

IN THE

flow

- 2 **Getting the facts:** Reports summarise unique challenges for each river basin
- 3 **Pleased to meet you:** EPIRB stages several meetings, workshops and seminars

In the works

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Which water management issues do you find to be the most challenging in your country?

Our water management system is outdated and we need new legislation. A new law on water management has been drafted and is currently under discussion.

We also need to develop sub-legislation and regulatory norms for developing river basin management plans, for classifying water bodies and for establishing water quality standards. In addition, it is necessary to strengthen hydromorphological monitoring and introduce hydrobiological monitoring.

What, in your opinion, is the EPIRB project doing successfully to help address these issues?

We are grateful that the most important issues, such as river basin management plans and recommendations for the classification of rivers and water quality standards are being developed within the project framework.

Should the EPIRB project be involved with any other particular issues?

It could, perhaps, provide support for the development of sub-legislation and regulatory norms, as well as support for water quality monitoring by way of technical capacity building, including methodological assistance and training.

Support through training

Which water management issues are the most challenging in the Republic of Armenia?

The most challenging water management issues in my country relate to uneven spatial and temporal distribution of water resources. Around 50 percent of the total volume of river flow is subject to significant annual variations: the flow in dry years is less than 65 percent of an average year's flow. There are also significant seasonal variations in river flow. Around 55 percent of the total river flow in a normal year comes from spring snowmelt and rainfall, and the ratio of maximum to minimum flow can reach 10:1. Thus there is a need to increase the country's optimisation capacity to cope with the problem.

What is the EPIRB project doing to help address these issues?

One of the key areas of EPIRB support is the training of our specialists through corresponding seminars, as well as practical on-site training during field surveys. Of particular importance for us is the training on hydromorphological assessment, which is carried out according to EU WFD requirements and has the potential to help the country to establish a system of

hydromorphological classification by adding morphology to our permanent monitoring programme.

Should the EPIRB project be involved with any other particular issues?

While the field surveys in pilot river basins are very important and give our specialists valuable training on hydromorphological assessment, it would also be good for our specialists to learn how to measure the water reserves of snow cover. This is work that has not been done in our country for over two decades, but is very important for making informed decisions.

Another important aspect to be considered in the pilot river basins is climate change and its impact on water resources. While river basin analysis – as well as the analysis of anthropogenic pressures and impacts – are key for the development of river basin management plans, careful attention should be paid to climate change. Of particular concern in Armenia is the forecast vulnerability of water resources due to climate change.

Addressing some of the above-mentioned issues in the scope of the EPIRB work will make this important and highly successful project even more valuable.



Hamlet Melkonyan

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BASIN SPOTLIGHT



Pilot basin challenges identified

One of the key objectives of the EPIRB project is to develop river basin management plans (RBMPs) for the selected pilot river basins, according to the requirements of the EU's Water Framework Directive (WFD). The first stage is to find out the facts and essential details. To this end, initial river basin analysis (RBA) reports for all five pilot river basins have been developed. In addition to providing a general hydrological, geographical and socioeconomic overview, the reports include a preliminary analysis of anthropogenic pressures and their impact on ecosystem degradation. Based on these reports, what follows is a brief summary of pressures that have a significant impact on water bodies in the pilot basins.

Upper Dnieper River Basin: The main pressures come from under-treated or non-treated wastewater discharges, the inadequate management of waste landfills, runoffs and effluents from agricultural activities, animal and poultry farms, and radionuclides from areas contaminated with radiation.

Prut River Basin: The report shows that water abstraction, insufficiently treated urban and industrial wastewater discharges, inadequate waste management, and pollution from diffuse sources such as transportation and agricultural activities have significant impacts on the basin's water bodies.

Chorokhi-Adjaristskali Basin: Water bodies in this basin are subject to significant hydromorphological pressures. The main causes are various

types of water abstraction, such as hydropower, river training and the extraction of sand and gravel.

Akhuryan Water Basin Management

Area: The report identifies wastewater discharges, industrial food processing, solid waste disposal, agricultural activities (livestock breeding and overgrazing), and water abstraction as the principal forces exerting pressures on the basin's water bodies.

Central Kura Basin District: The report for this area points to six main driving forces: water abstraction for irrigation, wastewater discharges, agricultural activities, animal husbandry, solid waste management, flood defence and river training.

The assessment of pressures and impacts is one of the key ongoing processes within the RBMP cycle. The RBA reports will be further reviewed and improved during the RBMP development stage.

The RBA reports are available in full on the project website: blacksea-riverbasins.net/en/downloads-section



• **MEANS OF SUSTENANCE:** Just on the outskirts of Minsk, agricultural production (above) and a landfill site (left) pose different threats to fresh water resources in the Upper Dnieper Pilot Basin.

CAPACITY BUILDING TOPS EPIRB WORKSHOP AGENDA

A series of training workshops are planned within the project to enhance the capacities of beneficiary countries. In November 2013, a two-day workshop focusing on WFD compliance monitoring was held in Chisinau, Moldova, during which the project team leader and various experts assisted representatives of the beneficiary countries in reviewing the development of biological/ecological monitoring programmes and the results of the joint field surveys. A discussion later took place on taking steps towards developing WFD-compliant monitoring and classification systems to be undertaken within the framework of the EPIRB project. National roadmaps were also discussed as a further step towards improvement.

The primary workshop output is a set of recommendations for project beneficiaries regarding system classifications and compliance with monitoring standards.

A tender for preparing RBMPs for the pilot river basins was issued in January, and successful applicants are now being notified. It is vital that final RBMPs are in compliance with the WFD and are consistent in form and content across the range of beneficiary countries. To ensure this, country water management experts will be tracking RBMP implementation on a day-to-day basis from now until plans are adopted in late 2015.

The project technical team, led by Zurab Jincharadze, Key Expert 2, and supported by Birgit Vogel and Tim Turner, will hold a series of practical workshops to help consultants produce RBMPs that are in accord with both the WFD and the statutory requirements of the basin countries. Multi-party roundtable discussions will follow at each critical stage of the plan development process. The first of these workshops to set the scene and discuss salient features of each plan will take place in Minsk on March 20–21. By this time, consultants will have delivered an inception report and begun a detailed analysis of pressures, impacts and risks.

DNIEPER DAY CELEBRATIONS AND VYSHGOROD SEMINAR DRAW PARTICIPANTS FROM UKRAINE AND BELARUS

A seminar was held on October 10–11, 2013, in parallel with Dnieper Day celebrations in Vyshgorod, Ukraine. EPIRB project experts Tim Turner, Nataliia Zakorchevna and Alexander Stankevich each gave presentations about the project's main goals, achievements and upcoming tasks to be performed over the next two years.

Participants had the opportunity to discuss both the interim results of the EPIRB project and the main components of the RBMP for the Upper Dnieper River Basin.

The seminar was attended by representatives from the State Water Agency of Ukraine, the Dnipro Basin Water Management Authority, the Desna Basin Water Management

Authority, the Hydrometeorological Service of Ukraine, and various public and academic organisations. Also attending was a delegation from Belarus, representing the Ministry of Natural Resources and Environmental Protection and transboundary water oblast administrations.

The workshop included:

- a detailed presentation of the EPIRB project, plus a discussion of interim project results in Ukraine and the Dnieper River Basin;
- suggestions on how to prepare an RBMP for the Upper Dnieper; and
- a presentation on environmental measures taken in border areas of the Upper Dnieper River Basin.



• **THE ROAD AHEAD:** The EPIRB project team presented outcomes and plans for the future.

TBILISI HOSTS 2ND RSC

The second Regional Steering Committee meeting, held in Tbilisi, Georgia, on September 18–19, 2013, was attended by more than 40 participants. They included representatives from all project beneficiary countries, EU delegations and members of relevant international project teams.

The Regional Steering Committee meets once a year to review the implementation of project activities, identify and resolve potential challenges to project implementation, and provide guidance on ways forward. The latest meeting provided an opportunity to learn about and discuss progress made over the past year and to plan for the next six months.

Much of the discussion focused on reviewing and planning for the remaining project period in relation to the two main project tasks: the development of WFD compliance-monitoring programmes and the development of RBMPs. The outcomes of the meeting will contribute to the more efficient implementation of future activities in the scope of the project.

All relevant documents and presentations are available from the Downloads section of the project website: blackseariverbasins.net/en/downloads-section

MOVING FORWARD

• **HANDS-ON EXPERIENCE:** Samples are taken during joint field surveys in Georgia (left) and Armenia (right) to assess the quality of surface water.

Providing guidance

During the joint field surveys, two sampling manuals were developed and tested to help increase the capacity of national authorities to monitor the quality of surface water and groundwater in ways that are compliant with the EU WFD.

Manual for Groundwater Field Surveys

This manual covers groundwater characteristics for identified groundwater bodies, in terms of both water quantity and quality (chemical status). The manual gives step-by-step guidance on sampling preparation, required modern groundwater equipment and standard materials, site selection for monitoring, actual sampling procedures, the labelling of sample containers, and the transportation of collected samples to laboratories.

Manual for the Monitoring of Surface Waters

This manual consists of three sections and covers hydrobiological, hydromorphological and physico-chemical surveys.

The *Hydrobiological Manual* focuses mostly on macro-invertebrates and gives a very broad overview of the techniques and methodology used in sampling, analysing, ecological status reporting, data validation, quality assurance and quality control.

The *Hydromorphological Survey Design Manual* provides a detailed description of the methodology and techniques used both in taking hydrological measurements and conducting hydromorphological field assessments. It also includes WFD-compliant assessment techniques for determining the morphological characterisation of channels, lakes, floodplains and bank/riparian zones, as well as hydromorphological site protocols and lake habitat survey forms and protocols.

The *Physico-Chemical Sampling Manual* contains detailed guidance on the sampling and analysis of water quality in the pilot areas. The document is designed to address the WFD requirement on monitoring schemes, including three types of monitoring (surveillance, operational and investigative) and includes the WFD-recommended list of chemical parameters for river basin survey methodology, recommendations on sampling equipment for each parameter, procedures for selecting sampling sites, and sampling techniques and methods. Special attention is paid to quality control techniques for preserving samples according to ISO standards, and internal analytical quality control for analysing collected samples in chemical laboratories.

The manuals are available in the Downloads section of the project website: <http://blacksea-riverbasins.net/en/downloads-section>

CALENDAR

February

- Third project progress report issued

March

- 20–21: Regional RBMP workshop (Minsk, Belarus)
- Adoption of pilot basin communication strategies

April

- Draft guidelines for hydromorphological and chemical status classification
- Draft guidelines on ecological and biological monitoring
- Spring Kura III joint field surveys

May

- 20: Training in water body typology and delineation (Chisinau, Moldova)
- 28–29: RBMP workshops – Assessment of water bodies at risk
- Regional stakeholder conference – South Caucasus

June

- 1–30: National coordination committee meetings
- 15: Sub-regional workshops: Design of operational and surveillance monitoring programmes (Kiev, Ukraine)
- 30: Training in ecological and biological classification methodologies (Tbilisi, Georgia)

July – September

- Joint field surveys II and in-field training

In the Flow is available on the web at: www.blacksea-riverbasins.net

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