	
61	BA		DRINA	Foca	18°45'10"	43°28'31"	398	M	5590				BA_DR_7, (WB_Type_2.4)	
62	BA		DRINA	Badovinci	19°20'55"	44°46'49"	90	M	19930				BA_DR_1, (WB_Type_1.14)	
63	BA		SAVA	Raca	19°21'13"	44°51'12"	81	M	64960				BA_SA_1, (WB_Type_1.15)	
64	BA		UNA	Novi Grad	16°21'57"	45°0'55"	134	M	3200				BA_UNA_2, (WB_Type_3.1)	
65	BA		BOSNA	Usora	18°4'34"	44°39'319"	149	M	6750				BA_BOS_2, (WB_Type_2.14)	
66	BG		Danube	Novo selo harbour	44,1619	22,7944	27	L M R	584900	BG01				
67	BG		Danube	Lom	43.8352	23.2698	22,89	R	588860					
68	BG		Danube	Orjahovo	43.7286	23.9969	21,56	R	607260					
69	BG		Danube	Bajkal	43.7118	24.4244	20	R	608820	BG02				
70	BG		Danube	Nikopol	43.7005	24.9273	17,23	R	648620					
71	BG		Danube	Svishtov	43.6041	25.4103	15,1	R	650340	BG03				
72	BG		Danube	upstream Russe	43.7864	25.9132	N/A	R	669900	BG04				
73	BG		Danube	Silistra	44.1140	27.2436	6,5	R M L	685700	BG05				
74	BG		Iskar	mouth	43.5905	24.3688	20	M	8646					

	1	2	3	4	5	6	7	8	9	10	11
	DE	DE	DE	DE	AT	AT	AT	AT	CZ	CZ	SK
For this Monitoring site:	Danube Jochenstein	Dillingen-Messstation	Kirchdorf-Bruecke	Laufen-Messstation	Danube Jochenstein	Danube Enghagen	Danube Wien-Nussdorf	Danube Hainburg	Morava Lanzhot	Dyje Pohansko	Danube Bratislava
Is it a surveillance site in the national programme?	yes	yes	yes	yes	yes	yes	yes	yes	yes	Yes	yes
Is it also an operational site in the national programme?	yes, hydromorphological alteration	yes, hydromorphological alteration	yes, hydromorphological alteration	yes, hydromorphological alteration	yes	yes	yes	yes	yes	yes	no
Is the water body at risk or possibly at risk?	yes, hydromorphological alteration	yes, hydromorphological alteration	yes, hydromorphological alteration	possibly, hydromorphological alteration	yes (hydromorphological risk)	yes (hydromorphological risk)	yes (hydromorphological risk)	yes (hydromorphological risk)	yes,chem.state.ecol.s t.,HM	yes,chem.state.ec.st.,HM	yes, nutrients, hydromorphological alteration, priority substances
Is the water body heavily modified?	no decision yet	no decision yet	no decision yet	no decision yet	no decision yet	no decision yet	no decision yet	no decision yet	yes,preliminary appoited	yes,preliminary appointed	yes
Is it a shared water body between countries?	no	no	no	no	yes	no	no	yes	yes	yes	no
Monitoring site in protected area?	no	no	no	no	no	no	no	no	yes, NATURA 2000	yes,NATURA 2000	yes
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?	76/464EWG, Nitrate-Directive	76/464EWG, Nitrate-Directive	76/464EWG, Nitrate-Directive	76/464EWG, Nitrate-Directive	76/464/EWG, Fish-Directive	76/464/EWG, Fish-Directive	76/464/EWG, Fish-Directive	76/464/EWG, Fish-Directive	76/464EWG,Nitrate,Fi sh	76/464, Nitrate,Fish	yes 76/464/EWG, FD
Is the monitoring site part of other existing monitoring networks?	yes	yes	yes	yes	national monitoring system	national monitoring system	national monitoring system	national monitoring system	yes, EIONET,IED77/795/E GW	yes, EIONET,IED77/795/E GW	yes
Is quantitative data available (gauging station...)?	yes, station: Achleiten	yes, station: Dillingen	yes, station: Oberaudorf	yes, station: Laufen	yes, station: Achleiten Nr. 207019	yes, station: Mauthausen Nr. 207084	yes, station: Korneuburg Nr. 207241	yes, station: Wildungsmauer Nr. 207373	yes	yes	yes
Is it possible to perform all biological quality elements (BQE)?	yes	yes	yes, but no phytoplankton required (not plankton dominated)	yes, but no phytoplankton required (not plankton dominated)	yes	yes	yes	yes	yes	yes	yes
If not : which of them it is possible to perform?											
For those BQE, which are not possible to perform - indicate the nearest possible site.											
Is data available for biological quality elements compliant with WFD?	yes	yes	yes	yes	not for all BQE, but for MZB	not for all BQE, but for MZB	not for all BQE, but for MZB	not for all BQE, but for MZB	not completely	not completely	no
Is in-stream (imission) data available for priority	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is information available of emission for priority substances to this water body?	yes	yes	yes	yes	no (only incomplete data)	no (only incomplete data)	no (only incomplete data)	no (only incomplete data)	yes,within measured param.	yes within measured param.	partly
Is data available on hydromorphology?	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	yes, but at low resolution	no	no	yes
What other national programmes are performed / will be performed in future?	Biomonitoring, Organics in suspended solids, Pesticide-Programme, VOC-Programme, Programme on heavy metals	Biomonitoring, Organics in suspended solids, Pesticide-Programme, Programme on heavy metals	Biomonitoring, Organics in suspended solids, Programme on heavy metals	Biomonitoring, Organics in suspended solids, Programme on heavy metals	WFD-monitoring: surveillance and operative sampling site	WFD-monitoring: surveillance and operative sampling site	WFD-monitoring: surveillance and operative sampling site	WFD-monitoring: surveillance and operative sampling site	monitoring of bioakumulation /MZB, Dreissena Polymorpha, Periphyton, fish/	monitoring of bioakumulation /MZB, Dreissena Polymorpha, Periphyton, fish/	WFD-monitoring: surveillance and operative sampling site

Note: Replaces Danube/Abwinden-Asten

Note: Replaces Danube/Wolfsthal

*Comment: In 2006 and 2007 an ecological survey of surface water will be conducted, according to the criteria of Annex V of WFD. This would make it possible to create an overview of the present state of surface water bodies which would be the basis for the revision of the monitoring program on TNMN measuring sites on rivers with the catchments area larger than 4000 km2.

	23	24	25	26	27	28	29	30	31	32	33
	HU	HU	HU	HU	HU	HU	HU	SLO	SLO	HR	HR
For this Monitoring site:	Tisza Tiszasziget	Tisza Tiszabecs	Szamos Csenger	Sebes-Koros Korosszakal	Fekete-Koros Sarkad	Féher-Koros Gyulavari	Maros Nagylak	Drava Ormoz	Sava Jesenice na Dolnjskem	Danube Batina	Danube Borovo
Is it a surveillance site in the national programme?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is it also an operational site in the national programme?	no	no	no	no	no	no	no	yes, hydromorphological alteration	yes	yes	yes
Is the water body at risk or possibly at risk?	yes, organic, nutrient, hazardous, hydromorphological alteration	yes, organic, nutrient, hazardous, hydromorphological alteration	yes, organic, nutrient, hazardous alteration	yes, organic, nutrient, hydromorphological alteration	yes, hydromorphological alteration	yes, hydromorphological alteration	yes, organic, nutrient, hazardous, hydromorphological alteration	yes, hydromorphological alteration	yes, chemical elements	possibly at risk,	possibly at risk,
Is the water body heavily modified?	yes	yes	no	yes	yes	yes	no	it is candidate for heavily modified water body	no	not decided yet	not decided yet,
Is it a shared water body between countries?	yes	yes	yes	yes	yes	yes	yes	not defined yet on bilateral level	not defined yet on bilateral level	yes	yes
Monitoring site in protected area?	no	no	no	no	no	no	no	yes, Natura 2000	no, not in Natura 2000	no	no
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?	Nitrate-Directive	Nitrate-Directive	Nitrate-Directive	Nitrate-Directive	Nitrate-Directive	Nitrate-Directive	Nitrate-Directive	76/464/EWG, Nitrate Directive	76/464/EWG, Nitrate Directive	no	no
Is the monitoring site part of other existing monitoring networks?	yes	yes	yes	yes	yes	yes	yes	part of bilateral monitoring network	part of bilateral monitoring network	yes, part of bilateral monitoring network	no
Is quantitative data available (gauging station...)?	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no
Is it possible to perform all biological quality elements (BQE)?	yes	yes	yes	yes	yes	yes	yes	yes (macrophytes-right bank)	yes(phytoplankton not relevant)	yes	yes
If not : which of them it is possible to perform?											
For those BQE, which are not possible to perform - indicate the nearest possible site.											
Is data available for biological quality elements compliant with WFD?	no	no	no	no	no	no	no	not yet	not yet	no	no
Is in-stream (imission) data available for priority	no	no	no	no	no	no	no	partially	partially	8 from list	8 from list
Is information available of emission for priority substances to this water body?	no	no	no	no	no	no	no	for few priority substances	for few priority substances	partly	partly
Is data available on hydromorphology?	yes	yes	yes	yes	yes	yes	yes	partially	partially	no	no
What other national programmes are performed / will be performed in future?	none	none	none	none	none	none	none	none	none	WFD-monitoring: surveillance and operative	WFD-monitoring: surveillance and operative

	34	35	36	37	38	39	40	41	42	43
	HR	HR	HR	HR	HR	HR	RS	RS	RS	RS
For this Monitoring site:	Drava Ormoz	Drava Botovo	Drava D.Miholjac	Sava Jesenice	Sava Us. Una Jasenovac	Sava Ds. Zupanja	Danube Bezdán	Danube Bogojevo	Danube Novi Sad	Danube Zemun
Is it a surveillance site in the national programme?	yes	yes	yes	yes	yes	yes	not defined yet	not defined yet	not defined yet	not defined yet
Is it also an operational site in the national programme?	no	no	yes	no	no	yes	not defined yet	not defined yet	not defined yet	not defined yet
Is the water body at risk or possibly at risk?	possibly at risk,	possibly at risk	possibly at risk	possibly at risk	possibly at risk	possibly at risk	possibly at risk, pollution (agriculture)	possibly at risk, cement industry, pollution	possibly at risk, cement industry, pollution	yes, agriculture
Is the water body heavily modified?	not decided yet	not decided yet	not decided yet	not decided yet,	not decided yet	not decided yet	yes, hydromorphology, morphology and pollution (agriculture)	yes, changes in hydromorphology, morphology, pollution (agriculture, cement industry)	yes, changes in hydromorphology, morphology, pollution (agriculture, cement industry)	yes, hydromorphological change, change in morphology, pollution
Is it a shared water body between countries?	yes	yes	yes	yes	yes	yes	yes	yes	no	no
Monitoring site in protected area?	no	no	no	no	no	no	no	no	no	no
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?	no	no	no	no	no	no	no	no	no	no
Is the monitoring site part of other existing monitoring networks?	yes, part of bilateral monitoring network	yes, part of bilateral monitoring network	yes, part of bilateral monitoring network	yes, part of bilateral monitoring network	no	no	yes, water quantity network	yes, water quantity network	yes, water quantity network	yes, water quantity network, Public Health Institute network
Is quantitative data available (gauging station...)?	no	yes	yes	no	yes	yes	yes	yes	yes	yes
Is it possible to perform all biological quality elements (BQE)?	yes	yes	yes	yes (phytoplankton not relevant)	yes	yes	yes	yes	yes	no
If not : which of them it is possible to perform?										
For those BQE, which are not possible to perform - indicate the nearest possible site.										
Is data available for biological quality elements compliant with WFD?	no	no	no	no	no	no	no	no	no	no
Is in-stream (imission) data available for priority	8 from list	8 from list	8 from list	11 from list	11 from list	11 from list	no	no	no	partially
Is information available of emission for priority substances to this water body?	partly	partly	partly	partly	partly	partly	partially	partially	partially	partially
Is data available on hydromorphology?	no	no	no	no	no	no	yes	yes	yes	yes
What other national programmes are performed / will be performed in future?	WFD-monitoring: surveillance	WFD-monitoring: surveillance	WFD-monitoring: surveillance and operative	WFD-monitoring: surveillance	WFD-monitoring: surveillance	WFD-monitoring: surveillance and operative	unknown	unknown	National Danube Survey 2003	WQ Monitoring Public Health Institute of Belgrade

	44	45	46	47	48	49	50	51	52	53
RS	RS	RS	RS	RS	RS	RS	RS	RS	RS	RS
For this Monitoring site:	Danube Pancevo	Danube Banatska Palanka	Danube Tekija	Danube Radujevac	Danube Backa Palanka	Tisza Martonos	Tisza Novi Becej	Tisza Titel	Sava Jamena	Sava Sremska Mitrovica
Is it a surveillance site in the national programme?	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet
Is it also an operational site in the national programme?	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet	not defined yet
Is the water body at risk or possibly at risk?	yes, pollution (industry - Pancevo, Belgrade; pollution from settlements - Belgrade, Pancevo, Smederevo; agriculture)	yes, DTD canal, ash dump site, agriculture	yes, pollution	yes	possibly at risk, cement industry, pollution	yes, pollution (paper and food industry, agriculture, influence of settlements Novi Becej, Senta, N. Knezevac)	yes, pollution (paper and food industry, agriculture, influence of settlements Novi Becej, Senta, N. Knezevac)	yes, agriculture, dredging	yes, agriculture	yes, paper and food industry, agriculture, influence of settlements (S. Mitrovica)
Is the water body heavily modified?	yes, hydromorphological and morphological changes	yes, hydromorphological change, change in morphology, pollution	yes, changes in hydromorphology and morphology	yes, changes in hydromorphology and morphology	yes, changes in hydromorphology, morphology, pollution (agriculture, cement industry)	yes, changes in hydromorphology and morphology	yes, changes in hydromorphology and morphology	yes, changes in hydromorphology and morphology	candidate, Flood control disks on both sides, considerable stretches with bank reinforcement	candidate, flood control disks on both sides, considerable stretches with bank reinforcement
Is it a shared water body between countries?	no	no	yes	yes	yes	not defined yet (bilaterally with H)	no	no	not defined yet (bilaterally with CRO)	no
Monitoring site in protected area?	no	yes	yes	yes	no	no	no	no	no	no
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?	no	no	no	no	no	no	no	no	no	no
Is the monitoring site part of other existing monitoring networks?	no	yes, water quantity network	no	yes, water quantity network	yes, water quantity network	yes, water quantity network	yes, water quantity network	yes, water quantity network	yes, water quantity network	yes, water quantity network
Is quantitative data available (gauging station...)?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is it possible to perform all biological quality elements (BQE)?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
If not : which of them it is possible to perform?										
For those BQE, which are not possible to perform - indicate the nearest possible site.										
Is data available for biological quality elements compliant with WFD?	no	no	no	no	no	no	no	no	no	no
Is in-stream (imission) data available for priority	partially	partially	partially	partially	partially	partially	partially	partially	partially	partially
Is information available of emission for priority substances to this water body?	partially	partially	partially	partially	partially	partially	partially	partially	partially	partially
Is data available on hydromorphology?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
What other national programmes are performed / will be performed in future?	Limnological investigations	National Danube Survey 2003, Hydrobiological investigations	National Danube Survey 2003	National Danube Survey 2003	no	National Tisa Survey 2003	National Tisza Survey 2003	National Danube Survey 2003	Hydrobiological investigation 2003	Hydrobiological Investigations 2003

	58	59	60	61	62	63	64	65	66	67	68	69	70
	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	RO	RO
For this Monitoring site:	Danube Lom	Danube Orjahovo	Danube Bajkal	Danube Nikopol	Danube Svishtov	Danube upstream Russe	Danube Silistra	Iskar mouth	Vit Guljantzi	Jantra mouth	Russenski Lom mouth	Danube Bazias	Danube Pristol/Novo Selo Harbour
Is it a surveillance site in the national programme?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is it also an operational site in the national programme?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes, nutrients, hazardous substances, hydromorphological alteration	yes, nutrients, hazardous substances, hydromorphological alteration
Is the water body at risk or possibly at risk?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes, nutrients, hazardous substances, hydromorphological alteration	yes, nutrients, hazardous substances, hydromorphological alteration
Is the water body heavily modified?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no
Is it a shared water body between countries?	no	no	no	no	no	no	yes, Chiciu - Romania	no	no	no	no	yes	yes
Monitoring site in protected area?	no	no	no	no	no	no	no	no	no	no	no	no	no
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?	no	no	no	no	no	no	no	no	no	no	no	76/464/EEC, Fish-Directive	76/464/EEC, Fish-Directive
Is the monitoring site part of other existing monitoring networks?	no	no	no	no	no	no	no	no	yes	yes, EIONET	yes, EIONET	yes, national	yes, national
Is quantitative data available (gauging station...)?	yes	yes	no	no	yes	no	yes	yes	yes	yes	yes, 20 km upstream	yes, station: Bazias	yes, station: Gruia
Is it possible to perform all biological quality elements (BQE)?	yes						macrophytes, phytoplankton, macrozoobenthos, fish	yes	yes			yes	yes
If not : which of them it is possible to perform?		yes	yes	macrophytes, phytoplankton, macrozoobenthos, fish	macrophytes, phytoplankton, macrozoobenthos, fish	macrophytes, phytoplankton, macrozoobenthos, fish				macrophytes, phytobenthos, macrozoobenthos, fish	macrophytes, phytobenthos, macrozoobenthos, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish
For those BQE, which are not possible to perform - indicate the nearest possible site.													
Is data available for biological quality elements compliant with WFD?	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is in-stream (imission) data available for priority	no	no	no	no	no	no	no	no	no	no	no	yes	yes
Is information available of emission for priority substances to this water body?	no	no	no	no	no	no	yes	no	no	no	no	no	no
Is data available on hydromorphology?	no	no	no	no	no	no	no		no	no	no	yes	yes
What other national programmes are performed / will be performed in future?												Biomonitoring, Suspended solids	Biomonitoring, Suspended solids

		71	72	73	74	75	76	77	78	79
		RO	RO	RO	RO	RO	RO	RO	RO	RO
For this Monitoring site:		Danube Us. Arges	Danube Chiciu/Siilistra	Danube Reni	Danube Vilkov / Chilia arm / Kilia arm	Danube Sulina / Sulina arm	Danube Sf. Gheorghe / Sf. Gheorghe arm	Arges conf. Danube	Siret Conf. Danube Sendreni	Prut Conf. Danube Giurgiulesti
Is it a surveillance site in the national programme?		yes	yes	yes	yes	yes	yes	yes	yes	yes
Is it also an operational site in the national programme?		yes, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances	yes, organic, nutrients	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration
Is the water body at risk or possibly at risk?		yes, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances	yes, organic, nutrients	yes, organic, nutrients, hazardous substances, hydromorphological alteration	yes, organic, nutrients, hazardous substances, hydromorphological alteration
Is the water body heavily modified?		no	no	no	no	no	no	no	no	no
Is it a shared water body between countries?		yes	yes	yes	yes	no	no	no	yes	yes
Monitoring site in protected area?		no	no	no	no	no	no	no	no	yes
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?		76/464/EEC, Fish-Directive	76/464/EEC, Fish-Directive	76/464/EEC, Fish-Directive	76/464/EEC	76/464/EEC	76/464/EEC	Nitrate-Directive, Fish-Directive	76/464/EEC, Fish-Directive	76/464/EEC, Fish-Directive
Is the monitoring site part of other existing monitoring networks?		yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national
Is quantitative data available (gauging station...)?		yes, station: Oltenita	yes, station: Chiciu	yes, station: Grindu	yes, station: Periprava	yes, station: Sulina	yes, station: Sf.Gheorghe	yes, station: Arges up.Danube	yes, station: Sendreni	yes, station: Giurgiulesti
Is it possible to perform all biological quality elements (BQE)?		yes	yes	yes	yes	yes	yes	yes	yes	yes
	If not : which of them it is possible to perform?	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, macroalgae, angiosperms, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, macroalgae, angiosperms, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, macroalgae, angiosperms, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish
	For those BQE, which are not possible to perform - indicate the nearest possible site.									
Is data available for biological quality elements compliant with WFD?		yes	yes	yes	yes	yes	yes	yes	yes	yes
Is in-stream (imission) data available for priority		yes	yes	yes	yes	yes	yes	yes	yes	yes
Is information available of emission for priority substances to this water body?		no	no	no	no	no	no	no	no	no
Is data available on hydromorphology?		yes	yes	yes	yes	yes	yes	yes	yes	yes
What other national programmes are performed / will be performed in future?		Biomonitoring, Suspended solids	Biomonitoring,Suspended solids	Biomonitoring,Suspended solids	Biomonitoring,Suspended solids	Biomonitoring	Biomonitoring	Biomonitoring	Biomonitoring	Biomonitoring

		80	81	82	83	84	85	86	87	88	89
		RO	RO	RO	RO	RO	RO	RO	RO	RO	RO
For this Monitoring site:		Somes Dara (border)	Cris Repede Cheresig	Cris Negru Zerind	Cris Alb Varsand	Mures Nadlac	Bega Otelec	Danube Gruia /Radujevac	Jiu Zaval	Olt Islaz	Ialomita downstream Tandarei
Is it a surveillance site in the national programme?		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is it also an operational site in the national programme?		yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, heavy metals	no	yes	yes, nutrients, organic substances	yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, nutrients, hazardous substances, hydromorphological alteration	yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, nutrients, organic substances
Is the water body at risk or possibly at risk?		yes, nutrients, organic, hazardous substances, hydromorphological alteration	no	yes	yes	yes, nutrients, organic substances	yes, organic, hazardous substances, hydromorphological alteration	yes, nutrients, hazardous substances, hydromorphological alteration	yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, nutrients, organic, hazardous substances, hydromorphological alteration	yes, nutrients, organic substances
Is the water body heavily modified?		no	no	no	no	no	yes, hydromorphological alteration	no	no	no	no
Is it a shared water body between countries?		? To be clarified with "Romanian Waters"	? To be clarified with "Romanian Waters"	? To be clarified with "Romanian Waters"	? To be clarified with "Romanian Waters"	? To be clarified with "Romanian Waters"	? To be clarified with "Romanian Waters"	yes	no	no	no
Monitoring site in protected area?		no	no	no	no	no	no	no	no	no	no
Monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?		76/464/EEC, Fish-Directive	Nitrate-Directive, Fish-Directive	Fish-Directive	Fish-Directive	Fish-Directive	76/464/EEC, Fish-Directive	76/464/EEC, Fish-Directive	Fish-Directive	Nitrate-Directive, Fish-Directive	Nitrate-Directive, Fish-Directive
Is the monitoring site part of other existing monitoring networks?		yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national	yes, national
Is quantitative data available (gauging station...)?		yes, station: Satu Mare	yes, station: Oradea	yes, station: Zerind	yes, station: Chisineu Cris	yes, station: Nadlac	yes, station: Sanmihai	yes, station: Gruia	yes, station: Podari	yes, station: Izbiceni	yes, station: Tandarei
Is it possible to perform all biological quality elements (BQE)?		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
	If not : which of them it is possible to perform?	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes	phytoplankton, phytobenthos, macrozoobenthos, macrophytes	phytoplankton, phytobenthos, macrozoobenthos, macrophytes	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish	phytoplankton, phytobenthos, macrozoobenthos, macrophytes, fish
	For those BQE, which are not possible to perform - indicate the nearest possible site.										
Is data available for biological quality elements compliant with WFD?		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is in-stream (imission) data available for priority		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Is information available of emission for priority substances to this water body?		no	no	no	no	no	no	no	no	no	no
Is data available on hydromorphology?		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
What other national programmes are performed / will be performed in future?		Biomonitoring,Suspended solids	Suspended solids	Suspended solids	Suspended solids	Biomonitoring,Suspended solids	Suspended solids	Biomonitoring,Suspended solids		Biomonitoring	Biomonitoring

ANNEX 4: LIST OF MONITORING SITES FOR OPERATIONAL MONITORING

OPERATIONAL MONITORING

Template description			
Attribute name	Description of the attribute	Values and codelists	Example values
RIVER	Name of the river		Danube
NAME	Locally used name of the sampling station		Jochenstein
LONGITUDE	Coordinates should be given in decimal degrees in ETRS89		
LATITUDE	Coordinates should be given in decimal degrees in ETRS89		
ALTITUDE	Altitude in metres		290
RKM	River kilometer		2204
PROFILE	Location in profile; left, middle, right	L, M, R	L
CATCH_AR	Total area of the catchment upstream the sampling point in km ²		77086
TNMN_CODE	TNMN code (if TNMN site)		L2130
EIONET	Code of the station in the EIONET		DE_RV_BY11
IED 77/795/EWG	Code of the station in the monitoring network in accordance with the Information Exchange Decision 77/795/EWG		G12
WB	Code for water body according to Article 5 report (Roof Report)		DE1_134693_157710
DRBC_CODE	Code for common water type in the Danube River Basin		Eastern Alpine Foothills Danube (Danube Section Type 3)
SURVEIL	Is it a surveillance site in the national programme?	Yes = Y, No = N	Y
OPERAT	Is it also an operational site in the national programme?	Yes = Y, No = N	Y
REFERENCE	Is the sampling site a reference site?	Yes = Y, No = N	N
IC	Is the sampling site part of the intercalibration network?	Yes = Y, No = N	N
RISK	Is the water body at risk or possibly at risk?	Yes = Y, No = N	Y
RISK CAT	Risk category	HYMO = hydromorphology, ORGP = organic pollution, NUTR = nutrients, PSUB = priority substances, OTH = other	HYMO
MODIFIED	Is the water body heavily modified?	Yes = Y, No = N, ND = not decided	ND
SHARED	Is it a shared water body between countries?	Yes = Y, No = N	Y
PROTECTED	Is the monitoring site in a protected area? (RAMSAR and World Heritage Convention, UNESCO/MAB and/or IUCN category II or Natura 2000 site with a size of > 1000 ha)	Yes = Y, No = N	N
EU-DIRECTIVES	Is it a monitoring site for other EU-directives (76/464/EWG, "Nitrate-Directive", Fish-Directive"...)?		76/464/EWG, Nitrate-Directive
OTHER_MON	Is the monitoring site part of other existing monitoring networks?	Yes = Y, No = N	Y
QUANTITY	Is quantitative data available (from which gauging station...)?		Y, station: Achleiten
BQE	Biological quality elements measured within the operational monitoring? Which ones?	MZB = macrozoobenthos, PHB = phytobenthos, PHP = phytoplankton, MAPH = macrophyta, FISH = fish, N = no	N
HYMOQE	Hydromorphological quality elements measured within the operational monitoring? Which ones?	HYREG = hydrological regime, RIVCON = river continuity, MORPHCON = morphological conditions, N = no	HYREG, RIVCON
PHCHEMQE	Physico-chemical quality elements measured within the operational monitoring? Which ones?	GENCON = general conditions, PS = priority substances, OS = other substances, N = no	N
PS_EMISSION	Is information available of emission for priority substances to this water body?	Yes = Y, No = N	N

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOQE	PHCHEMQE	PS_EMISSION	
Traun	flussaufwärts der Brücke	13,739861	47,789133	433									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Traun	Lage in regulierte Restwasserstrecke	14,300636	48,236979	256									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Traun	Ebelsberg (40709117)	14,3606565	48,269067	251	1,6	L	4275		AT_RV_407091 17				Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive	N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Traun	Stauraum Gmunder	13,800695	47,92834	421									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Traun	Stauraum Pucking	14,216664	48,205005	290									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Traun	Stauraum Pucking	14,109251	48,17394	289									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Enns	letzte Fließstrecke der unteren Enns, morphologisch beeinträchtigt	14,420703	48,037612	287									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Enns	Übergangsbereich Stauwurzel/Stau	14,477201	48,14204	260									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Enns	zentraler Stau	14,483567	48,17612	253									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Enns	Brücke Niederstutter n	14,050852	47,507098	645									N	Y	N	N	Y	HYMO	ND	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Enns	Pyburg (30800026)	14,5337545	48,2280739	249			6071		AT_RV_308000 27				Y	Y	N	N	Y	HYMO ORGP NUTR	Y	N	N	76/464/EWG Fish-Directive	N	no measurement assessment through grouping procedure	FISH	HYREG, RIVCON, MORPHCON - at water body level data is already availab		N	N
Drau	Sachsenburg-Lendorf	13,392786	46,824681	547									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Drau	Rosegger Schleife (21500306)	14,0364282	46,5945341	475	95,5	R	7039		AT_RV_215003 06				Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Fish-Directive	N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Drau	Nikolsdorf (71500967)	12,8918152	46,7806438	635	216,78	R	1939,46		AT_RV_715009 67				Y	Y	N	N	Y	HYMO	ND	N	N	76/464/EWG Fish-Directive	N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Drau	ID=11	12,486384	46,745697	1067									N	Y	N	N	Y	HYMO	ND	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Drau													N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N
Mur	Röthelstein	15,368013	47,308854	434									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water bod level data is already availab		N	N

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMN_CODE	EIONET	IED	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOQE	PHCHEMQE	PS_EMISSION
Mur	Weinzödl (61400117)	15,392908	47,108607	365	105,2	M	6920,41						N	Y	N	N	Y	HYMO OTH	Y	N	N	Nitrat-Directive	N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water body level data is already available	N	N
Mur	Brücke Lebring	15,537695	46,851993	289									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water body level data is already available	N	N
Mur	Autobahnbrücke Spießfeld (61400137)	15,6413816	46,7081611	244	57,93	M	9480	- AT_RV_614001 37		61400137			Y	Y	N	N	Y	HYMO	Y	N	N	76/464/EWG Nitrate-Directive	Y (GGK A- SLO)		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water body level data is already available	N	N
Mur	Leobnerbrücke Bruck/Mur (61400597)												Y	Y	N	N	Y	HYMO OTH	Y	N	N		N		no measurement assessment through grouping procedure	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Mur	Großlobming (61400087)	14,8078402	47,1945083	630	227,8	M	3503,21	- AT_RV_614000 87					N	Y	N	N	Y	OTH	N	N	N	Nitrat-Directive	N		N	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Raab	Höhe St. Martin Jennersdorf (FW10000217)	16,127047	46,926098	245	13,5	L							N	Y	N	N	Y	HYMO	Y	N	N		Y (GGK A-H)		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water body level data is already available	N	N
Raab	Höhe Welter	16,081	46,935	250									N	Y	N	N	Y	HYMO	Y	N	N		N		FISH	HYREG, RIVCON, MORPHCON - measured at sampling site, at water body level data is already available	N	N
Raab	Hohenbrugg (61300307)	16,0726678	46,9367768	245		M	891,32	- AT_RV_613003 07					N	Y	N	N	Y	HYMO ORGP NUTR	Y	N	N	Nitrat-Directive	N		no measurement assessment through grouping procedure	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Raab	Neumarkt (10000087)	16,161525	46,9300641	225	10	L	968	- AT_RV_100000 87					Y	Y	N	N	Y	ORGP OTH	N	N	N	76/464/EWG Nitrat-Directive	Y (GGK A-H)		N	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
March	Marchegg (31100077)	16,91707	48,28035	135	15	R	26655	- AT_RV_311000 77					Y	Y	N	N	Y	HYMO ORGP NUTR OTH	ND	Y	Y	76/464/EWG Nitrate-Directive	N		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Thaya													N	Y	N	N	Y	HYMO ORGP NUTR	ND				N		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Thaya	Allprerau (31100027)	16,3401375	48,7350541	180	88,6	R	2,61	- AT_RV_311000 27					Y	Y	N	N	Y	HYMO ORGP NUTR OTH	Y	Y	N	76/464/EWG Nitrat-Directive	N		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Thaya	Bernhardsthal (31100037)	16,8898684	48,7163957	155	16,2	R	12490	- AT_RV_311000 37					Y	Y	Y	N	Y	HYMO, ORGP, NUTR, OTH	ND	Y	Y	76/464/EWG Nitrate-Directive	Y (GGK A-CZ)		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Thaya	oh. Pulkaumündung (31100167)	16,342646	48,735034	185	99	L							N	Y	N	N	Y	HYMO, ORGP, NUTR, OTH	Y	N	N		Y (GGK A-CZ)		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N
Thaya	?	?	?	?	?								N	Y	N	N	Y	HYMO OTH	Y				N		not decided yet	HYREG, RIVCON, MORPHCON - at water body level data is already available	N	N

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMM_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERAT	REFEREN	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECT ED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOQE	PHCHEMEQE	PS_EMITSI ON	
Czech Republic																													
Morava	Lanzhot	16,9885	48,6863	150	79	M	9725	L2100	CZ_0401	CZ_0401	41049000 /CZ178 M174	Great silic. Panonnic. Lowl. Str 1000_11_15	Y	Y	N	N	Y	HYMO, NUTR, ORGP	ND	Y	Y	76/464/EWG, Fisch Directive	Y	Y, station: Lanzhot	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Morava	Rohatec	17,2109	48,885	123,9	M						40939110 /CZ178 M171	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y		ND	N		Fisch Directive		Y		HYREG	GENCON, PS, OS	Y	
Morava	nad Otasavou /Uj Hradiste	17,4233	49,0623	156,95	R						40875000 /CZ_160 M156	Great silic. Carpat. Lowl. str 1000_10_17	N	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Morava	Spythinev	17,5047	49,1328	186	169,6	R	7891		CZ_1137		40875000 /CZ_160 M156	Great silic. Carpat. Lowl. str 1000_10_17	N	Y	N	N	Y	HYMO, NUTR, ORGP	ND	N	N	Fisch Directive	Y	Y, station: Spythinev	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Morava	Otrokovic	17,5058	49,2113	178,7	M						40794000 /CZ_142 M136	Great silic. Carpat. Lowl. str 1000_10_17	N	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Morava	Kromeriz	17,4017	49,3025	194	193	R	7022		CZ_1135		40794000 /CZ_142 M136	Great silic. Carpat. Lowl. str 1000_10_17	Y	Y	N	N	Y	HYMO, NUTR, ORGP	ND	N	N	Fisch Directive	Y	Y, station: Kromeriz	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Morava	Kojetin	17,3203	49,3532	201,8	M						40660000 /CZ_116 M109	Great silic. Carpat. Lowl. str 1000_10_17	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Morava	Tovarov	17,3171	49,4252	211,35	R						40440000 /CZ_69 M056	Great sil. Hercynium lowland str 1000_9_7	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Morava	Cernovir	17,2532	49,6136	237	M	3028,78					40440000 /CZ_69 M056	Great sil. Hercynium lowland str 1000_9_7	Y	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Morava	Moravicany	16,9757	49,75574	272,8	R	1558,82					40263000 /CZ_48 M034	Great sil. Hercynium lowland str 1000_9_7	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Morava	Zabreh	16,9231	49,8877	298,15	M						40202000 /CZ_35 M021	Great sil. Hercynium lowland str 1000_9_7	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Dyje	Pohanska	16,8556	48,8033	155	17	M	1254,0	L2120	CZ_0402	CZ_0402	41993000 /CZ283 D126	Greater silic. Panonnic. Lowl Str. 1000_11_16	Y	Y	N	N	Y	HYMO, NUTR, ORGP	ND	Y	Y	76/464/EWG, Fisch Directive	Y	Y, station: Breclav Ladna	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Dyje	Znojmo	16,0421	48,8537	210	132,6	R	2491,5		CZ_1191		41192000 /CZ193/D017	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y	NUTR	ND	N	N	Fisch Directive	Y	Y, station: Znojmo	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Dyje	Znojmo - prtok /Deve Mlynu	15,98147	48,8131	142,5	R						41180000 /CZ193 D016	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Dyje	Vranov	Y/JTSK/ 659457232	X /JTSK/ 1187500962	173,7	M						41174000 /CZ193 D015	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Dyje	Podhrad	15,6915	48,90326	203,3	R	1750					41126000 /CZ_186 D093	small sil. Hercynium lowland str 1000_9_5	Y	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Svratka	Vranovice	16,6185	48,9502	11,9	M	4083,67					41651080 /CZ_275 D078	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Svratka	Zidlochovice	16,703	49,0068	185	28,4	R	3938,7		CZ_1180		41651080 /CZ_275 D078	Great silic. Panonnic. Lowl. Str 1000_11_15	N	Y	N	N	Y	HYMO, NUTR, ORGP	ND	N	N		Y	Y, station: Kromeriz	MZB, PHP, FISH, MAPH	HYREG	GENCON, PS, OS	Y	
Svratka	Rajhrad	16,62	49,0938	35,1	L	3078,87					41559030 /CZ_227 D063	Great cal. Panonnic. lowl. str 1000_11_12	Y	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Svratka	Prizrenice	16,6279	49,1446	40,8	R						41428000 /CZ_217 D047	Great cal. Panonnic. lowl. str 1000_11_12	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Svratka	Bystrc	Y/GaussKr./ 3812598	X/GaussKr./ 5441494	55,00	M				CZ_3688		41428000 /CZ_217 D047	Great cal. Panonnic. lowl. str 1000_11_12	N	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Svratka	Veverska Bityska	16,439	49,2776	67,00	R						41410000 /CZ_217 D044	Great cal. Panonnic. lowl. str 1000_11_12	N	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Svratka	Vir	16,3322	49,5509	112,2	L	475,16			CZ_1176		41344000 /CZ_209 D037	Greater sil. Hercynium foothi str. 1000_9_2	Y	Y	N	N	Y		ND	N		Fisch Directive	Y			HYREG	GENCON, PS, OS	Y	
Svratka	Vir-Dalecin	16,2514	49,5941	124,2	R						41311000 /CZ_209 D032	Greater sil. Hercynium foothi str. 1000_9_2	N	Y	N	N	Y		ND	N			Y			HYREG	GENCON, PS, OS	Y	
Slovakia																													
Morava	Devin	16,9759594	48,1876772	145	1	M	26574,991		M128021D	no	SKM0002	1000_11_16	Y	Y	N	N	Y	HYMO, ORGP, NUTR	N	Y	Y	76/464/EWG	Y	Y	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y	
Danube	Bratislava	17,1039669	48,1392319	128	1869	L,M,R	131329	L1840	D002051D	yes	SKD0016	Lower Alpine Foothills Danub (Danube Section Type 4	Y	Y	N	N	Y	HYMO, NUTR, PSUB	Y	N	Y	76/464/EWG	Y	Y	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON, PS	Y	
Danube	Medvedov	17,8519872	47,7935424	108	1806	M	132168	L1860	D017000D	no	SKD0017	Lower Alpine Foothills Danub (Danube Section Type 4	Y	Y	N	Y(R-E6)	Y	HYMO	Y	Y	N	N		Y	Y	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y
Danube	Komarno	18,1203017	47,7511691	103	1768	M	151961	L1870	D034051D	no	SKD0018	Lower Alpine Foothills Danub (Danube Section Type 4	Y	Y	N	Y(R-E6)	Y	HYMO	Y	Y	Y	N		Y	Y	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y
Vah	Komarno	18,1423259	47,7609114	106	1	M	19661	L1960	V787501D	yes	SKV0027	1000_11_16	Y	Y	N	N	Y	HYMO, ORGP	Y	N	Y	76/464/EWG	Y	N	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y	
Hron	Kamenica	18,72334	47,82608	114	1,7	M	5416,83		R365010D	yes	SKR0005	1000_11_19	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	Y	76/464/EWG	Y	N	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y	
Ipeľ	Salka	18,76256	47,88596	110	12	M	5060,34		I283000D	yes	SKI0004	1000_11_20	Y	Y	N	N	Y	HYMO, ORGP, NUTR	N	Y	Y	76/464/EWG	Y	Y	MZB, PHP, MAPH, PHB	HYREG, RIVCON, MORPHCON	GENCON	Y	

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AREA	TNMIN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERATION	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOQE	PHCHEMGE	PS_EMISSION	
Hungary																													
Danube	Medve/Medvedo	474737	173906	108	1806.2	M	131605	L1470	HU_RV_01FF02	yes	HU_RW_AA626_179-0-1850_S	Danube Section Type 4	Y	Y	N	N	Y	HYMO, SP	Y	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Danube	Komarom/Komand	474504	180715	103	1766.8	LMR	150820	L1475	HU_RV_01FF07	no	HU_RW_AA626_170-8-1790_M	Danube Section Type 5	Y	Y	N	Y(R-E6)	Y	SP	Y	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Danube	Szob	474838	185132		1708.0	LMR	183350	L1490	HU_RV_02FR51	no	HU_RW_AA626_148-1-1708_M	Danube Section Type 5	Y	Y	N	N	Y	SP	N	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Danube	Dunafoldvar	464838	185600		1560.6	LMR	188700	L1520	HU_RV_03FF06	no	HU_RW_AA626_148-1-1708_M	Danube Section Type 5	Y	Y	N	N	Y	SP	N	N	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Danube	Hercegszanton	455454	184816		1433.0	LMR	211503	L1540	HU_RV_03FF06	yes	HU_RW_AA626_143-3-1481_S	Danube Section Type 6	Y	Y	N	Y(R-E6)	Y	SP	N	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Sisak	Szekszard-Palank	462247	184313		13.4	M	14693	L1604	HU_RV_04FF11	no	HU_RW_AA806_000-0-0079_S	Great Hungarian Plain	Y	Y	N	N	Y	HYMO, SP	Y	N	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Drava	Dravasabolcs	454703	181202		68.0	M	35764	L1610	HU_RV_05FF18	yes	HU_RW_AA826_007-0-0199_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	N	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Sajó	Sajópuspok	481659	202023		123.5	M	3224	L1770	HU_RV_08FF10	yes	HU_RW_AA869_006-9-0125_S	Great Hungarian Plain	Y	Y	N	Y	Y	SP	N	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Tisza	Tiszasziget	461108	200617		162.5	LMR	138498	L1700	HU_RV_11FF12	yes	HU_RW_AA506_016-0-0243_S	Great Hungarian Plain	Y	Y	N	N	Y	HYMO, SP	Y	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Tisza	Tiszaecs	480615	224947		744.3	L				yes	HU_RW_AA506_172-4-0745_S	Great Hungarian Plain	Y	Y	N	Y	Y	SP	N	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Szamos	Csenger	475125	224044		45.4	L	15780		HU_RV_07FF09	yes	HU_RW_AA856_000-0-0050_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	N	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Sebes-Körös	Korosszakaj	470113	213922		58.6	R	2413		HU_RV_12FF03	yes	HU_RW_AA8680_001-5-0058_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	Y	Y	N	77/795/EWG		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Fekete-Körös	Sarkad	464138	212548		15.9	R	3750		HU_RV_12FF02	no	HU_RW_AA250_000-0-0020_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	Y	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Fehér-Körös	Gyulavár	463744	212005		9.3	R	4240		HU_RV_12FF01	no	HU_RW_AA510_000-0-0010_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	Y	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Maros	Nagylak	460942	204212		29.1	L	27818		HU_RV_11FF21	no	HU_RW_AA835_003-2-0050_S	Great Hungarian Plain	Y	Y	N	N	Y	SP	N	Y	N	N		Y	MZB, PHP, FISH, MAPH, PHB		Y	Y	
Slovenia																													
Sava	Otoče pod mostom	14,2361184	46,3101157		382	54,91	L	1003,3					N	Y	N	Y	Y	HYMO	N	N	N	Nitrate-Directive	N	Y, Station Sava Radovljica	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Struzevc	14,3272967	46,24991		356	66,05	L	1201		1000_5_5			N	Y	N	N	Y	HYMO, PSUB, OTH	N	N	N	Nitrate-Directive	N	Y, Station Sava Okrogld	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Dragočajna	14,4147757	46,1739026		326	77,6	L	1515,5		1000_5_5			N	Y	N	N	Y	HYMO, ORGP, NUTR, OTH, PSUB	candidate for HMWB	N	N	Nitrate-Directive	N		Y	MZB, PHB	HYREG	GENCON, PS, OS	partially
Sava	Šentjakot	14,582809	46,0841121		272	98,98	R	2281,2		1000_5_5			N	Y	N	N	Y	HYMO, ORGP	N	N	N	Nitrate-Directive Fish Directive	N	Y, Station Sava Šentjakot	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Kresnice	14,7826628	46,096909		316	117,8	R	4821		1000_11_1			Y	Y	N	N	Y	HYMO, ORGP, NUTR, OTH	N	N	N	Nitrate-Directive	N	Y, Station Sava Litja	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Podkraj	15,1189724	46,1103462		195	157,31	L	5177		1000_11_12			Y	Y	N	N	Y	HYMO, ORGP, NUTR	N	N	N	Nitrate-Directive	N	Y, Station Sava Hrašnik	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Vrhovc	15,2093412	46,0445322		189	168,16		7136,24		1000_11_12			N	Y	N	N	Y	HYMO, NUTR, ORGP	candidate for HMWB	N	N	Nitrate-Directive	N	Y, Station Sava Hrašnik-Savinjs Veliko Sirk	MZB, PHB	HYREG	GENCON, OS	partially	
Sava	Brestanica	15,4661051	45,9873263		157	193,75		7649,6		1000_11_12			N	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB, OTH	N	N	N	Nitrate-Directive	N	Y, Station Sava Čatež-Krika Podbojše	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Sava	Podgračenc	15,650387	45,8759742		137	214,84		10159,9		1000_11_17			N	Y	N	N	Y	HYMO, ORGP, PSUB, OTH	N	N	N	Nitrate-Directive	N	Y, Station Sava Jesenice na Dolenjskem-Sotla Rakovec	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Sava	Jesenice na Dolenjskem	15,6924526	45,8609246		132	218,67	R	10149	L1330	SI_RV_3860			Y	Y	N	N	Y	HYMO, ORGP, PSUB, OTH	N	not defined yet or bilatera leve	N	76/464/EEC, Nitrate-Directive	Y, bilatera monitoring network	Y, Station Sava Jesenice na Dolenjskem	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Drava	Tribej	14,9786981	46,6021129		338		R			1000_11_2			N	Y	N	N	Y	HYMO, PSUB, OTH	candidate for HMWB	Y	Y	Nitrate-Directive	N	Y, Station Drava HE Dravograd	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Drava	Ruše	15,5086732	46,5459049		267		R			1000_11_2			N	Y	N	N	Y	HYMO, ORGP	candidate for HMWB	N	Y	Nitrate-Directive	N	Y	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Drava	Krčevina pri Ptuj	15,8337363	46,4403373		222		L			1000_11_2			N	Y	N	N	Y	HYMO, ORGP	candidate for HMWB	N	Y	Nitrate-Directive	N	Y	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Drava	Ormož most	16,1554344	46,4031376		201		L	15379	L1390	SI_RV_2200			Y	Y	N	N	Y	HYMO, ORGP, NUTR	candidate for HMWB	not defined yet or bilatera leve	Y	76/464/EEC, Nitrate-Directive	Y, bilatera monitoring network	Y, Station Drava Ormož kopaljšče	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Drava	Grabe	16,2545901	46,3850322		181		L			1000_11_16			N	Y	N	N	Y	HYMO, NUTR, PSUB, OTH	candidate for HMWB	N	Y	Nitrate-Directive	N	Y, Station Drava Ormož kopaljšče	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Mura	Ceršak	15,6669904	46,7062028		243		R	9796		SI_RV_1010			Y	Y	N	N	Y	HYMO, ORGP, OTH	N	Y	N	76/464/EEC, Nitrate-Directive	N	Y, Station Mura Petanjc	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Mura	Gornja Radgona	15,9874009	46,6837011		205		R						N	Y	N	N	Y	HYMO, ORGP, OTH	N	Y	N	Nitrate-Directive	Y, bilatera monitoring network	Y, Station Mura Petanjc	MZB, PHB	HYREG	GENCON, PS, OS	partially	
Mura	Mota	16,2738034	46,5392818		171		L	10392		SI_RV_1082			Y	Y	N	N	Y	HYMO, ORGP	N	N	Y	76/464/EEC, Nitrate-Directive, Fish Directive	N	Y, Station Mura Petanjc	MZB, PHB	HYREG	GENCON, PS, OS	partially	

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOQE	PHCHEMEQE	PS_EMISSION		
Mura	Orlovačica	16,3396975	46,5328956	166		L						1000_11_18	N	Y	N	N	Y	NUTR,OTH	N	N	Y	Nitrate-Directive	N	Y, Station Mura Petanjci	MZB, PHB		HYREG	GENCON, PS, OS	partially	
Kolpa	Radovići(Metlika)	15,3466922	45,6465303	133		LR	2002		SI_RV_4862				Y	Y	N	N	Y	HYMO, ORGP	N	not defined yet or bilatera leve	Y	76/464/EEC, Nitrate-Directive, Fish Directive	Y, bilatera monitoring network	Y, Station Kolpa Metlika + Metlišk Obrh Metlika	MZB, PHB		HYREG	GENCON, OS	partially	
Croatia																														
Sava	Zupanja nizv	2673873	4989519	85	265	L	62890	L1060	HR_10001			HR_BID_T0001	HR_Type 9b/Lowland very large rivers, Sava lower part (1000_11_12)	Y	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	Y, station: Zupanja step	MZB, PHB	N	GENCON, PS, OS	partially	
Sava	Slav. Brod nizv	2624152	4999425	91	368	L						HR_BID_T0001	HR_Type 9b/Lowland very large rivers, Sava lower part (1000_11_12)	N	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	Y, station: Slavonški Brod	MZB, PHB	N	GENCON, OS	partially	
Sava	ut. Kupe nizv, Lukavec	2502154	5028124	97	588	L						HR_CES_T0001	HR_Type 8/Lowland very large rivers, Sava medium part (1000_11_12)	N	Y	N	N	Y	ORGP NUTR	ND	N	N	N	N	Y, station: Crnad	MZB, PHB	N	GENCON, PS, OS	partially	
Sava	Oborovc	2480757	5059363	101	661	L						HR_KUP_T0001	HR_Type 8/Lowland very large rivers, Sava medium part (1000_11_12)	N	Y	N	N	Y	ORGP NUTR PSUB	ND	N	N	N	N	Y, station: Rugvica	MZB, PHB	N	GENCON, PS, OS	partially	
Drava	Visnjevac	2668253	5048801	83	23	R						HR_DRA_T0003	HR_Type 9a/Lowland very large rivers, Drava lower part (1000_11_12)	N	Y	N	N	Y	ORGP NUTR PSUB	ND	N	N	N	N	Y, station: 5005 Belisce	MZB, PHB	N	GENCON, OS	partially	
Drava	Donji Miholjac	2632597	5071385	90	77	M	37142	L1250	HR_29111			HR_DRA_T0004	HR_Type 9a/Lowland very large rivers, Drava lower part (1000_11_12)	Y	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	Y, station: 5150 Donji Miholjac	PHP, MZB, PHB	N	GENCON, PS, OS	partially	
Drava	Terezino Polje	2574982	5068451	100	152	M			HR_29120			HR_DRA_T0005	HR_Type 7a/Lowland very large rivers, Drava and Mur (1000_11_12)	N	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	Y, station: 5063 Terezino Polje	PHP, MZB, PHB	N	GENCON, PS, OS	partially	
Drava	Donja Dubrava	2524891	5128360	133	241	M						DRA_T0008	HR_Type 7a/Lowland very large rivers, Drava and Mur (1000_11_12)	N	Y	N	N	Y	HYMO ORGP NUTR	ND	Y	N	N	N	Y, station: 5115 D Dubrava	MZB, PHB	N	GENCON, PS, OS	partially	
Dunav	Borovc	2693774	5028274	79	1337	R	243147	L1320	HR_25071			DRA_T0001	HR_Type 10/ Lowland very large rivers, Danube (Danube Section Type 6)	Y	Y	N	N	Y	HYMO ORGP NUTR PSUB	ND	Y	N	N	N	N		MZB, PHB	N	GENCON, PS, OS	partially
Dunav	Batina/granici profi	2681137	5082781	86	1429	M	210250	L1315	HR_29010			HR_DRA_T0002	HR_Type 10/ Lowland very large rivers, Danube (Danube Section Type 6)	Y	Y	N	N	Y	HYMO ORGP NUTR PSUB	ND	Y	N	N	N	N		PHP, MZB, PHB	N	GENCON, PS, OS	partially
Mura	Gorican	2515269	5140778	138	35	M			HR_29210			HR_DRA_T0015	7a/Lowland very large rivers, Drava and Mura (1000_11_12)	N	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	N	Y, station: 5035 Gorican	PHP, MZB, PHB	N	GENCON, PS, OS	partially
Kupa	Sisak	2490176	5036903	106	3	R						HR_KUP_T0002	HR_Type 6/Lowland large rivers, lower parts, cars catchment area (1000_11_10)	N	Y	N	N	Y	ORGP NUTR PSUB	ND	N	N	N	N	Y, station: 4010 Farkasic	MZB, PHB	N	GENCON, PS, OS	partially	
Kupa	Gornje Pokupje	2423976	5045501	117	146	M						HR_KUP_T0003	HR_Type 14b/ Lowland large travertine rivers (1000_5_9)	N	Y	N	N	Y	ORGP NUTR	ND	N	N	N	N	Y, station: 4024 Kamanje	MZB, PHB	N	GENCON, OS	partially	
Una	most na uscu	2533183	5012831			L						HR_UNA_T0001	HR_Type 6/Lowland large rivers, lower parts, cars catchment area (1000_11_10)	N	Y	N	N	Y	ORGP NUTR	ND	Y	N	N	N	N		MZB, PHB	N	GENCON, OS	partially
Serbia																														
Danube	Bezdani	45,8542182	18,8643753	83,15	1427	L	210250	L2350				CS_D9	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS, PS	Y
Danube	Pancevo	44,8569991	20,8106912	68,58	1154,8	L	525009	L2390	CS_RV_42050			CS_D5	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS	Y
Danube	Banatska Palanka	44,8183333	21,3344444	62,86	1076,6	M	568648	L2400	CS_RV_42060			CS_D4	DS Type 6	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS	Y
Danube	Tekija	44,8990012	22,4235769	50	954,6	R	574307	L2410				CS_D3	DS Type 7	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: G Milanovac	PHP	HYREG	GENCON, PS, OS	Y	
Danube	Radujevac	44,2640544	22,886041	40	851	R	577085	L2420	CS_RV_42095			CS_D1	DS Type 7	Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	Y	Y station: Frahovo	PHP	HYREG	GENCON, OS	Y	
Tisa	Marlonos	46,0998282	20,0640624	75,54	152	R	140130	L2440	CS_RV_94010			CS_TIS_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: N Knezevad	PHP	HYREG	GENCON, OS	Y	
Tisa	Novi Beci	45,586075	20,1399347	74,03	66	L	145415	L2450				CS_TIS_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS, PS	Y	
Sava	Jamena	44,8777753	19,0891735	77,67	195	L	64073	L2470	CS_RV_45094			CS_SA_3		Y	Y	N	N	Y	HYMO, ORGP, NUTR, OTHR	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS, PS	Y	
Sava	Sabac	44,7700585	19,7047055	74,22	103,6	R	89490	L2490	CS_RV_45094			CS_SA_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR, OTHR	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS, PS	Y	
Sava	Ostruznica	44,7216132	20,3142466		17	R		L2500	CS_RV_99246			CS_SA_1		Y	Y	N	N	Y	HYMO, ORGP, NUTR, OTHR	Y	N	N	N	Y	Y station: Beograd	PHP	HYREG	GENCON, OS, PS	Y	
Velika Morava	Ljubicevski Mos	44,585128	21,1375378	75,09	34,8	R	37320	L2510	CS_RV_47090			CS_VMOR_2		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS, PS	Y	
Drina	Badovinc	44,78	19,38	95		R		R45895	CS_RV_45895			CS_DR_1		Y	Y	N	N	Y	HYMO, ORGP, NUTR	Y	Y	N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS	Y
Tamis	Pancevo	44,87	20,64		1	L		L42450				CS_TAM_1		N	Y				HYMO, ORGP, NUTR, OTHR			N	N	N	Y	Y station: same	PHP	HYREG	GENCON, OS	N

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AR	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERAT	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOGE	PHCHEMEQ	PS_EMISSION	
Bosnia&Herzegovina																													
UNA	Novi Grad, upstream	16°21'57"	45°05'55"	134	80	M	3200				BA_UNA_2 (WB_Type_3.1)		Y	Y	N	N	N			N	Y	N	N	Y	Y, station: Novi Grad	MZB,PHP	N	GENCON.OS	N
UNA	Novi Grad, downstream	16°23'46"	45°4'55"	119	71	M	8200				BA_UNA_1 (WB_Type_2.14)		N	Y	N	N	Y	NUTR, OTH	Y	Y	N	N	Y	Y, station: Novi Grad	MZB,PHP	N	GENCON.OS	N	
UNA	Kozarska Dubica	16°5'115"	45°13'32"	94	16	M	9300	L2290			BA_UNA_1 (WB_Type_2.14)		Y	Y	N	N	Y	NUTR, OTH	Y	Y	N	N	Y	Y, station: Kozarska Dubica	MZB,PHP	N	GENCON.OS	N	
SANA	Novi Grad	16°24'12"	45°2'34"	119	2	M	4020				BA_SAN_1 (WB_Type_3.14)		N	Y	N	N	Y	NUTR, OTH	N	N	N	N	Y	Y, station: Novi Grad	MZB,PHP	N	GENCON.OS	N	
VRBAS	Novoselje	17°10'9"	44°43'7"	173	81	M	4755				BA_VRB_2 (WB_Type_2.14)		N	Y	N	N	Y	HYMO, OTH	N	N	N	N	Y	Y, station: Banja Luka	MZB,PHP	N	GENCON.OS	N	
VRBAS	Delbasino Seld	17°13'37"	44°49'19"	147	65	M	5218				BA_VRB_1 (WB_Type_2.14)		N	Y	N	N	Y	NUTH, OTH	Y	N	N	N	Y	Y, station: Delbasino Seld	MZB,PHP	N	GENCON.OS	N	
VRBAS	Razboj	17°29'46"	45°5'32"	90	6,7	M	6020	L2300			BA_VRB_1 (WB_Type_2.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	N	N	N	Y	Y, station: Razboj	MZB,PHP	N	GENCON.OS	N	
VRBANJA	Vrbanja	17°14'43"	44°46'34"	156	1	M	755				N/A		N	Y	N	N				N	N	N	Y	Y, station: Banja Luka	MZB,PHP	N	GENCON.OS	N	
UKRINA		17°57'38"	45°4'52"	91	3	M	1510				N/A		N	Y	N	N				N	N	N	Y	Y, station: Derventa	MZB,PHP	N	GENCON.OS	N	
BOSNA	Doboj, Usora	18°4'34"	44°39'39"	149	82	M	6750				BA_BOS_2 (WB_Type_2.14)		Y	Y	N	N	Y	NUTR, OTH	N	N	N	N	Y	Y, station: Usora	MZB,PHP	N	GENCON.OS	N	
BOSNA	Doboj, ds of Spreca	18°3'41"	44°47'22"	134	61	M	9750				BA_BOS_1 (WB_Type_2.14)		N	Y	N	N	Y	HYMO, NUTR, OTH	Y	N	N	N	Y	Y, station: Doboj Spreca	MZB,PHP	N	GENCON.OS	N	
BOSNA	Modrica	18°25'58"	45°31'13"	87	6	M	10400	L2310			BA_BOS_1 (WB_Type_2.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	N	N	N	Y	Y, station: Modrica	MZB,PHP	N	GENCON.OS	N	
USORA		18°3'19"	44°42'2"	148	2	M	470				N/A		N	Y	N	N				N	N	N	Y	Y, station: Usora	MZB,PHP	N	GENCON.OS	N	
SPRECA		18°75'9"	44°43'42"	147	1,5	M	1940				N/A		N	Y	N	N				N	N	N	Y	Y, station: Spreca	MZB,PHP	N	GENCON.OS	N	
DRINA	Foca	18°45'10"	43°28'31"	398	323	M	5590				BA_DR_7 (WB_Type_2.4)		Y	Y	N	N	N		Y	N	N	N	Y	Y, station: Foca	MZB,PHP	N	GENCON.OS	N	
DRINA	Badovinc	19°20'55"	44°46'49"	90	17	M	19930				BA_DR_1 (WB_Type_1.14)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	Y	N	N	Y	Y, station: Badovinc	MZB,PHP	N	GENCON.OS	N	
CEHOTINA		18°47'11"	43°30'24"	389	1	M	730				BA_LIM_1 (WB_Type_2.14)		N	Y	N	N	N			N	N	N	Y	Y, station: Foca	MZB,PHP	N	GENCON.OS	N	
LIM		19°12'41"	43°43'39"	299	1	M	5750				BA_LIM_1 (WB_Type_2.17)		N	Y	N	N	N			Y	N	N	N	Y	Y, station: Rudac	MZB,PHP	N	GENCON.OS	N
SAVA	Gradiska	17°15'19"	45°9'58"	93	458	M	40850	L2280			BA_SA_3 (WB_Type_1.15)		Y	Y	N	N	Y	HYMO, OTH	Y	Y	N	N	Y	Y, station: Gradiska	MZB,PHP	N	GENCON.OS	N	
SAVA	Raca	19°21'13"	44°5'112"	81,4	175	M	64960				BA_SA_1 (WB_Type_1.15)		Y	Y	N	N	Y	HYMO, NUTR, OTH	Y	Y	N	N	Y	Y, station: S. Raca	MZB,PHP	N	GENCON.OS	N	
CRNA RIJEKA		17°10'4"	44°27'35"	325	2,4	M	145				N/A		N	Y	N	N				N	N	N	Y	Y, station: Crna Rijeka	MZB,PHP	N	GENCON.OS	N	
UGAR		17°16'39"	44°26'35"	302	3,6	M	340				N/A		N	Y	N	N				N	N	N	Y	N	MZB,PHP	N	GENCON.OS	N	
Romania																													
Somes Mare	upstream, cfl. Someș Mic	24,15	47,1833	251,1	275	M	4323				RO_IL_1.WB4 RO08a	Transylvania Plateau	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y				
Somes	Fedora	23,53333	47,58333	200	184	M	9707				RO_IL_1.WB7 RO08a	Transylvania Plateau	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	Y	N	Fish-Directive, Habitats Directive	N	Y				
Somes	Cicartau	23,3833332	47,6833344	142	80	M	14495	RO_RV_14			RO_IL_1.WB10 RO12a	Hungarian Lowlands	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	Y	Y				
SOMES	Oar (border)	22,8666668	47,7833322	118	0	M	15740	RO_RV_15			RO_IL_1.WB11 RO13a	Hungarian Lowlands	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	Y	Y				
CRISUL ALB	Varsand	21,3333321	46,8166687	88,9	0	M	4240	RO_RV_18			RO_3_1.WB6	Hungarian Lowlands	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	Y	Y				
MURES	Ungheni	24,4500008	46,4833336	330	528	M	4298	RO_RV_25			RO_IV_1.WB6	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
TARNAVE	Mihail	23,7166672	46,1500015	226,5	0	M	6151	RO_RV_32			RO-IV_1.96WB7	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y				
MURES	Alba Iulia	23,5833321	46,0666656	241,1	346	M	17964	RO_RV_33			RO_IV_1.WB6	Transylvania Plateau	Y	Y	N	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
MURES	Nadlac	20,6666679	46,1333313	85,6	0	M	27818	RO_RV_39			RO_IV_1.WB13	Hungarian Lowlands	Y	Y	Y	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Habitats Directive	Y	Y				
TIMIS	Sag	21,17778	45,64522	54	0	M	4378				RO_V_2-8	Hungarian Lowlands	Y	Y	N	N	Y	HYMO, ORGP, NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
Jiu	Racari	23,54278	44,51028	125	0	M	7267				RO_VII_WB68	Pontic Province	Y	Y	Y	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y				
JIU	Zava	23,8333321	43,8333321	30,9	0	M	10048	RO_RV_52			RO_VII_WB181	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive	N	Y				
Olt	Araci	25,66194	45,79139	451	0	M	4300				RO_VI.6		Y	Y	N	N	Y	ORGP, NUTR, PSUB	Y	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
Olt	Hoghiz	25,30472	45,9925	396	0	M	7134				RO_VI.7	Carpathian ecoregion	Y	Y	N	N	Y	ORGP, NUTR, PSUB	Y	N	N	N	Fish-Directive	N	Y				
OLT	Carta (Arpaș)	24,5827789	45,7908329	360	265	M	10462	RO_RV_80			RO_VI.9	Carpathian ecoregion	Y	Y	N	N	Y	NUTR, PSUB	Y	N	N	N	Fish-Directive	N	Y				
OLT	Izbiceni	24,6666679	43,8166656	32	0	M	24050	RO_RV_87			RO_VI.13	Pontic Province	Y	Y	Y	N	Y	ORGP, NUTR, PSUB	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
ARGES	Budesti	26,46667	44,22667	41	0	M	9318				RO_X_1_13	Pontic Province	Y	Y	N	N	Y	NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
ARGES	conf. Danube	26,6177788	44,0766679	14	0	M	12550	L0250	RO_RV_81		RO_X_1_14	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive, Nitrate-Directive	Y	Y				
Ialomita	Cosereni	26,56972	44,69556	158	0	M	6300				RO_XI_1.WB10	Pontic Province	Y	Y	N	N	Y	NUTR, PSUB	N	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
Ialomita	Slobozia	27,37944	44,58111	48	0	M	9197				RO_XI_1.WB11	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive	N	Y				
IALOMITA	Tandare	27,8666679	44,8333313	8,5	0	M	10309	RO_RV_87			RO_XI_1.WB12	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	N	Fish-Directive	N	Y				
SIRET	Galbeni (Racatau)	26,9500008	46,4500008	115,8	228	M	19492	RO_RV_96				Eastern Plains	Y	Y	N	N	Y	ORGP	Y	N	N	N	Fish-Directive, Nitrate-Directive	N	Y				
Siret	Lungoci	27,1809	45,56809	75	0	M	34161				RO_XII_1.WB8	Pontic Province	Y	Y	N	N	Y	NUTR, HYMO	N	N	N	N	Fish-Directive	N	Y				

RIVER	NAME	LONGITUDE	LATITUDE	ALTITUDE	RKM	PROFILE	CATCH_AREA	TNMN_CODE	EIONET	IED 77/795/EWG	WB	DRBC_CODE	SURVEIL	OPERATION	REFERENCE	IC	RISK	RISK CAT	MODIFIED	SHARED	PROTECTED	EU-DIRECTIVES	OTHER_MON	QUANTITY	BOE	HYMOGE	PHCHEMGE	PS_EMISSION
SIRET	Sendreni	28.0256	45.4027788	2.4	0	M	44438	L0380	RO_RV_110		RO_XII_1WB9	Pontic Province	Y	Y	N	N	Y	HYMO	N	N	N	Fish-Directive		Y				
BISTRITA	upstream Bacau	26.8999996	46.6166687	140	0	M	7039		RO_RV_95			Eastern Plains	Y	Y	N	N	Y	ORGP	Y	N	N	Fish-Directive, Nitrate-Directive		N	Y			
TROTUS	Adjud	27.1833324	46.1333313	85.6	0	M	4456		RO_RV_98			Eastern Plains	Y	Y	N	N	Y		N	N	N		N	Y				
BARLAD	Umbrares	27.4500008	45.7000008	27.5	0	M	7330		RO_RV_104		RO_XII_1_78_WB3	Eastern Plains	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	Fish-Directive		N	Y			
BUZAU	Racovita	27.4666672	45.2999992	18.9	0	M	5240		RO_RV_109		RO_XII_1.82_WB8	Pontic Province	Y	Y	N	N	Y	ORGP, NUTR	N	N	N	Fish-Directive		N	Y			
JIJIA	Chiperesti	27.7666664	47.1166687	29.9	0	M	5610		RO_RV_117		RO_XIII_1_15_WB5	Eastern Plains	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	N	N	Fish-Directive		N	Y			
PRUT	Giurgulesti	28.21	45.4694	1.8	0	M	27480	L0420	RO_RV_119		RO_XIII_WB1	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	Y	Y	Fish-Directive, Habitats Directive		Y	Y			
Danube	Bazias	21.3944435	44.7991676	56	1071	L,M,R	570896	L0020	RO_RV_120		RO_XIV_WB3	Carpathian ecoregio	Y	Y	N	Y	Y	HYMO, NUTR, PSUB	N	Y	N	Fish-Directive		Y	Y			
Danube	Chiciu-Silistra	27.2438889	44.121666	13	375	L,M,R	698600	L0280	RO_RV_123		RO_XXI	Pontic Province	N	Y	Y	Y	Y	HYMO, ORGP, NUTR, PSUB	N	Y	N		N	Y	Y			
Danube	Grindu-Reni	28.2261105	45.4805565	4	132	L,M,R	805700	L0430	RO_RV_124		RO_XXI	Pontic Province	Y	Y	N	N	Y	HYMO, ORGP, NUTR, PSUB	N	Y	N	Fish-Directive		Y	Y			
Danube	Perprava-Valco	29.6086102	45.4116669	1	18	L,M,R	817000	L0450	RO_RV_125		RO_TT01	Pontic Province	Y	Y	Y	N	Y	ORGP, NUTR, PSUB	N	Y	Y	Fish-Directive, Habitats Directive		Y	Y			
Moldova																												
r.Prut	s.Braniste				546	L					MD_I_WB3		Y	Y			Y	HYMO	Y	Y	N		Y	Y, hydrological station		Y, HYREG	NUTR, PS, OS	
r.Prut	s.Valea Mare				387	L					MD_I_WB4		Y	Y			N	NUTR	N	Y	N		Y	Y, station, Ungheii		Y, HYREG, Ungheii	NUTR, PS, OS	
r.Prut	s.Giurgulesti	452810	281238		0	L	28500	L2270			MD_I_WB5		Y	Y			N	NUTR, ORGP	N	Y	N		Y	Y, station, Brinza		Y, HYREG, Brinza	NUTR, PS, OS	

ANNEX 5: LIST OF QUALITY ELEMENTS AND MONITORING FREQUENCIES FOR OPERATIONAL MONITORING

Quality elements - Austria

Information on quality elements to be measured within the OPERATIONAL MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)**
Macrozoobenthos	yes (1)	species level	individuals / m2 (3)	1 x year	one year during period of RBMP in case of ORGP and NUTR two years during period of RBMP in case of HYMO	national method
Macrophytes	yes	species level	Abundance class 1-5 (3)	1 x year	one year during period of RBMP in case of ORGP and NUTR two years during period of RBMP in case of HYMO	national method
Phytobenthos	yes	species level	% (3)	1 x year	one year during period of RBMP in case of ORGP and NUTR two years during period of RBMP in case of HYMO	national method
Phytoplankton	no (2)	-	µg / l	12 x year	Only in rivers with autochthonous plancton	
Fish	yes	species level	Individuals / ha (3)	1 x year	one year during period of RBMP in case of ORGP and NUTR two years during period of RBMP in case of HYMO	CEN

* Examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

(1) national method is available, but adaptations will be necessary

(2) no WFD compliant method available - low relevance of this BQE in the Austrian Danube, method is only measurement of Chlorophyll

(3) units for the evaluation of the ecological status are different indices and metrics that are calculated with the abundance units given here

	Frequency / year	Determinants (list)	Turnus (how often during the period of RBMP)
Thermal conditions	1/year	water temperature	in support of biological qe
Oxygenation	1/year	diss. Oxygen, BOD,	in support of biological qe
Salinity	1/year	chloride	in support of biological qe
Nutrient status	1/year	NO3-N, NH4-N, o-PO4-P, totalP, total P dissolved	in support of biological qe
Acidification status	1/year	pH	in support of biological qe
Priority substances	12/year	according to risk	once during period of RBMP
Other pollutants	12/year	according to risk	once during period of RBMP

	Frequency	Unit	Description	
Water flow (quantity/dynamics)	12/year	m3/s		annual
Connection to groundwater bodies				
River continuity	1x/year	assessment scale according to method	is part of the national morphology assessment system	in support of biological qe
River depth/width variation	1x/year	assessment scale according to method	is part of the national morphology assessment system	in support of biological qe
River bed (structure/substrate)	1x/year	assessment scale according to method	is part of the national morphology assessment system	in support of biological qe
Structure of riparian zone	1x/year	assessment scale according to method	is part of the national morphology assessment system	in support of biological qe
Other parameters	1x/year	assessment scale according to method	is part of the national morphology assessment system	in support of biological qe

Quality elements - Slovakia

Information on quality elements as it is planned on national level

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)**
Macrozoobenthos	Y	species level	Individuals/ 1.25 m2	2 x year	Annual	AQEM
Macrophytes	Y	species level	Relative plant mass	1 x year	Annual	STN EN 14148
Phytobenthos	Y	species level	Relative abundance	1 x year	Annual	STN EN 13946
Phytoplankton	Y	species level	Cells/1ml, µg/l	6 x year	Annual	STN 830532
Fish	N	species level	CPUE	not decided yet	not decided yet	STN EN 14011

* examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**examples for turnus

annual
every two years
every three years
once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinants	Turnus (how often during the period of RBMP)
Thermal conditions	4-12/year	water temperture	annual
Oxygenation	4-12/year	diss. Oxygen, BOD, COD	annual
Salinity	4-12/year	Ca, Mg, chloride, sulphates, conductivity	annual
Nutrient status	4-12/year	NO2-N, NO3-N, NH4-N, total N, o-PO4-P, totalP, total P dissolved	annual
Acidification status	4-12/year	Alkalinity, Acidity, pH	annual
Priority substances	12/year	according to risk	once during period of RBMP
Other pollutants	4/year	other relevant substances according to risk	once during period of RBMP
			annual

	Frequency	Unit		
Water flow (quantity/dynamics)	continuous	m3/s		
Connection to groundwater bodies	Once during period of RBMP			
River continuity	Once during period of RBMP			
River depth/width variation	Once during period of RBMP			
River bed (structure/substrate)	Once during period of RBMP			
Structure of riparian zone	Once during period of RBMP			
Other parameters	Once during period of RBMP			

Quality elements - Hungary

Information on quality elements as it is planned on a national level

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)**
Macrozoobenthos	Y	species	Individuals/m2, abundance class 1-5		2 Annual	AQEM, modified AQEM for large rivers
Macrophytes	Y	species	Covered area, %		1 Annual	*** CEN are drafted
Phytobenthos	Y	species	Not decided yet		1 Annual	*** CEN are drafted
Phytoplankton	Y	species	No. of cells/ml	6 (in vegetation period)	Annual	*** CEN are drafted
Fish	Y	species	CPUE, abundance class 1-5		1 Annual	*** CEN are drafted

* examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**examples for turnus

annual
every two years
every three years
once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinants	Turnus (how often during the period of RBMP)
Thermal conditions	26 during 2007, after 12	Water temperature	annual
Oxygenation	26 during 2007, after 12	DO, Oxygen Saturation, COD-ps, COD-cr, TOC, BOD-5	annual
Salinity	min 1	conductivity, general compounds, ionic compounds, etc.	annual
Nutrient status	26 during 2007, after 12	TP, PO4-P, TN, NO ₃ -N, NO ₂ -N, NH ₄ -N	annual
Acidification status	min 1	pH, Alkalinity	annual
Priority substances		12 Organic pollutants from the priority list	annual
Other pollutants		12 Heavy metals (8 ompounds)	annual

	Frequency	Unit			
Water flow (quantity/dynamics)	Daily	m3/s			
Connection to groundwater bodies					
River continuity					
River depth/width variation					
River bed (structure/substrate)					
Structure of riparian zone					
Other parameters					

Quality elements - Slovenia

Information on quality elements to be measured within the OPERATIONAL MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (CEN...)** Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos	agreed	species/genus	individuals / m2	1 x year	Every three years	national method (2)
Macrophytes	under development	species	Abundance class 1-5	1 x year	In the 1st RBMP QE will not be included in OM	CEN
Phytobenthos	agreed	species	%	1 x year	Every three years	CEN
Phytoplankton	no (1)	species	individuals/ml	6 x year	In the 1st RBMP QE will not be included in OM	CEN
Fish	under development	species	Individuals	1 x year	In the 1st RBMP QE will not be included in OM	CEN

* Examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

(1) no WFD compliant method available - low relevance of this BQE in Slovenian Rivers

(2) compliant with CEN standard

	Frequency / year	Determinants (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	water temperature	in support of biological QE
Oxygenation	4/year	O2, BOD-5, COD	in support of biological QE
Salinity	4/year	conductivity	in support of biological QE
Nutrient status	4/year	NO3-N, NO2-N, NH4-N, o-PO4-P, total P	in support of biological QE
Acidification status	4/year	pH	in support of biological QE
Priority substances	12/year	according to risk considering list of 33 priority substances	depending from emission and impact
Other pollutants	4-12/year	according to risk considering list of nationally relevant substances	depending from emission and impact

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuous	m3/s	annual
Connection to groundwater bodies	will be part of the morphology assessment system, which is not ready for action yet		
River continuity	will be part of the morphology assessment system, which is not ready for action yet		
River depth/width variation	will be part of the morphology assessment system, which is not ready for action yet		
River bed (structure/substrate)	will be part of the morphology assessment system, which is not ready for action yet		
Structure of riparian zone	will be part of the morphology assessment system, which is not ready for action yet		
Other parameters	will be part of the morphology assessment system, which is not ready for action yet		

Quality elements - Croatia

Information on quality elements to be measured within the OPERATIONAL MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)*
Macrozoobenthos	Internal manual	species	Abundance class 1,3,5	2	Every year	ISO 7828
Macrophytes	N	species	Not decided yet	Not decided yet	Every year	
Phytobenthos	Internal manual	species	Abundance class 1,3,5	2	Every year	
Phytoplankton	Internal manual	species	Abundance class 1,3,5	4-8	Every year	
Fish	N	species	Not decided yet	Not decided yet	Not decided yet	

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	12-26	Water temperature	Not decided yet
Oxygenation	12-26	DO, Oxygen Saturation, COD, BOD, PI	Not decided yet
Salinity	12-26	conductivity, Ca, Mg, Na, K	Not decided yet
Nutrient status	12-26	TP, TN, NO ₃ (-N) + NO ₂ (-N), NH ₄ (-N), PO ₄ -P (dissolved)	Not decided yet
Acidification status	12-26	pH, Alkalinity	Not decided yet
Priority substances	0-12	11 from list	Not decided yet
Other pollutants	0-12	mineral oils	Not decided yet

	Frequency	Unit	Description
Water flow (quantity/dynamics)	26/year	m ³ /s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	not decided yet	not decided yet	
River depth/width variation	not decided yet	not decided yet	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements - Bosnia and Herzegovina

Information on quality elements to be measured within the OPERATIONAL MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	Standards for sampling (ISO, EN, CEN...)**
Macrozoobenthos		species predominantly	abundance 1-7	4x	annual	
Macrophytes		not decided yet	not decided yet	not decided yet	not decided yet	
Phytobenthos		not decided yet	not decided yet	not decided yet	not decided yet	
Phytoplankton		species predominantly	abundance 1-7	4x	annual	
Fish		species	not decided yet	1x	Once during period of RBMP	

* Examples for biological units:

Individuals
Individuals/m²
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	Water temperature	annual
Oxygenation	4/year	DO, Oxygen saturation	annual
Salinity	4/year	conductivity, Ca concentration	annual
Nutrient status	4/year	TP, TN, NO ₃ -N+NO ₂ -N, NH ₄ -N, PO ₄ -P	annual
Acidification status	4/year	pH, Alkalinity	annual
Priority substances	not decided yet	not decided yet	not decided yet
Other pollutants	not decided yet	not decided yet	not decided yet

	Frequency	Unit	Description
Water flow (quantity/dynamics)	4/year	m ³ /s	
Connection to groundwater bodies	not decided yet	not decided yet	
River continuity	once during period RBMP	not decided yet	
River depth/width variation	not decided yet	not decided yet	
River bed (structure/substrate)	not decided yet	not decided yet	
Structure of riparian zone	not decided yet	not decided yet	
Other parameters	not decided yet	not decided yet	

Quality elements - Romania

Information on quality elements to be measured within the NATIONAL SURVEILLANCE MONITORING

	Method available?	Taxonomic level	Unit for biological data*	Frequency within a year	Investigation turnus**	National method, CEN are drafted
Macrozoobenthos	first draft (Dec. 2006)	species level	Individuals, abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Macrophytes	first draft (July. 2007)	species level	Individuals/m2, abundance class 1-7	1/year	every three years during period of first RBMP	National method, CEN are drafted
Phytobenthos	first draft (Dec. 2006 to July 2007)	species level	Individuals/m2, abundance class 1-7	3/year	every three years during period of first RBMP	National method, CEN are drafted
Phytoplankton	first draft	species level	Individuals/ m3, abundance class 1-7	4/year	every three years during period of first RBMP	National method
Fish	first draft (July. 2007)	species level	Individuals	1/year	every three years during period of first RBMP	National method

* Examples for biological units:

Individuals
Individuals/m2
%
Abundance class 1-7
Abundance class 1-5
Presence/absence

**Examples for turnus

Annual
Every two years
Every three years
Once during period of RBMP

*** CEN are drafted

	Frequency / year	Determinands (list)	Turnus (how often during the period of RBMP)
Thermal conditions	4/year	water temperture	every three years during period of first RBMP
Oxygenation	4/year	diss. Oxygen, BOD, COD	every three years during period of first RBMP
Salinity	4/year	Na, K, Ca, Cl, SO4, Mg	every three years during period of first RBMP
Nutrient status	4/year	NO2-N, NO3-N, NH4-N, total N, o-PO4-P, totalP, chlorophyll A, Silicate	every three years during period of first RBMP
Acidification status	4/year		every three years during period of first RBMP
Priority substances	12/year	list of 33 substances, List I, List II	every three years during period of first RBMP
Other pollutants	4/year	other substances	every three years during period of first RBMP

	Frequency	Unit	Description
Water flow (quantity/dynamics)	continuous	m3/s	
Connection to groundwater bodies	-		
River continuity	every six years	not decided yet	
River depth/width variation	every six years	not decided yet	
River bed (structure/substrate)	every six years	not decided yet	
Structure of riparian zone	every six years	not decided yet	
Other parameters	once during period of RBMP	not decided yet	

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