

**TWINNING INTERIM QUARTERLY REPORT NUMBER 5**



**EUROPEAN COMMISSION**

**TWINNING PROJECTS  
INTERIM QUARTERLY REPORT**

**Project Title: “Capacity Building in the Directorate of Water”**

**Partners: Ministry for Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany (BMU)**

**Ministry for Agriculture, Forestry and Water Management of the Republic of Serbia, Directorate for Water (MAFWD)**

**Date: .10.2007**

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Signature of BC Project leader

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Signature of MS Project leader

**Section 1: Project data**

<b>Twinning Contract Number</b>	SR2005/IB/EN/01
<b>Project Title:</b>	“Capacity Building in the Directorate of Water”
<b>Twinning Partners (MS and BC)</b>	Ministry for Environment, Nature Conservation and Nuclear Safety of the Federal Republic of Germany (BMU)  and  Ministry for Agriculture, Forestry and Water Management of the Republic of Serbia, Directorate for Water (MAFWD)
<b>Report Number:</b>	5
<b>Period covered by the report:</b>	24 May to 23 August 2007
<b>Duration of the project:</b>	24 Months
<b>Rapporteur:</b>	Dr. Nikola Marjanovic (MAFWD) and Heinz-Jochen Poremski (BMU)

## **Section 2: Content**

### **2A – BACKGROUND**

#### **Policy Developments**

**Under the interministerial cooperation in the capacity of government body responsible for water policy, Directorate for Water contributed in drafting the UNECE 2<sup>nd</sup> EPR for Serbia which is to be presented at the Sixth Ministerial Conference “Environment for Europe” to be held in October, in Belgrade.**

**During the reporting time other active interministerial cooperation was performed under the government activities of developing strategic document on National Strategy for Sustainable Use of Natural Resources through the activities of working group on water resources.**

#### **Project Assumptions**

This Twinning project purposes to upgrade Serbia’s institutional capacity to be able to implement and enforce the guiding principles of the EU’s Water Framework Directive and related legislation. The overall objectives of this project are:

- Development of capacity in the WD to implement WFD and relevant water directives.
- Improve the organisation of the WD
- Improve public awareness.
- To upgrade the existing monitoring system up to EIONET standards.
- To strengthen the capacity of Serbian institutions engaged in water monitoring.

In order to achieve these wider objectives, the project will be carried out in 7 Components (besides Component 0: Project Co-ordination):

- Training Plan prepared and under implementation. (Sub-Component 1.1)
- Pilot application of the WFD under implementation. (Sub-Component 1.2)
- Action Plan for legal alignment with the Acquis Communautaire prepared and being implemented.(Sub-Component 1.3)
- Human Resource management Capacity established in water Directorate. (Sub-Component 1.4)
- WFD awareness programme implemented. (Sub-Component 1.5)
- Detailed Strategy for upgrading the water monitoring system prepared (including detailed list of equipment and infrastructure requirements together with a budget and financial plan) and under implementation. (Sub-Component 2.1)

- Inter- and intra-organisation communication procedures and systems implemented. (Sub-Component 2.2)

## **2B – ACHIEVEMENT OF MANDATORY RESULTS**

It is expected that the contents of this Twinning project will contribute substantially to achieving some of the wider objectives of Serbian Water Management and will lead to the following results:

- Training needs identified and prioritized.
- Training Plan including a time schedule for implementation and Training Material prepared and disseminated.
- First training units implemented within the scope of the Twinning project.
- Components of River Basin Management Plan prepared for a Pilot River basin implemented.
- Action Plan and Draft legislation elaborated and agreed in the water administration.
- Human Resource management staff appointed in Water Directorate, HRM procedures in operation.
- Awareness strategy relating to goals, target groups, media and measures including a time schedule elaborated.
- Key messages developed and WFD awareness campaign launched.
- Two events for raising awareness on WFD with stakeholders carried out.
- Strategy document adopted as Conclusions of the Government. Identified upgrading of the monitoring programmes and systems taking place.
- Communication procedures and systems, Standard Operating procedures and Quality Management Systems installed.

Three of the benchmarks above related with the mandatory results have been achieved so far. The works for achieving it are in progress.

## 2C – ACTIVITIES IN THE REPORTING PERIOD

The following table reveals the current status of activities and benchmarks.

Table 1: Activities completed and benchmarks delivered

Activity	Benchmark	Status
<b>Component 0: Project Coordination</b>		
0.1 Project set-up	RTA offices installed and operable. Relevant contact persons identified and contacted by project month 1	Done
0.2 Kick-off meeting	All project partners informed on the project work plan, time schedule and the further proceedings by project month 2	Done
0.3 Coordination with parallel projects and the International Commission for The Protection of the Danube (ICPDR)	Regular meetings with representatives of parallel projects in the water sector carried out and information disseminated in project month 4, 10, 17	Ongoing
0.4 Wrap-up workshop	Project results summarised and disseminated. Further steps for the harmonisation of the Serbian water sector with EU requirements identified by project month 23	
<b>Component 1: Strengthening the institutional capacity of the Directorate for Water and related institutions</b>		
<b>Sub-Component 1.1: Assessment of institutional capacities and planning of training activities</b>		
Training Plan and Training Material prepared and disseminated.		
1.1.1 Assessment of the institutional structures and review of achieved training by the WD and Hydromet in the field of River Basin Management Planning	Assessment report on the current institutional situation, training status and training needs for WD and Hydromet staff elaborated and agreed by project month 3	Done
1.1.2 Establishment of joint working group with WD and Hydromet	First meeting of the joint working group carried out and meeting schedule fixed by project month 4	Done
1.1.3 Formulation of a training plan	A training plan for the staff of WD and Hydromet (department for hydrology and department for environmental control) is elaborated by project month 5	Done
1.1.4 Preparation of training material	Training material is developed and agreed by project month 3 – 19 parallel to the training sessions in the specific activities	Ongoing
<b>Sub-Component 1.2: Joint elaboration of a RBMP for the pilot small river basin</b>		
Components of River Basin Management Plan prepared for a Pilot River basin.		

1.2.1 Introduction of conceptual issues for the implementation of the Water Framework Directive	3 seminar series for the implementation of River Basin Management Planning (I Characterisation of river basins and programmes of measures, II Monitoring, III GIS and Reporting) held. Relevant staff at the WD and Hydromet trained by project month 14	Started
1.2.2 Characterisation of the river basin district, review of the environmental impact of human activity and economic analysis of water use (Article 5 WFD)	Characterisation of the pilot small river basin according to article 5 of the WFD delivered by project month 12.	Started
1.2.3 Formulation of a monitoring programme of surface water and ground water status according to WFD and Serbian legal requirements in the small river basin.	Monitoring Programme for the pilot small river basin developed and disseminated in the WD and Hydromet and involved institutions by project month 17.	Started
1.2.4. Formulation of the programme of measures (Article 11 WFD) for the RBMP	Programme of measures for the pilot small river basin developed by project month 21.	Started
1.2.5 Mapping out water resources in the pilot river basin with the help of GIS techniques.	RBMP maps according to Annex 7 of the WFD are prepared month 20.	Ongoing
1.2.6 Study tour on surface and groundwater monitoring and the use of GIS	5-day study tour for 10 persons from the WD and Hydromet implemented and potential technical and administrative solutions for Serbian monitoring system identified by the participants in project month 3.	Done
<b>Sub-component 1.3 Developing of action plans for the alignment of legislative, administrative and financial measures in the water sector</b>	Action Plans and Draft legislation elaborated and agreed in the water administration.	
1.3.1 Gap analysis of the existing legal framework in the water sector in Serbia	Gap analysis of the Serbian water legislation with regard to the harmonisation with the <i>acquis communautaire</i> is elaborated by project month 6.	Done
1.3.2 Preparation of the transposition of key directives	Central elements for the transposition of the selected key directives formulated and agreed in the water administration by project month 9.	Ongoing
1.3.3 Upgrading administrative structures for enforcement	An action plan for administrative restructuring of the Serbian water administration according to the harmonisation needs is prepared and disseminated by project month 15.	Ongoing
1.3.4 Development of a financial plan	Support to the elaboration of long-term financial plan for the harmonisation process with the EU is accomplished by project month 19.	Started
<b>Sub-Component 1.4 Human Resources Development</b>	Human Resource management staff appointed in Water Directorate and Hydromet, HRM procedures in operation.	

1.4.1 Restructuring of the administrative units responsible for human resource development	Core team for recruitment, HR development and motivation established and trained in a 1-week seminar on personnel management instruments by project month 4.	
1.4.2 Elaboration of a human resource development strategy	A human resources development strategy is elaborated and agreed between the partners by project month 21.	Started
<b><i>Sub-Component 1.5 Design of a WFD public awareness programme</i></b>	Awareness programme, Awareness raising materials and events implemented.	
1.5.1 Assessment of obstacles and opportunities for public participation in the implementation of the WFD	Assessment report on public participation elaborated by project month 11.	Started
1.5.2 Design of a multi-level awareness strategy	Awareness strategy relating to specific goals, key target groups, mix of medias and selection of measures including time frame elaborated by project month 13.	Done
1.5.3 Implementation of the public awareness programme	Key messages developed and WFD awareness campaign launched by project month 13. 2 stakeholder seminars with participation of the administrations, industry, NGOs, researchers involved in the water sector held by project month 14 and 20. Interim evaluation of awareness undertaken for a key target group by project month 22.	Started

<b>Component 2: Support for the upgrading of the Water Monitoring system in Serbia</b>	Strategy document adopted as Conclusions of Government. Identified upgrading taking place.	
<b>Sub-Component 2.1 Enhancing monitoring system and laboratory capacity</b>		
2.1.1 Review of the existing monitoring programmes and facilities (measuring stations, i.e. monitoring sites) for surface water, groundwater and hydrological observations, i.e. water level, discharge, sediment transport	Monitoring programme and facilities reviewed and recommendations developed and agreed by project month 3.	Done
2.1.2 Redesign of the monitoring programme and observation network and sampling design for surface water, ground water hydrological observations, i.e. water level, discharge, sediment transport	Monitoring network for monitoring surface and groundwater meeting WFD and Eurowaternet requirements agreed by project month 8.	Ongoing
2.1.3 Technical Implementation plan for enhancing the monitoring system and the monitoring facilities (hardware)	Specifications for the preparation of the tender of the equipment for water monitoring / testing by project month 8.	Ongoing
2.1.4 Training of personnel involved in Water Monitoring	2-week intensive training on monitoring issues for 2 persons from Hydromet in Germany and transfer of specialised know-how on the operation of automated monitoring stations undertaken by project month 9.	
2.1.5 Development of a field handbook of methods for the collection, preservation and transportation of water samples.	Manual for (Serbian) procedures in collection, preservation and transportation of water samples drawn up as draft by project month 16.	Started
2.1.6 Technical implementation plan for enhancing the laboratory equipment and capacity	Hardware needs identified and agreed, cost estimation, investment needs and operating costs identified by project month 12.	Ongoing
2.1.7 Training of laboratory staff in processing/handling of samples and analytical techniques.	Relevant staff at Hydromet trained and training progress evaluated by project month 14.	
<b>Sub-Component 2.2 Enhancing organisational capacity of institutions undertaking water monitoring</b>	Communication procedures and systems, Standard Operating procedures and Quality management Systems installed.	
2.2.1 Assessment of intra- and inter-institutional communication procedures and data management	Existing communication procedures described and gaps analysed by project month 6.	Done
2.2.2 Improvement of communication between the institutions by the elaboration of standard communication /reporting procedures and systems	Recommendations for the improvement of communication procedures formulated and agreed by project month 12.	Ongoing
2.2.3 Quality assurance/control of the documentation of monitoring results and data	Guidance document for quality control system of monitoring results and data developed by project month 19.	Started

***Component 0: “Project Set-up”***

**Activity 0.3: Coordination with other projects and the International Commission for the Protection of the Danube (ICPDR).**

In context with the transposition of the Nitrate Directive the Serbia Danube River Enterprise Pollution Reduction (DREPR) was contacted in order to utilize some synergetic effects. The first meetings promise a fruitful cooperation. Further more the project established regular contacts with the consortium of the consultant EPTISA in charge for the realization of the Water Management and Information System in the scope of a technical assistance project for the Directorate for Water.

**Sub-Component 1.1: “Assessment of institutional capacities and planning of training activities”**

**Missions related to Activity 1.1.4:**

Title: “Preparation of training materials.”

During the reporting period six missions were carried out by four experts.

Mr. Mühlberg completed the training material on the economic analysis of water use. Training material consists of three power point presentations and two case studies (Elba River and Brandenburg) and was made available in Serbian language. Serbian colleagues added to the training material various documents showing latest products on the topic in Serbia.

Mr. Neumann, Mr. Domroese and Mr. Berthold elaborated the training material for the seminar related to pressures and impact analysis and monitoring programmes (both related to groundwater) which will be held on the last week of September 2007. This training material contains five power point presentations and other documents, made available in Serbian language.

Each seminar content i.e. the corresponding training material and the cited reference material will be prepared in a separate folder with a common corporate design of the Twinning Project. The overall training seminar material will consist of a set 14 folders (corresponding to the number of seminars to be held during the project) in order to facilitate the content of the training seminar. The folder contains the presentations given by the

German and Serbian Experts (the presentations of the German STE will be additionally translated to Serbian), the mentioned/cited specific reference literature and a CD with the corresponding documents and presentations in digital format. Every participant of the training seminar, furthermore the Directorate for Water, the Public Water Companies Srbijavode and Vode Vojvodine as well as Hydromet will receive one copy of this material when the editing is finalized.

Duration: 30 days

Participants: 4 STEs (Mr. Berthold, Mr. Neumann, Mr. Domroese, Mr. Mühlberg), RTA 1 Mr. Heuberger, RTA 2 Mr. Christian Ebel.

**Sub-Component 1.2: “Implementation of training for the pilot application of River Basin Management Plan (RBMP) issues in a small river basin.”**

**Missions related to Activity 1.2.1:**

Title “Introduction of conceptual issues for the implementation of the Water Framework Directive”

During his mission to Belgrade STE Mr. Mühlberg held a training seminar on the 18.07-19.07.2007 on the conceptual approach concerning the Economic Analysis according Article 8 of the WFD.

The training seminar aimed at introducing the audience into the conceptual approach of the economic analysis according WFD and the implementation in praxis. The seminar projected to entitle the participants to understand the schematic procedure and its framework in relation to economic analysis and elements of water use.

For this the STE Mr. Andreas Mühlberg had prepared three subject specific presentations which were translated into Serbian and could be used at a later opportunity of the participants as training material in order to orientate the participants who could not attend the seminar on the given date. The elaborated could also be used in order to familiarize in future more adequate staff (also from other institutions) on other occasions or to transfer knowledge if a fluctuation of the staff occurs.

Within the training seminar the Serbian partners gave an overview on the corresponding activities in Serbia up to date. On the 18 July 2007 the seminar counted with four attendants and on 19 July 2007 with 6 attendants. The participants list annexed to the report.

Duration: 5 days

Participants: STEs Mr. Mühlberg, RTA 2 Mr. Christian Ebel, RTA Claus Heuberger, Mrs. Valentina Mileusnic (Water Directorate)

**Missions related to Activity 1.2.5:**

Title "Mapping out water resources in the pilot river basin with the help of GIS"

During his mission to Belgrade STE Mr Schultz visited different institutions with GIS facilities. He visited the colleagues of the Institute of the Serbian Geological Service and the Institute Jaroslav Cerni who have designated members to the groundwater and surface water working groups and summarized i.e. compiled a technical list of the existing GIS cartographic material with respect to the mapping works for the RBMP for the Kolubara region.

During his works with the colleagues it became apparent that much the material used for mapping projects in Serbia are bound to strict copyright regulations not even allowing copies being produced for the orientation of the twinning office and experts. This is a formal barrier for the works of the project which must be overcome. Nevertheless the very cooperative Serbian colleagues made copies of the not restricted cartographic material and submitted them to the project. This material was/is actually being evaluated by the German GIS experts in order to sketch up a successful path for producing the required maps for the RBMP.

Duration: 5 days

Participants: STEs Mr. Schultz, RTA 2 Mr. C.Ebel, RTA, Staff of Institute Jaroslav Cerni, Staff of the Institute of the Geological Service of Serbia.

**Sub-Component 1.3: "Developing of action plans for the alignment of legislative, administrative and financial measures in the water sector"**

**Mission related to Activity 1.3.2:**

Title: „Preparation of the transposition of key directives”

Catching up with the results from her former mission, Ms. Pawlowski completed the chapter of the strategy titled “basic measures”. For writing the strategy she focused on the review of the current Water Law and the draft of Water Law based on the results elaborated in the activity 1.3.1. In the next mission the so far given proposals of Ms. Pawlowski will be revised by Serbian colleagues. The next steps are to complete the basic measures, to conduct the revision of the proposals and to make a presentation of the strategy as a whole.

Mr. Kücke elaborated an overview of the main aspects referring to the Nitrate Directive. Thereby he met with Mr. Nenad Brkić from the Serbian Danube River Enterprise Pollution Reduction (DREPR) team, who is carrying out a World Bank funded project on good agricultural practice. Since the DREPR project will contract the expert to deal with analysis and necessary preliminary steps related to Nitrate Directive, it is agreed to exchange information in the future. Both twinning and DREPR projects will prepare ground for transposing the requirements of the Nitrate Directive into the national legislation in Serbia. A close co-operation will be fruitful to avoid double work and inconsistencies. Mr Kücke’s results are attached as Annex.

Duration: 10 days

Participants: 2 STE (Dr. Pawlowski, Dr. Kücke), Water Directorate, RTA 1 Mr. Heuberger

**Mission related to Activity 1.3.3:**

Title: „Upgrading administrative structures for enforcement”

Mr. Hotopp prepared the detailed structure of the action plan for upgrading enforcement structures in the Serbian administration and started the phrasing of the plan. During the next missions this plan will be completed and discussed with the Serbian counterparts.

Duration: 5 days

Participants: 1 STE (Mr. Hotopp), Water Directorate, RTA 1 Mr. Heuberger

**Sub-Component 1.4: “Human resources development”**

**Mission related to Activity 1.4.2:**

Title: „Elaboration of a human resource development strategy”

The first missions in this activity started now. Two experts began the elaboration of a human resource development strategy. They studied the findings gathered in earlier activities concerned with organizational structures of water administration and opted to collect more data specific for their focus of work. They interviewed six employees of the Water Directorate and the head of the central human resource department of the MAFWM. Their questions were related to the recruitment, employee appraisal, cooperation, communication, training, career planning etc. Based on the facts and views discovered now, they will compose the strategy paper in their next mission and discuss it with Serbian colleagues. In addition to mandatory results according to the twinning contract, it is intended to carry out a training unit for the managers of the Water Directorate during this project.

Duration: 10 days

Participants: 2 STE (Ms. Dahrendorf, Ms. Keller), Water Directorate, MAFWM, RTA 1 Mr. Heuberger

### **Sub-Component 1.5: “Design of a WFD public awareness programme”**

#### **Mission related to Activity 1.5.2:**

Title: „Design of a multi-level awareness strategy”

The benchmark for this activity was completed and all relevant stakeholders received the final product at the end of June. As described in the 4<sup>th</sup> Quarterly Report the multi-level awareness strategy is elaborated and agreed. Now also the signature of the Serbian project leader is given. The report is attached as Annex.

#### **Mission related to Activity 1.5.3:**

Title: „Implementation of the public awareness programme”

Ms. Franken started the implementation of the public awareness strategy. This activity, as agreed earlier, had to be heavily linked to the Danube Day celebration as major public event of Serbian water administration. The Danube Day addresses the broad public. For further public relation actions the project team selected with the help of questionnaires (elaborated in Activity 1.5.2) people with a specific interest in the water issue. The questionnaire was published on the web pages of the MAFWM and of the twinning project in the period from 10<sup>th</sup> of May until 10<sup>th</sup> of July 2007 and delivered in direct contact with visitors during Danube Day actions. In total 245 filled questionnaires were returned to the project. Their evaluation started and will be continued during the next missions.

Duration: 5 days

Participants: 1 STE (Ms. Franken), Water Directorate, RTA 1 Mr. Heuberger

### **Sub-Component 2.1: “Enhancing monitoring system laboratory capacity”**

#### **Missions related to Activity 2.1.2:**

Title: “Redesign of the monitoring programme and observation network and sampling design for surface water, groundwater, hydrological observations, i.e. water level, discharge, sediment transport.”

In total three missions took place by STE Mrs. Ursula Schmedtje, STE Mr. Peter Seel and STE Simon Henneberg (all between 25.-29.06.07)) and relating to surface water. Within these missions a near final version of the report “General Strategy for the Redesign of the Serbian Surface Water Quality Monitoring System in Serbia“ was prepared, translated and distributed to the Serbian partner for final comments.

The report (as one part of the benchmark for activity 2.1.2) focuses on necessary changes at the technical/organisational level taking into account the existing framework. The strategy outlined here shows how the existing monitoring programmes in Serbia can be adapted and upgraded to meet current standards in monitoring in particular those of the WFD. A step-wise approach is recommended. In the short-term (from 2008 to 2010) a number of changes could be carried out allowing a redesign of the monitoring programmes within the existing framework. While some streamlining and upgrading can be made within the existing system, the actual upgrading of Serbia’s monitoring system to EU standards will involve a number of decisions regarding the competencies and responsibilities in the field of water management, division of tasks between institutions as well as regulating mechanisms with respect to water quality monitoring. Further changes in the monitoring programmes and additional expert capacities are absolutely necessary. The severe understaffed situation of the institutions involved in monitoring is one of the main restrictions for reaching WFD compliant monitoring and providing the necessary data for sound water management decisions in Serbia today.

Figure 1 visualizes the stepwise approach to redesigning the surface water monitoring system in Serbia

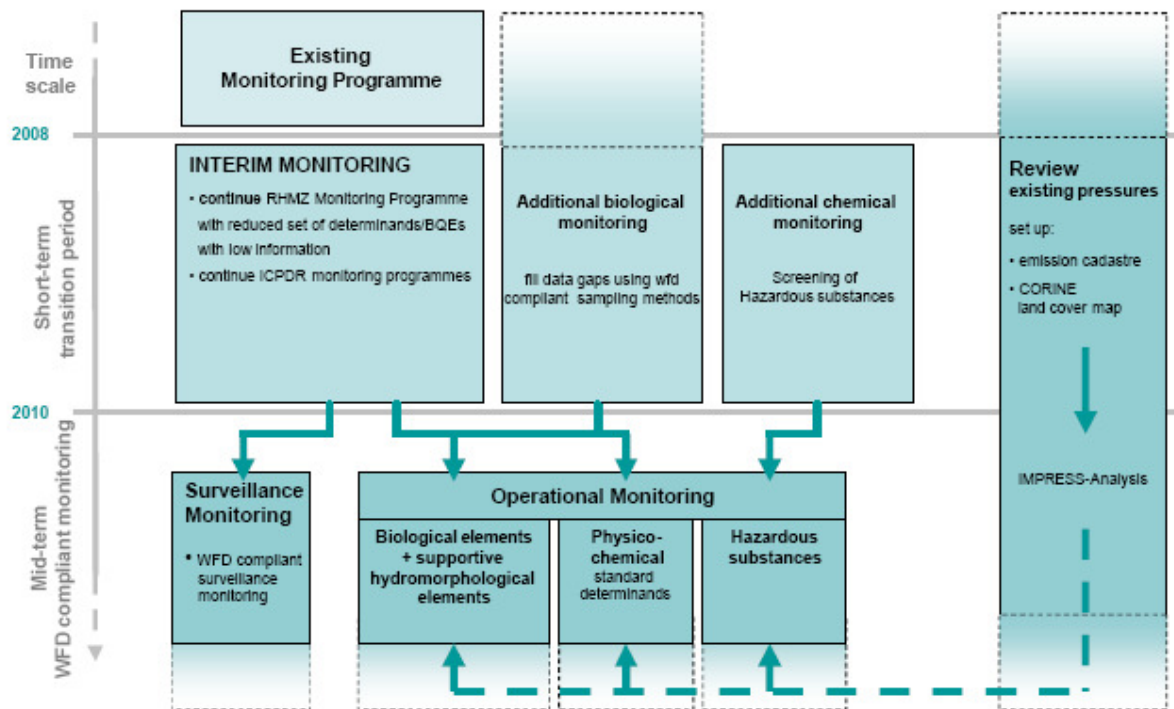


Figure 1: Approach for the amendments of the existing national monitoring programmes of surface waters in Serbia

The works on surface water will be finalised at the beginning of October 2007.

The corresponding works dedicated to the “General Strategy for the Redesign of the Groundwater Monitoring Programmes in Serbia” will start in November /December 2007. It became clear that for starting/accomplishing the benchmark of this activity with the Serbian partners more preparatory works and training of the Serbian partners are necessary.

Duration: 15 days

Participants: 3 STEs U. Schmedtje, STE P.Seel STE S. Henneberg, RTA C. Ebel, Hydromet, Institute Jaroslav Cerni, Directorate for Water.

**Missions related to Activity 2.1.3:**

Title: “Technical implementation plan for enhancing the monitoring system and the monitoring facilities (hardware).”

Three missions of the STEs Mr. Werner Blohm (18.-22.06.07), STE Mr. Stefan Anke and STE Michael Lechelt (both 06.08.-10.08.07) took place during this reporting period.

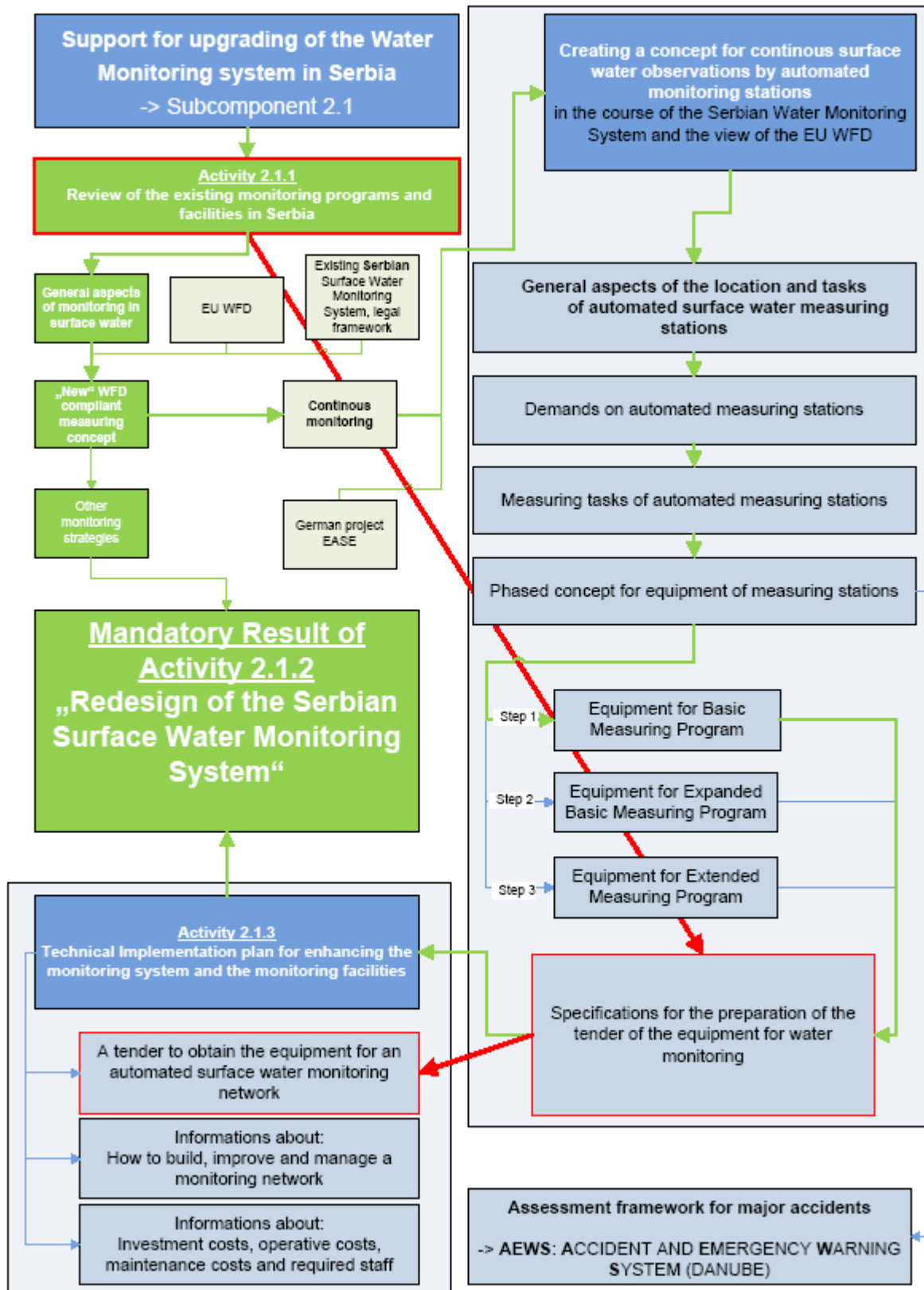
The technical specification list of the equipment for automated measuring stations for surface water is completed. A draft of the additional report giving the rationale of the operating of automated measuring stations as well the estimation of maintenance cost and necessary human resources is formulated and currently under the process of being finalised with the Serbian partners (Hydromet). The technical specifications for groundwater monitoring equipment will be sketched up in January/February 2008, when the works of the redesign of Serbian groundwater monitoring programmes and for the Kolubara river basin are more advanced.

The project team was informed by the Ministry of Environment (MoE) that the establishment of four automated monitoring installations at the border sites of the transnational rivers in Serbia financed by the National Investment Plan of Serbia was stopped. No further information was given due to the fact that the MoE is affected by internal administrative restructuring processes after the elections which are still ongoing.

The STEs and RTA took the initiative to propose to their institutions in Hamburg that suitable measuring equipment that has been used in automated measuring stations in Hamburg is donated to Serbia (Hydromet) and installed at the station in Beli Brod on the Kolubara river (until own suitable equipment could be purchased). This would facilitate and enhance the possibilities of practical training and gaining experience with operating automated measuring stations in the best possible way since the Serbian partners could be trained by the STE during this project with making operable the first station.

Hamburg has agreed to donate the mentioned equipment provided that the equipment is installed properly and under supervision of its experts in Serbia. The installation of the donated equipment will be carried out by the Twinning project office with the financial support by the German Ministry of Environment, Nature Conservation and Nuclear Safety.

The conceptual links between the activities 2.1.1, 2.1.2 and 2.1.3 are illustrated in the figure 2.



Duration: 15 days

Participants: 3 STE (STE M. Lechelt, STE W. Blohm, STE S. Anke), staff of Hydromet, RTA C. Ebel, staff from MoE.

**Missions related to Activity 2.1.5:**

Title: "Development of a field handbook of methods for the collection, preservation and transportation of water samples."

The activities concerning the development of the handbook were continued by two surface water related missions of STE Mrs. Sommerwerk (25.-29.06.2007 and 30.07-03.08.07).

By working with the Serbian partners it was agreed that the draft of the "Field Handbook of Methods for the Collection, Preservation and Transportation of Water Samples" will focus more on the sampling procedure/process, the logistics, its requirements and necessary modifications than on describing the specific sampling methods in detail. This approach was chosen since the international and national standards for sampling water and sediments are well known.

For this reason the German and Serbian authors focus on the sampling on site, the crucial steps of transportation, stabilization and storage, i.e. the whole logistic process of sampling until the samples arrive in the regional sampling centers or the main laboratory of Hydromet in Belgrade.

The standardized procedure should be compatible to the specific conditions in Serbia and they also should meet the international accepted methods and standards

Duration: 10 days.

Participants: 1 STE (Mrs. N. Sommerwerk), RTA C. Ebel, Staff of Hydromet.

**Sub-Component 2.2 "Enhancing organisational capacity of institutions undertaking water monitoring"**

**Missions related to Activity 2.2.2:**

Title: "Improve communication between the institutions by the elaboration of standard communication/reporting procedure and systems."

Two missions took place by STE Mr. Mathias Menger (21.05. - 25.05.07) and STE Mr. Heinrich Schneider (21.05. - 25.05.07) in which a delineation of recommendations for the improvement of communication procedures was achieved. The results of this activity were presented to the Serbian colleagues on the 24.05.2007 in the large auditorium of Hydromet. The presentation of the STEs was attended by 23 Serbian experts from Hydromet, SEPA, Vode Vojvodine, Ministry for infrastructure (formerly Capital Investments), Regional Authority for agriculture of, Vojvodina, Office for Environment Protection of the Municipality of Belgrade, Mihailo Pupin Institute. The participants list is annexed to the report.

The consortium of EPTISA who is in charge of the preparation of the Water Management Information System (water related project funded by the EC, managed by the EAR) gave an additional presentation on the scope of the project which is currently under execution in the Directorate for Water. EPTISA was invited by the Twinning Project in order to identify possible cross links between the projects and to enhance possibly existing synergies between both sections of the projects dealing with data exchange.

The draft of the benchmark report is under the consideration by the Serbian partners.

Duration: 10 days

Participants: 2 STEs (Mr. M. Menger and Mr. H. Schneider), RTA Christian Ebel

### **Missions related to Activity 2.2.3:**

Title: "Quality assurance/control of the documentation of monitoring results and data"

In the reporting period one mission took place (30.07 – 03.08.07) by STE Jürgen Bergholz. The aspects of quality assurance played a prominent role in the documentation of monitoring results and data.

For this reason the first mission of Mr. Bergholz under this activity took place in parallel to the mission of Mrs. Sommerwerk (see activity 2.1.5, "Development of a field handbook of methods for the collection, preservation and transportation of water samples".) as the

aspects of quality assurance works in general are closely related with the aspects of taking water/biota samples, their handling and their further analysis. The interfaces between the handbook (Activity 2.1.5) and the elements of the envisaged guidance document containing general quality assurance aspects for the documentation of monitoring data were delineated.

Duration: 5 days

Participants: 1 STEs (Mr. Bergholz), RTA Christian Ebel

**2D – TIMING AND DELAYS**

**Table 2: Time schedule of the project**

Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<b>Component 0: Project Coordination</b>																								
0.1 Project set-up	x																							
0.2 Kick-off meeting		x																						
0.3 Coordination with other projects and the ICPDR	o																							
0.4 Wrap-up workshop																								
<b>Component 1: Strengthening the institutional capacity of the Directorate for Water and related institutions</b>																								
<b>Sub-component 1.1: Assessment of institutional capacities and planning of training activities</b>																								
Activity 1.1.1: Assessment of the institutional structures and review of achieved training by the WD and Hydromet in the field of River Basin Management Planning				x																				
Activity 1.1.2: Establishment of joint working group with WD and Hydromet					x																			
Activity 1.1.3: Formulation of a training plan												x												
Activity 1.1.4: Preparation of training materials																								
<b>Sub-component 1.2: Implementation of training for the pilot application of RBMP issues</b>																								
Activity 1.2.1: Introduction of conceptual issues for the implementation of the WFD																								

**Table 2 (cont.): Time schedule of the project**

Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Activity 1.2.2: Characterisation of the river basin district, review of the environmental impact of human activity and economic analysis of water use										O														
Activity 1.2.3: Formulation of a monitoring programme of surface water and ground water status according to WFD and Serbian legal requirements in the small river basin										O														
Activity 1.2.4: Formulation of the programme of measures (Art. 11 WFD) for the RBMP										O														
Activity 1.2.5: Mapping out water resources in the pilot river basin with the help of GIS techniques									O															
Activity 1.2.6: Study tour on surface and groundwater monitoring and the use of GIS and						X																		
Sub-component 1.3: Development of action plans for the alignment of legislative, administrative and financial measures in the water sector																								
Activity 1.3.1: Gap analysis of the existing legal framework in the water sector in Serbia												X												

**cont. Table 2: Time schedule of the project**

Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Activity 1.3.2: Preparation of the transposition of the UWWTD and Nitrates Directives										O																
Activity 1.3.3: Upgrading administrative structures for enforcement										O																
Activity 1.3.4: Development of a financial plan										O																
Sub-component 1.4: Human resources development																										
Activity 1.4.1: Restructuring of the administrative units responsible for human resource development																										
Activity 1.4.2: Elaboration of a human resource development strategy														O												
Sub-component 1.5: Design of a WFD public awareness programme																										
Activity 1.5.1: Assessment of obstacles and opportunities for public participation in the implementation of the WFD						O																				
Activity 1.5.2: Design of a multi-level awareness strategy														x												
Activity 1.5.3: Implementation of the public awareness programme															O											

**cont. Table 2: Time schedule of the project**

Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<b>Component 2: Support for the upgrading of the water monitoring system in Serbia</b>																								
<b>Sub-component 2.1: Enhancing monitoring system and laboratory capacity</b>																								
Activity 2.1.1: Review of the existing monitoring programmes and facilities (measuring stations, i.e. monitoring sites) for surface water, groundwater and hydrological observations, i.e. water level.											X													
Activity 2.1.2: Redesign of the monitoring programme and observation network and sampling design for surface water, ground water and hydrological observations, i.e. water level.				O																				
Activity 2.1.3: Technical implementation plan for enhancing the monitoring system and the monitoring facilities (hardware)				O																				
Activity 2.1.4: Training of personnel involved in water monitoring																								
Activity 2.1.5: Development of a field handbook of methods for the collection, preservation and transportation of water samples.												O												
Activity 2.1.6: Technical implementation plan for enhancing the laboratory equipment and capacity				O																				

**cont. Table 2: Time schedule of the project**

Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Activity 2.1.7: Training of laboratory staff in processing / handling of samples and analytical techniques																								
<b>Sub-component 2.2: Enhancing organisational capacity of institutions undertaking water monitoring</b>																								
Activity 2.2.1: Assessment of intra- and inter-institutional communication procedures and data management								X																
Activity 2.2.2: Improvement of communication between the institutions by the elaboration of standard communication /reporting procedures and systems										O														
Activity 2.2.3: Quality assurance/control of the documentation of monitoring results and data																								

Legend of the table:

- tick box x = activity accomplished,
- tick box mission O = activity started and ongoing,
- grey tick box = activity planned,
- black tick box = delay of activities of exceeding 3 months

## **Recuperation of delays**

### **Delays in activity 1.4.1**

*“Restructuring of the administrative units responsible for human resource development”*

In spite of huge endeavours of the Serbian Water Directorate it was not possible to identify adequate persons for the establishment of a core team handling the human resource development issues for the project. Now there is a need to solve this problem in the best sense of the purpose of the project.

### **Delays in Activity 2.1.1**

*”Review of the existing monitoring programmes and facilities”*

The review of the existing monitoring programmes and facilities of activity and recommendations benchmark concerning necessary works for reformulating the groundwater and surface water monitoring programme are approved and are merged in a common document.

At a later stage of work it revealed to be more adequate to present the findings concerning surface water and groundwater in two separate documents as different issues and observations are being addressed. This would enhance the understanding of the delineated recommendations. The works are now finalised. Only the format of the document has been changed.

### **Delays in Activity 2.1.2**

*“Redesign of the monitoring programme and observation network and sampling design for surface water”*

The activity is delayed since the baseline material for groundwater has to be produced before the “Strategy for the Redesign of the Groundwater Monitoring Programmes in Serbia” can be reformulated. The works on the “Strategy for the Redesign of the Surface Water Quality Monitoring Programmes in Serbia” have been almost finalised and will be submitted jointly with the ground water strategy.

### **Delay in Activity 2.1.3**

*“Technical Implementation plan for enhancing the monitoring system and the monitoring facilities”*

It was possible to catch up the delay concerning the technical specification list for the equipment of automated surface water measuring stations. The activity is still delayed concerning the description of the equipment concerning groundwater monitoring due to its close relation with and the accomplishment of activity 2.1.2.

### **Delays in Activity 2.1.4**

*“Training of personnel involved in water monitoring”*

As already mentioned in the 4<sup>th</sup> quarterly report it was decided to send the identified staff for the training on the operation of automated monitoring systems to Hamburg in the late autumn 2007 or spring 2008. This was agreed to be most convenient between the project partners as it is planned to build up monitoring stations in Serbia in the course of the year 2008/9. This underlies the condition that the planned tender procurement is successful for purchasing of the equipment could be timely produced and procured. The training will take place in the laboratory installations of the City of Hamburg and in Serbia if an automated monitoring station is available in due time.

## **2E ASSESSMENT**

### **Overall assessment of progress**

During the reporting period 129,5 expert days took place and 1 benchmark has been achieved in accordance with the work plan (Activity 1.5.2). However, it still was not possible to equalise the delays resulting from the first project months. At least the summer break was well used and also during this period many missions took place. So the project now is generally in good condition to fulfill all the benchmarks on time. This result could only be achieved thanks to a constructive cooperation between the project partners.

Referring to Component 1 the preparing of some training materials (1.1.4) are still pending. The activities 1.3.2, 1.3.3 and 1.3.4 are on the way. The human resource development strategy has already started (1.4.2). Activity 1.5.1 is mostly done and 1.5.3 has started. All the resting activities are done (exceptionally 1.4.1 with well known reasons).

Activity 2.1.1 report was reworked, i.e. its structure was changed, only minor changes in the benchmark document are necessary before formal approval by the Serbian partners. The delay of the activities referring to the activities 2.1.2 and 2.1.3 has been diminished and are definitely not critical in the sense that the reaching of the benchmarks is endangered.

As mentioned before working groups of experts were founded to accompany the monitoring programme redesign works for surface water and groundwater. These working groups meet regularly and contribute and discuss with valuable input the necessary works.

The given critical personal resource situation at the Directorate for Water which is definitely severely understaffed is still a continuous hindering barrier to bring the work of the project faster forward in time.

On 11th of June 2007 the 4th Steering Committee Meeting took place. The minutes of this meeting are attached in the Annexes.

Due to the vacation time none of the regular meetings with the EAR or the Joint Working Group took place.

The project partners would like to express their gratitude to all the involved colleagues and contributors. It is also to express that they are well aware of the fact that the Serbian partners are burdened with heavy workload due to understaffing and are doing their best in this project under the given circumstances.

## **2F ANNEXES**

List of annexes

Participants List for the seminar on economic analysis  
Minutes from the sixth meeting of Joint Working Group  
Report on Nitrate Directive  
Participants List for the workshop on Improvement of Inter- and Intra Communication  
Minutes of 4<sup>th</sup> Steering Committee Meeting  
Quarterly Financial Report