

Environmental Protection of International River Basins

**DEVELOPMENT OF DRAFT RIVER BASIN MANAGEMENT PLAN
FOR A SELECTED PILOT BASIN IN BELARUS
(THE UPPER DNEIPER BASIN)**



INCEPTION REPORT

Prepared by

Central Research Institute for Complex Use of Water Resources, Belarus

with assistance of

Republican Center on Radiation Control and Environmental Monitoring, Belarus
Republican Center on Analytical Control in the field of Environmental Monitoring, Belarus

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ABBREVIATIONS

Belarus	Republic of Belarus
CRICUWR	Central Research Institute for Complex Use of Water Resources (MNREP, Belarus)
CSCP	Communication Strategy and Communication Plan for Upper Dnieper Basin
EU	European Union
MNREP	Ministry of Natural Resources and Environmental Protection of the Republic of Belarus
NEMS	National Environmental Monitoring System of the Republic of Belarus
RBMP	River Basin Management Plan
REC	Regional Environmental Center for Central and Eastern Europe
RCRCM	Republican Center of Radiation Control and Environmental Monitoring (MNREP, Belarus)
RCACEM	Republican Center of Analytical Control in the field of Environmental Monitoring (MNREP, Belarus)
SWC	State Water Cadaster of the Republic of Belarus
Water Convention	United Nations Economic Commission for Europe (UNECE) – Convention on the protection and use of transboundary watercourses and international lakes
WFD	Directive 2000/60/EC of the European Parliament and the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (EU Water Framework Directive)
UCEWP	Ukrainian Center of Environmental and Water Projects of Academy of Technological Sciences (Ukraine)

INTRODUCTION

The present inception report is prepared by specialists of CRICUWR with assistance its partners RCRCEM and RCACEM, within the signed contract Development of draft River Basin Management Plan for a Selected Pilot Basin in Belarus (the Upper Dnieper Basin) in the scope of EU funded project “Environmental Protection of International River Basins”.

River Basin Management Plans are management tool for integrated water resources management defined as a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainable of vital ecosystems.

WFD is the most substantial piece of water legislation ever produced by the European Commission, and will provide the major driver for achieving sustainable management of water in the Europe Union Member States for many years to come. WFD requires all Member States to prepare River Basin Management Plans and Programmes of Measures, designed to prevent deterioration of aquatic ecosystems and to achieve at least good ecological and chemical status for all surface waters within river basin districts by 2015, whenever possible. The main goals of the WFD apply to all rivers, lakes, estuaries and coastal waters. The good status for each type of water body is defined by a set of biological, chemical and physical standards. Groundwater should also achieve good status for both water quality and quantity. WFD also establishes several integrative principles for water management, including public participation in water planning and the integration of economic approach.

Nowadays national water management legislative framework in Belarus does not oblige to develop river basin management plans as it WFD requires. However Belarus takes attempts to approximate water management legislation and practices with relevant EU regulations, including WFD and Water Convention. New version of Water Code (main legislative document in Belarus) implies development of RBMP for 5 river basin districts in Belarus: Neman, Zapadnaya Dvina, Zapadny Bug, Pripyat and Dnieper. New version of Water Code is expected to be approved and signed 2014. Number of national technical legal documents related to river basin management and water quality assessment according requirements of WFD and Water Convention are being developing and expected to be put into practice with approval of new version of Water Code. It should be stressed that in Belarus also draft of technical code of common practices “Rules of development of river basin management plan” is developed.

The Dnieper river basin district is the largest and most significant river basin district in Belarus. The catchment area of Dnieper basin is about 116400 km² - 56% of the total country territory. Main defined threats in the Dnieper basin are:

- Municipal and industrial wastewaters discharged into surface waters;
- Runoff and effluence from agricultural activities, polluting surface waters and groundwaters;
- Radionuclides transfer from the territories contaminated as the result from Chernobyl NPP accident, which washed out to surface waters;
- Transboundary transfer of the pollutants downstream the Dnieper;
- Diffuse pollution from poorly constructed landfill sites.

One of the most effective and progressive means of protection, improvement and sustainable use of the water environment could be considered development of draft Dnieper RBMP in Belarus, as it requires WFD its implementation policy, Water Convention and national legislative framework related to river basin management and water quality assessment.

START SITUATION

Development of draft River Basin Management Plan for a Selected Pilot Basin in Belarus (the Upper Dnieper Basin) by CRICUWR should be considered as consecutive implementation of the EU funded project “Environmental Protection of International River Basins” in Belarus. Draft Dnieper RBMP in Belarus will be based on previously developed documents within the project.

Report on River Basin Analysis: Upper Dnieper River Basin in the territories of Belarus and Ukraine

This document is prepared in March 2013 by RCRCEM from Belarusian side UCEWP from Ukrainian side and contains background information on Upper Dnieper river basin. The main chapters of River Basin Analysis are:

- Basin overview;
- Human activities in the basin;
- Description of anthropogenic pressures and impacts;
- Water quality monitoring including surface water and groundwater.

The document will be used for as base for general description of the characteristics of the river basin district required under FWD Article 5 and Annex II and for a summary of significant impact of human activity on the status of surface waters and groundwater.

Report on water body identification and typology: Upper Dnieper River Basin, Belarus

The document is prepared in August 2013 by Project Key Expert Tatjana Kolcova and Michael Jackman with assistance of Aleksandr Stankevich, Country Water Management Expert for Belarus. The technical implementation of the report was made by local experts of CRICUWR. The report contents following information:

- Criteria and procedure of delineation of surface water bodies;
- Identification and delineation of surface water bodies;
- Summary of delineated water bodies typology;
- Identification of heavily modified water bodies and artificial water bodies;
- Preliminary identification of surface water bodies “at risk”;
- Water bodies within protected areas;
- Mapping of delineated water bodies.

The document will be used as base for surface water quality assessment in hydrobiological, hydrochemical and hydromorphological aspects and identification of reference conditions for the surface water body types as well as for:

- Development of summary of significant pressures and impact of human activity on the status of surface water;
- Development of map of the monitoring programmes and network for surface water;
- Drafting a list of environmental objectives for surface waters;
- Development of a summary of the economic analysis of water use;
- Development of a summary of the programme of measures, including the ways in which the objectives established is thereby to be achieved.

Report on classification of groundwater bodies

The document is prepared in January 2014 by Key Expert on Groundwater Bernardas Paukstys with assistance of Aleksandr Stankevich, Country Water Management Expert for Belarus and specialists of BRGI. The report contains information on all selected pilot river basins within the project. Belarusian part of the report include following issues

- WFD and Groundwater directive requirements in groundwater classification;

- Classification of groundwater bodies in the Upper Dnieper basin
- Impact of human activities on groundwater bodies;
- Environmental problems caused by groundwater abstraction in Minsk.

The document will be used for groundwater quality and quantity assessment as well as for:

- Development of summary of significant pressures and impact of human activity on the status of surface water;
- Development of map of the monitoring programmes and network for groundwater;
- Drafting a list of environmental objectives for groundwater;
- Development of a summary of the economic analysis of groundwater usage;
- Development of a summary of the programme of measures.

Communication Strategy and Communication Plan for Upper Dnieper Basin

CSCP is produced in December 2013 by REC in order to raise awareness around the project and its communication activities, objectives and impacts, and to develop effective, appropriate messaging of interest to the target group and initiatives. CSCP contains following information:

- Legal and policy framework for development RBMP;
- Objectives and goals of the communication strategy for pilot basins;
- Identification of needs and challenges the strategy needs to consider;
- Activities of Communication plan;
- Realization and financing of communication and public involvement activities;
- Monitoring and evaluation of success.

CSCP for the Upper Dnieper basin covers the aspects of communication, information access and public participation during development and implementation of draft Upper Dnieper RBMP.

Incoming environmental data

CRICUWR is going to use variety of initial data sets from national environmental informational systems for the development of draft Dnieper RBMP. For comparison and consistency it is reasonable to use the latest available data sets of the year of 2012. Official environmental data of the year of 2013 will be available in late 2014. It is possible to update environmental data sets with information of 2013 at the Phase 3 Drafting river basin management plan (September 2014 – February 2015) if that data will be available. Hereinafter presented main environmental informational systems in Belarus.

State Water Cadaster of the Republic of Belarus

SWC is interagency database of generalized data of water resources and their usage. SWC includes generalized on administrative and basin scale data on:

- Water resources and hydrometeorological conditions of river flow forming;
- Surface water quality in hydrochemical and hydrobiological aspects;
- Forecasted operational and natural groundwater resources;
- Data on quantity and quality of groundwater in natural and anthropogenic conditions;
- Water intake and water usage data;
- Wastewater discharges and wastewater treatment data;
- Pollution of rivers by wastewaters.

SWC contains the data from the year 2000 and has the annual update period. CRICUWR is responsible for SWC data collection, its analysis and annual publication.

State Registry of Observation Points of National Environmental Monitoring System of the Republic of Belarus

State registry of observation points of NEMS contains information about the location of the observation points by type of monitoring (region, district and settlement), register number, beginning of observations, frequency of observations and organization carrying out the monitoring.

Database of hydrobiological observations of the aquatic ecosystems of the Republic of Belarus

The database is maintaining in the scope surface water monitoring of NEMS and contains data on phytoplankton, phytoplankton, zooplankton, macrozoobenthos. The database contains information from the year of 2002 and has monthly update period. RCRCEM is responsible for hydrobiological data collection, its analysis and annual publication.

Database of hydrochemical observations of surface waters of the Republic of Belarus

The database is maintaining in the scope surface water monitoring of NEMS and contains data on state of surface water resources using hydrochemical indicators. The database contains information from the year of 2003 and has monthly update period. RCACEM and RCRCEM are responsible for hydrochemical data collection, its analysis and annual publication.

Database of groundwater monitoring of the Republic of Belarus

The cadaster contains data on the groundwater state at groundwater monitoring stations of NEMS (quantity and quality). Scientific and Production Center for Geology of MNEP is responsible for maintaining the database.

Database of observations local monitoring of the Republic of Belarus

The database is maintaining in the scope of local monitoring (surface water and groundwater) of NEMS. Observations of local monitoring are carrying out by enterprises with environmentally hazardous activities. RCACEM is responsible for local monitoring organization and control, including the database maintaining.

CRICUWR also is going to use supporting available official information regarding water resources and environmental protection in Belarus:

- Statistical reporting data of water users;
- Informational publications of NEMS;
- Environmental Bulletin of the Republic of Belarus.

To cover the gaps in data available CRICUWR is going to use data of joint field survey 2013 in Belarus regarding surface water and groundwater studies in scope of the project and support required joint field surveys in 2014.

METHODOLOGY

The integrated water resources management approach and development of RBMP help to manage and develop water resources in a sustainable balanced way, taking into account of social, economic and environmental interests. It recognizes different and competing interest groups, the sectors that use and abuse water and the needs of environment.

Development of draft Upper Dnieper RBMP can be considered as innovative, pioneering project in Belarusian river basin management because such kind of plan is developing for the first time. Development of draft Upper Dnieper RBMP will use WFD methodology and national approaches fixed in draft technical code of common practices "Rules of development of river basin management plan".

CRICUWR in association with RRCCEM and RCACEM with participation of specialists from Belarusian Research and Production Center for Geology provide following steps for development of draft Upper Dnieper RBMP:

Inception Phase

This phase provides **Deliverable 1**: Inception report outlining CRICUWR and its partner's appreciation and implementation methodology with deadline March 17 2014.

Phase 1: Identification of Pressures/Impacts and Water Bodies at Risk

This phase implies collection of information and data on impacts on the surface and groundwater bodies relating to anthropogenic pressures (hydromorphological alterations, point / diffuse source pollution, from agriculture / irrigation, mining, industry, wastewater, energy generation, pollution by hazardous substance etc.) at the water body level, including:

- Identification of point and non-point source pollution on each water body, assessment of their loads and significance of pressures / impacts on water bodies to risk the achievement of the WFD environmental objectives;
- Identification of significant hydromorphological alterations including:
 - Interruption of river/habitat continuity and fish migration;
 - Significant morphological alterations of rivers and lakes;
 - Significant water abstraction of surface and ground water resources, or other flow regulation activities.
- Identification of artificial recharge, rates of abstraction and natural recharge to the aquifers; examination of the land use in the groundwater recharge catchments;
- Comparison of total abstractions from the groundwater body against the total recharge and identification of possible threats to groundwater chemistry and groundwater levels;
- Identification of significant water management issues and basin wide threats to surface and ground water status;
- Establishment of risk criteria to assess the possible risk to achieve the WFD environmental objectives;
- GIS mapping of water bodies and water body groups at risk.

The phase 1 provides following deliverables:

- **Deliverable 2**: Pressures and Impacts Report outlining the pressures and threats driving the impacts on ecological conditions of each water body and significant water management issues with deadline May 19 2014;

- **Deliverable 3:** Water Bodies at Risk Report including the risk criteria, environmental objectives in short/medium and long term and mapping of water bodies at risk with deadline June 30 2014.

Phase 2: Identification of National and Basin Wide Program of Measures

This phase implies identification of basic measures such as measures to achieve good status for water bodies at risk and identification of supplementary measures:

- Improvement of legislation enforcement and compliance assurance;
- Improvement and enforcement of point source discharge quality standards;
- Measures to help recovering water services and application of economic instruments;
- Water demand management measures;
- Measures to fill in data gaps.

Also the phase provides economic analysis:

- Costing of basic measures;
- Costing of supplementary measures;
- Cost-effectiveness analysis of the proposed measures.

The phase achieves following deliverables:

- **Deliverable 4:** Environmental objectives for the Upper Dnieper basin with deadline July 28 2014;
- **Deliverable 5:** Programme of measures outlining a short-medium and full national and basin-wide program of measures, covering basic and supplementary measures with deadline September 29 2014;
- **Deliverable 6:** Economic analysis and prioritised measures report with deadline August 31 2014.

Phase 3: Draft river basin management plan

This phase compiles draft of Upper Dnieper RBMP including

- Update of river basin assessment;
- Update of pressure-impact analysis;
- Update of water status classification;
- Support in RBMP with public involvement and CSCP.

The phase 3 provides **Deliverable 7:** Draft River Basin Management Plan with deadline January 31 2015.

CRICUWR is the responsible organization for achieving deliverables described above and their approval by MNREP.

**List of persons involved in development of draft Upper Dnieper River Basin Management Plan
in Belarus**

Name	Organization	Related activities	Contacts
Vladimir Korneev	CRICUWR	Administration / water management / programme of measures	v_korn@rambler.ru
Kanstantsin Tsitou	CRICUWR	Administration / water management / hydromorphological alterations / GIS support	ktsitou@gmail.com
Snegana Dubenok	CRICUWR	Water management / economic analyses	dsnega@list.ru
Aliaksandr Pakhomau	CRICUWR	Water management / pressures and impact analyses / GIS support	aliaksandr.pahomau@cricuwr.by
Alena Bahadziash	CRICUWR	Water management / surface quality assessment (hydrochemistry)	81278@mail.ru
Lubov Hertman	CRICUWR	Water management / pressures and impact analyses	lubov.hertman@yandex.ru
Gennadij Tishchikov	RRCCEM	Surface water quality assessment (hydrobiology)	genti@mail.ru
Liudmila Nupriyonak	RCACEM	Surface water quality assessment (hydrochemistry)	nln@tut.by
Olga Vasniova	RPC for Geology	Groundwater quality and quantity assessment	olgavasn@tut.by
Vasilij Pashkevich	Institute for Nature Management	Groundwater management / programme of measures	v.i.pashkevich@yandex.ru