

IN THE

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Belarus braces to meet new water challenges



BALANCING ACT: EPIRB project water basins are vital breeding and refuge habitats for the region's birds, such as this young, female common merganser.

What are some of the most challenging issues in your country?

The fundamental principles of our national legislation in the sphere of water use and protection include basin water resources management, improving the ecological status of surface water bodies, and standard setting in the sphere of environmental protection.

The new Water Code of Belarus enters into force on May 21, 2015. The code includes principles for basin management and the improvement of ecological status, and implies the development of RBMPs for five river basin districts in Belarus.

The principle of basin management is intended to protect and rehabilitate water bodies and to ensure the comprehensive use of water resources.

Protecting and rehabilitating affected water bodies involves tasks such as reducing human-induced pressures on water bodies, protecting groundwater from pollution and mitigating already accumulated environmental damage.

How do you plan to achieve your water management-related goals?

The main principles of water protection and use can be implemented through several means, including:

- providing economic incentives for the reduction of water consumption per unit of output and water losses; the reduction of pollutant loads in wastewater discharges; and the elimination of discharges of untreated wastewater into water bodies;
- developing river basin management plans (RBMPs);
- improving the system of monitoring of water bodies;
- ensuring the practical enforcement of environmental regulation principles based on admissible impact standards for water bodies;
- improving the regulations that set standard limits for pollutant levels in wastewater flows discharged into the environment and municipal sewers;
- reducing the use of drinking-grade water for technological purposes; and
- introducing progressive water-efficient technologies and best wastewater treatment methods.

Describe how the EPIRB project is involved in these efforts.

The Environmental Protection of International River Basins project promotes the application of modern management tools and seeks to ensure appropriate water quality through capacity building and in-work training. This will be achieved by developing and implementing RBMPs in selected pilot river basins.

Also, some technical regulations have been developed within the project framework that establish requirements on sampling procedures and the assessment of hydrobiological indicators, as well as requirements on the organisation and carrying out of hydromorphological assessments.

What work remains to be done?

We need to organise an observation system for the assessment of the hydromorphological quality indicators used to determine the ecological status of surface water bodies.

Furthermore, there is a need to introduce automatic and remote-controlled methods to monitor water quantity and quality, and to enhance the technical capacity of laboratories.

It will also be necessary to establish a system to control the impacts of point and diffuse pollution sources in surface water bodies, including units of intensive livestock waste flows.

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BASIN SPOTLIGHT



TEEMING WITH LIFE: Effective monitoring practices benefit native fauna, including the Caucasian salamander, the long-legged wood frog and fish of the order Cypriniformes.



Pilot projects support biological monitoring

The EU Water Framework Directive (WFD) introduced changes in the assessment of water status by setting biological or ecological standards in addition to the chemical standards already in place. Biological monitoring plays an important role in developing our understanding and measuring changes in aquatic environments.

The EPIRB pilot projects outlined below are among the projects assisting beneficiary countries in setting up and carrying out WFD-compliant biological monitoring programmes.

BELARUS: Assistance in the preparation of methodological documentation for WFD-compliant monitoring programmes in support of the implementation of the 2015 Water Code of the Republic of Belarus

This pilot project includes the development of five methodological

documents that will be included in the national legislation on undertaking the hydrobiological and hydromorphological monitoring of surface waters in Belarus in line with EU WFD requirements. The guiding documents (technical codes of practice) include the procedure for sampling and definitions of hydrobiological indicators such as phytoplankton, zooplankton, phytobenthos and macrozoobenthos.

MOLDOVA: Baseline monitoring and design of a WFD-compliant surveillance monitoring programme for Lake Beleu Natural Protected Area on the Lower Prut

The overall objective of this pilot project is to establish a biological, chemical and hydromorphological baseline for the natural lake, and to design a WFD-compliant surveillance monitoring programme according to the provisions

of the new Water Law and secondary legislation for the monitoring of surface waters. Starting in 2015, quarterly (seasonal) baseline surveys will be undertaken over an 18-month period at this Ramsar site.

UKRAINE: Research into the impact of wastewater on ecosystems in the Upper Prut

The pilot projects include research into the impacts of untreated or poorly treated wastewater on reference conditions of water bodies on the Upper Prut. The research will include the preparation of proposals for the management of wastewater in accordance with the EU Urban Waste Water Treatment Directive as well as proposals for a WFD-compliant programme for the monitoring of surface waters in the Carpathian National Nature Park.

THE IMPORTANCE OF ESTIMATING THE ECOLOGICAL STATUS OF WATER BODIES

A practice example from the Kura basin area in Armenia, Azerbaijan and Georgia

The Water Framework Directive provides definitions of “ecological status” and “chemical status” for surface waters. Ecological status refers to the function and quality of the structure of surface water ecosystems and is often measured using one or more metrics derived from taxonomic composition and/or abundance obtained from field samples and/or habitat surveys. A metric usually refers to any biological index or other single value assigned to measure some aspect of the biological community.

The biological elements for such assessments are phytoplankton, fish, and benthic flora and fauna. There is a need to identify biological indicators that respond in a predictable manner to human disturbances and other pressures, and which allow at the same time for the classification of ecological quality based on functional relationships between pressures and indicators. It is necessary to study the biological indicators and classification metrics in each basin so that they can be used for the assessment, comparison and harmonisation of ecological water quality. The ecological status classification derives from the quality component that is most sensitive, while the worst-quality component determines the “overall assessment”.

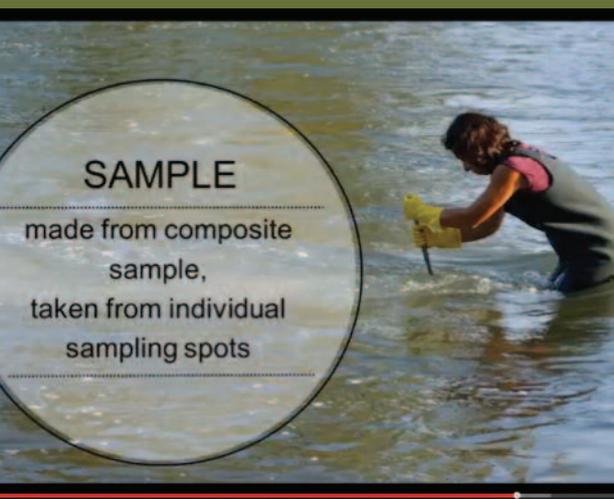
Macroinvertebrates were sampled in the Kura basin during joint field surveys in 2013 and 2014, kicking off the process of biological assessment, while biodiversity components were identified during field studies. There is a plan to add more biological elements in 2015 to the monitoring programmes, such as phytobenthos and macrophytes, which will lead to a fuller understanding of impacts on biological behaviour. Once the sampling is done, results on abundance and diversity will be used to calculate the value of the rapid biological assessment (RBA) index, which is currently under review.

In order to determine the final biological status, the “ecological quality ratio” (EQR) is calculated for each index, after which the values sampled are compared with reference conditions for each typology. The final result for the ecological status of each site is supported by hydromorphological and physical-chemical quality elements and established results on non-priority pollutants. There are plans to carry out ecological status calculations at least once per year over the next six years.

In terms of the biological results for macroinvertebrates, the groups most abundant in the area are Gastropoda, Chironomidae, Simuliidae, Baetidae, Hydropsychidae and Gammaridae. Some of these families are typically from lakes or large rivers, while others are tolerant groups that can survive in different quality conditions — in organically polluted habitats, for example. The results achieved show that at the moment around 55 percent of the water bodies in the Kura basin area have “good” or “high/good” status. The objective for the coming years is to achieve this favourable status for 100 percent of the water bodies.



UNDER THE MICROSCOPE: The following macroinvertebrate groups were among those sampled in the Kura basin: Chironomidae (1-3, 7, 8), Gammaridae (4); and Trichoptera (5, 6). Future monitoring programmes will likely be expanded to include phytobenthos and macrophytes.



E-LEARNING VIDEO ON BIOLOGICAL SAMPLING

A new e-learning video on biological sampling was recently released, based on the guideline materials prepared within the project framework. The video includes brand new images of biological joint field surveys and focuses on pragmatic issues related to the representative sampling of benthic macroinvertebrates from different types of rivers, and which are specific to the EPIRB project. It provides practical recommendations and encapsulates the five principal steps in biological sampling, and it comes together with a downloadable handout for offline use.

The materials are available in both English and Russian on the project website at <http://blacksea-riverbasins.net/en/e-learning-materials>.

MOVING FORWARD



MULTIPLE VIEWPOINTS: Participant rapporteurs present a wide range of policy proposals at a public consultation meeting held on March 17 in Minsk.

Working together to shape the future of our river basins

Water is a vital resource for society, business and agriculture, so the preservation of good water status is extremely important. River basin management plans (RBMPs) are management tools that have been designed to help achieve this. They follow a structured approach – finding out facts, deciding on necessary actions, making a management plan, and putting the plan into practice. Measures are actions that are undertaken to deal with a particular water challenge and to protect and improve the water environment.

In collaboration with the beneficiaries in each project country, draft RBMPs were developed for each pilot basin. These plans contain the main challenges for the water environment and information on what we all need to do to tackle these issues. The draft plans either are, or will be, available on the project website.

The public consultation process welcomes views from all stakeholders, and *your* input matters!

We are pleased to announce the opening of the public consultation process on the draft RBMPs and are soliciting views from all stakeholders in order to decide how best to work together to shape the water environments in the pilot basins. Consultation meetings will be held in each pilot basin, so please check the calendar for details and dates concerning your basin. These meetings

will provide opportunities to learn more about the draft RBMPs (including the planned programmes of measures), to take part in discussions, and to provide comments and proposals on the draft plans.

Your input matters. Your views on the draft plans may also be submitted by email. For details, please visit the project website or obtain further information on the relevant beneficiary websites. All comments collected during the consultation meetings or electronically will be given due consideration during the preparation of the final RBMPs.

We look forward to your participation!

CALENDAR

April

- **6–24:** Surface Water Joint Field Survey Kura III. Azerbaijan, Armenia, Georgia
- **20–24:** Groundwater Joint Field Survey III. Armenia
- **23:** Public consultation meeting (Central Kura). Ganja, Azerbaijan
- **27–30:** Groundwater Joint Field Survey III. Georgia
- **29:** Public consultation meeting (Upper Dnieper). Kyiv, Ukraine

May

- **5:** Public consultation meeting (Prut). Chisinau, Moldova
- **4–8:** Groundwater Joint Field Survey III. Azerbaijan
- **26:** Public consultation meeting (Prut). Yaremche, Ukraine

June

- **10–12:** Biomonitoring training for Caucasus countries. Tbilisi, Georgia.
- **15–19:** Surface Water Joint Field Survey and Gap Filling. Georgia
- **22–26:** Surface Water Joint Field Survey and Gap Filling. Armenia
- **29 June – 3 July:** Surface Water Joint Field Survey and Gap Filling. Azerbaijan
- **30 June:** EPIRB 5th NCC meeting for Georgia.

The above dates are all subject to confirmation. For final dates please consult the online EPIRB calendar, available at www.blacksea-riverbasins.net

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

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