



4th Annual Forum of EU Strategy for the Danube Region

Workshop: ***Improvement and cooperation
possibilities in the water sector with non-EU countries***

**Water Management issues, main challengers and
possibilities of cooperation in Water River
Basin Governance in Republic of Moldova.**

ULM, Germany, 29.10.2015

Basin Water Management Authority of Moldova

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Content of PPT

1. General information
2. Legal framework
3. Water Governance
4. EU Association Agreement and obligation on implementing WFD
5. Developing Prut River basin management plan with the support of EU project (EPIRB)
6. Pilot projects implemented in Prut river basin
7. Cooperation with ICPDR and developing proposals for developing composite RBMP for Romania, Moldova and Ukraine.
8. Main conclusions

General Information about Moldova



REPUBLIC of MOLDOVA:

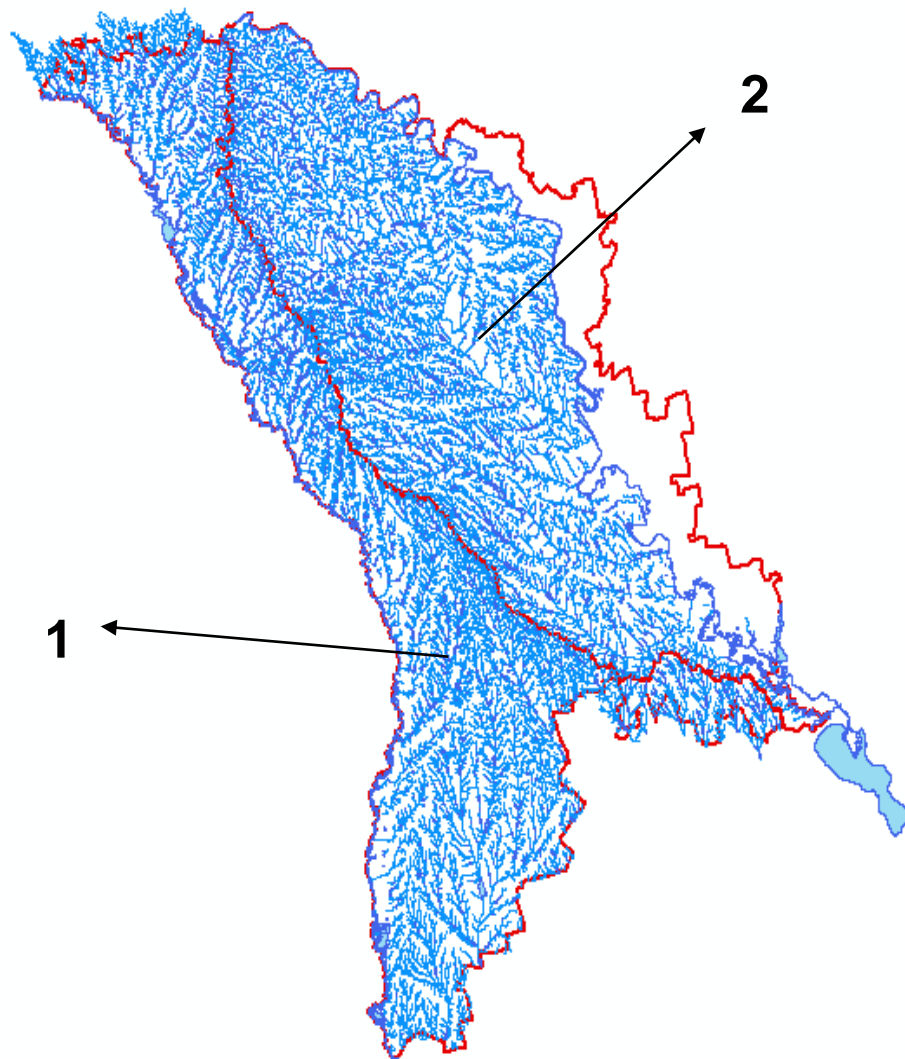
- Situated in the south-east, bordering Romania to the west and Ukraine to the north, east and south.
- The total length of the border is 1389 km, 690 km with Romania that coincides almost entirely on the river Prut.
- The area 33.7 000 km²
- Capital - Chisinau
- Population – 3.6 million inhabitants.
- The landscape is fragmented, represented by a series of relatively low plateaus and plains.
- The climate is temperate continental.
- Is divided into 32 districts, five cities and two regions with special status



Hydrographic basin districts
According to new Water Law nr. 272 from 23.12.2011

River basin districts:

- 1. Danube-Prut Black Sea**
- 2. Dniester**



The hydrographic network

(attributes)

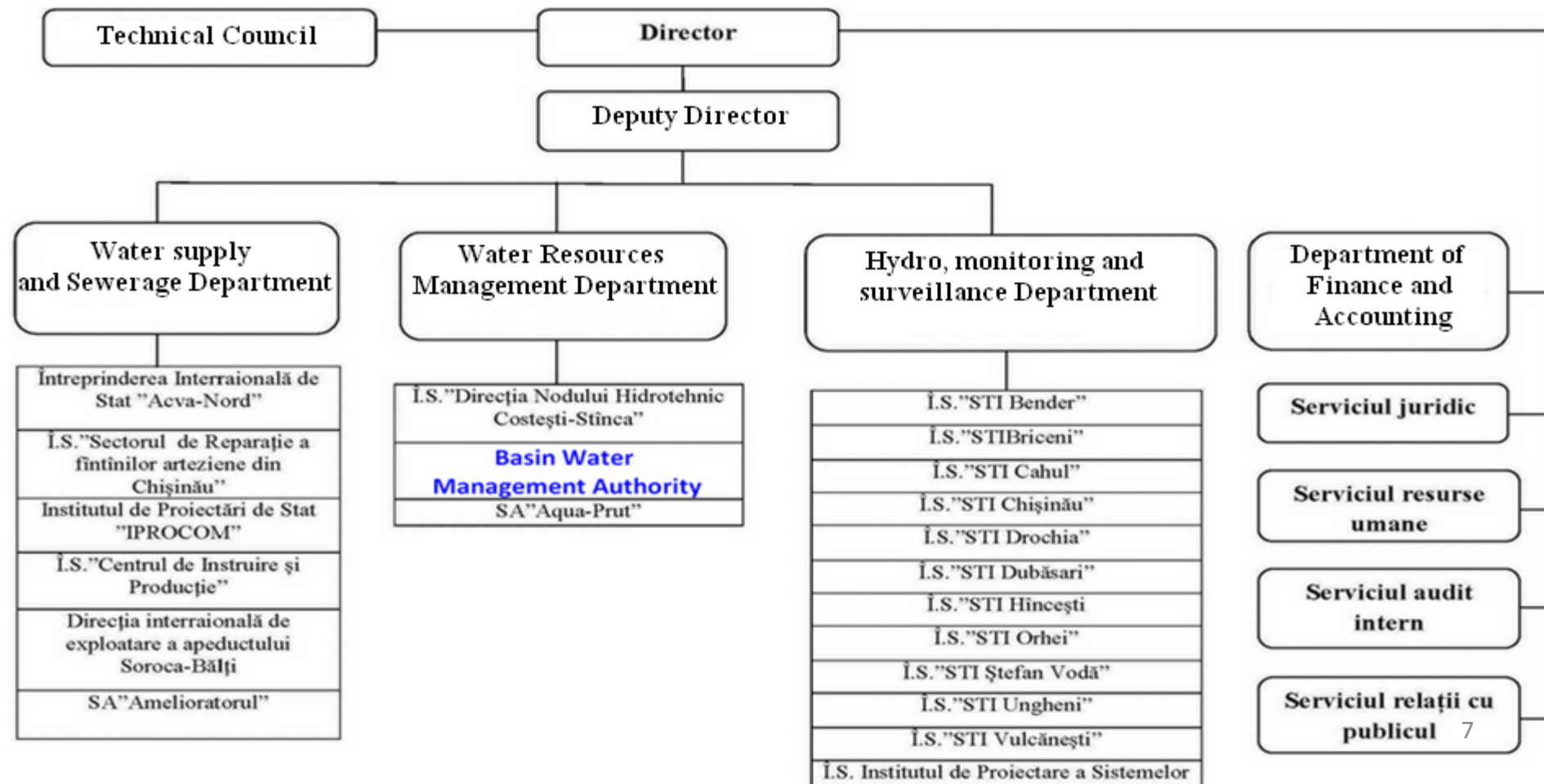
River	Length, km	Surface of the bazin, km ²	Annual Average flow, mln. m ³	Average flow, m ³ /s
Nistru *	1352 (657) **	721000 (19070)**	10700	330
Prut *	976 (695) **	27500 (7990) **	2906	92
Dunărea *	2857 (•1) **	817000 (8350)**	203000	6500
Răut	286	7760	313	9,9
Bâc	155	2150	91,3	2,9
Botna	152	1540	33,6	1,1
Ichel	101	814	20,5	0,7
Cubolta	100	947	61,0	1,6
Ialpug *	142 (135) **	3180 (3165)**	91,2	2,9
Cogâlnic *	243 (125) **	3910 (1030)**	59,1	1,9
Căinari	113	835	46,8	1,4
Ciuhur	97	724	21,8	0,7
Cahul *	39	605	9,2	0,3

Main Stakeholders in water sector

- **The Ministry of Environment** - the key resource responsible for developing policies in water management
- **Agency „Apele Moldovei” (Waters of Moldova)** - managing the water resources implementing RBMP;
- **Agency for Geology of the Republic of Moldova (AGeoM)** - part of the Ministry of Environment and is responsible for managing underground water resources, including groundwater.
- **State Hydrometeorological Service** - part of the Ministry of Environment, responsible for monitoring the state of the environment in the country, monitor service quality and quantity of surface waters in Moldova;
- **State Ecological Inspectorate (SEI)** is a regulatory and enforcement institution of environmental protection and carry out state control over rational use and protection of all natural resources;
- **Ministry of Construction and Regional Development** - responsible for developing, promoting and implementing state policy for regional development, land planning etc.;
- **Ministry of Health** - one of its main responsibilities lie with the National Center for Public Health (NCPH), regarding the drinking water quality;
- **National Agency for Energy Regulation (ANRE)** - the institution responsible for the development of methodology for calculation, approval and implementation of public services tariffs on water supply, sewerage and wastewater treatment etc.

Agency " Waters of Moldova "

Agency " Waters of Moldova " – is the administrative authority responsible for implementing the state policy in the field of water resources management, hydrological, water supply and sanitation, which operates under the umbrella of Ministry of Environment (Government Decision nr. 882 from 14.10.2014).



Basin Water Management Authority

The main Activities:

- The Enterprise is in the subordination of the State Agency "Moldova's Waters" and its entrepreneurial activity is based on the management of public property that was transmitted: 39 lakes, ground water fund.
- The coordination of water use permits, gather statistical info regarding water limits, manage the DB, "Water Cadastre" (the statistics for water use), annual report in excel files, no graphical support
- Data exchange (National Bureau of Statistics, Apele Moldovei, Hidrometeorological service etc.)
- The Economic and population needs analysis in water resources, taking action on the rational use of water resources.
- Ensure the collection, processing and data generalization of state statistical reports on the use of water resources.
- International and National Cooperation, drafting project proposals.

Today's main task is:

- The Management of Water Resources using Geographic Informational Systems (GIS) based on the WEBGIS

Legal Framework

- The Moldovan Constitution from 29.07.1994;
- Law nr.1347 of 09.10.1997 regarding the industrial and domestic waste;
- Law no. 272 of 10.02.1999 regarding drinking water;
- Law 1402 of 24.10.2002 regarding public utility services;
- Law no. 436 of 28.12.2006 regarding local public administration;
- Law No. 10 of 02.03.2009 regarding state supervision of public health;
- Water Law no. 272 of 23.12. 2011 and 19 acts of the Government regarding the implementation of this law;
- Law no.303 of 12/13/2013 of the public service of water supply and sanitation;
- Law no. 112 of 07/02/2014 for the ratification of the Association Agreement between the Republic of Moldova, on one hand, and the European Union and the European Atomic Energy Community and its Member States, on the other hand;
- GD. 934 of 15.08.2007 "On the establishment of automated information system" State Register of natural mineral waters and soft bottled drinks";
- GD No. 199 dated 03.20.2014 on approving the Strategy for Water Supply and Sanitation (2014-2028).

Water Governance in Moldova (1)

1. Water Framework Directive and other daughter directives (urban waste water, nitrates) were partly harmonised in new water law.
2. Regulation # 866 of 01.11.2013 on Approval of Provisions on Procedures for Development and Review of Basin District Management Plans
3. Principle of Hydrographical Basin river is main approach in water management.
4. Development of River BASIN MANAGMANT PLANS for 2 river districts (Dniester, Danube-Prut and Black Sea) and on subbasin level.
5. Public consultations and involving civil society in water transparent water governance.
6. Creating River basin Committees for 2 river districts and councils at sub-basin level (Cubolta, Camenca, Larga etc.)

Water Governance in Moldova(2)

- **Water law follows a 6 year planning cycle with well-defined steps :**
 - **River Basin Management Plans and Programmes of Measures in 6 year cycles 2016-2022**
 - **In 2016 Ministry of Environment will present for approving to Government 2 RBMP:**
 1. **RBMP for Dniester River District is developed with support by MCC project, 2015**
 2. **For Danube-Prut and Black Sea is developed by EU project EPIRB, 2015-2016)**
 - **A body in charge of water management shall review and update the Plan every 6 years according to the procedure set in these Provisions.**

Country commitments to the WFD after 27.06.14.

Republic of Moldova under the **EU Association Agreement** is committing the following:

- 1. Development of provisions of the River Basin Management Authority (Article 3 of Directive 2000/60/EU); should be implemented within 3 years.**
- 2. Determination of areas of river basins and the creation of mechanisms of international rivers, lakes (Article 3); should be implemented within 6 years.**
- 3. Analysis of the characteristics of river basin districts (Article 5); should be implemented over 6 years.**
- 4. Introduction of water quality monitoring programs (Article 8); should be implemented within 6 years from the date of entry into force of this Agreement.**
- 5. Preparation of river basin management plans, conduct public consultation and publication of these plans (Article 13 and 14); should be implemented within 10 years.**

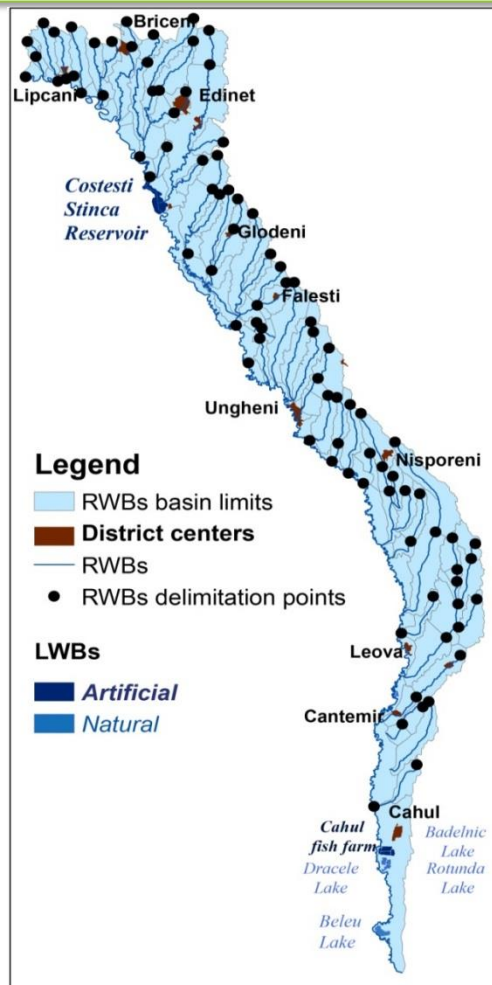
!!! WFD is extremely complex legislation requiring new techniques, improved capacities, investment and in some cases institutional reform. There has to be long-term planning in the development of monitoring systems and River Basin Management – it is currently only short term, often linked to technical assistance.

The current RBMPs address

1. *Point source pollution*
2. *Diffuse source pollution*
3. *Hazardous substances pollution*
4. *Hydromorphological alterations*
5. *Climate changes issues*
6. *Flood risk management*

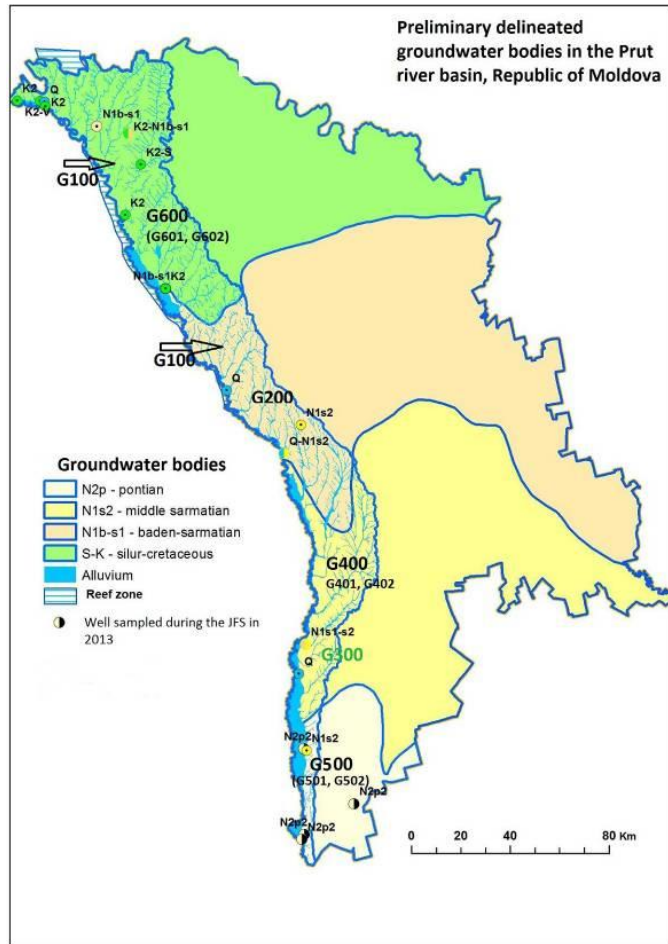
<http://www.apemoldovei.gov.md/libview.php?l=ro&idc=130&id=682>

RBMP for Prut river basin is main step in implementing Danube RBMP (2015)



Name of Pilot River Basin	The Prut River Basin (MD)
Pilot catchment area size	8140 km ²
Length of pilot river network	2164.1 km
Number of water bodies <i>RWB river water body</i> <i>LWB –lake water body</i>	RWBs – 89 LWBs – 7 GWBs – 9
Average length of water bodies	RWBs - 24.3 km RWBs over 100km - 2
Average basin area of water bodies	94 km ² , RWBs basins area less 100 km ² - 61

Ground water body delineations



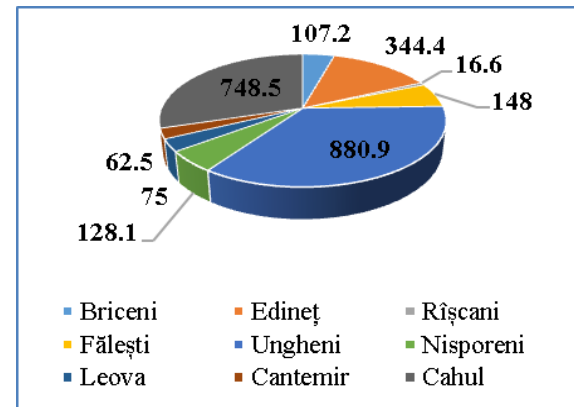
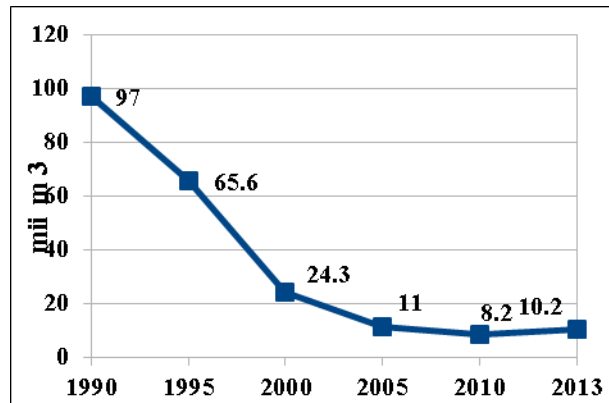
Preliminary delineation of GWB. Prut MD river basin- 9 water bodies

Name of the aquifer	Water bearing sediments	Number of identified GWB	Temporary codes of GWB
Holocene alluvial aquifers in Prut river valley and all it's terraces (aA ₃)	Sand, gravel, sandy loams	1	G100
Baden Sarmatian aquifer system (N ₁ b+S ₁)	Limestone with interlayers of fine grained sand sometimes clays and marls	1	G200
Upper Sarmatian Meotic aquifer system (N ₁ S ₃ +m)	Fine grained sands in a form of disconnected lenses	1	G300
Middle Sarmatian (Congeriev) aquifer (N ₁ S ₂)	Fine grained sands with interlayers of clays, sanstones and limestones	2	G400 (G401, G402)
Upper Neocene Pontian aquifer (N ₂ p)	Sandy clays with interlayers of sand and shell limestone	2	G500 (G501, G502)
Silurian-Cretaceous aquifer system (S ₂ -K ₂)	Limestone, sandstone, with interlayers of Silurian marls and argilites	2	G600 (G601, G602)

Main types of pressures in the Prut R.B.

The type of pressure	Basin/Water body	Comments
Wastewater discharge	Ciuhur, Racovăț, Șovăț, Prut (downstream of Ungheni)	Discharges of untreated or insufficiently treated wastewaters
Agricultural activities	All the water bodies	The agricultural lands occupy 76.8%. Over 50% of the basin is occupied by arable lands. Riparian protection strips are absent in most of water bodies.
Unauthorized dumps	All the water bodies	The lack of authorized dumps in most settlements. Riparian protection strips are absent in most of water bodies.
Interruption of longitudinal continuity of rivers	Racovăț, Camenca, Gîrla Mare, Șoltoiaia	The construction of reservoirs and ponds on water streams.
Embankments and irrigation channels	The lower course of Prut River	Construction of flood protection embankments near the Prut riverbed and the high density of irrigation canals.
Fishery	Fishery Cahul Lakes, Manta	water resources abstraction from Prut river for artificial water body, Cahul Fish Farm limits water resources of Manta Lake.
Water abstraction	All the water bodies	One of the main problems are unauthorized abstraction of water from small and medium rivers. Another problem associated with the impact on water resources is violations of protection areas of abstractions points of both surface water as well as groundwater.

Wastewater discharge in the Prut river basin



**The dynamics of total wastewater disposal
in the basin of the river Prut (1990-2013)**

Source: Yearbook State Ecological Inspectorate

**Total discharge in 2013, th m³ by
administrative districts**

Risk assessment results

Hydromorphological alterations and pollution (Principle: One-Out-All-Out)

Type	Not at risk		Possible at risk		At risk	
	Number of RWBs	Total lengths, km	Number of RWBs	Total lengths, km	Number of RWBs	Total lengths, km
Hydromorphological alterations	-	-	57	1317	26	835
Percentage	-	-	69	61	31	39
Pollution impact	-	-	1	50	82	2102
Percentage	-	-	1	2	99	98
Overall impact	-	-	1	50	82	2102
Percentage	-	-	1	2	99	98

draft

**Programme of Measures on the implementation of the Prut River Basin
Management Plan (2016-2021)**

No.	Measure	Priority class	Estimated cost, thousands MDL
1	Improving the monitoring program for the surface water bodies	1	9000
2	Improving the monitoring program for the groundwater bodies	1	2222,964
3	Progressive reduction of pollution from point sources	1	685708,5
4	Extending and restoration of natural habitats	2	25 573,6
5	Sustainable use of water resources	1	-
6	Progressive reduction of pollution from diffuse sources	2	-
7	Protection of drinking water sources	1	-
8	Improvement the population access to water and sanitation	1	705000
9	Flood risk management measures	3	52630
10	Measures to mitigate drought risk	3	6 100
	Total expenses		1486235,064

Pilot projects implemented by EPIRB in the Prut River basin 2014-2016

1. *“Initial Development of Water Resource Management Information System (WRMIS) including GIS mapping of water abstraction and wastewater discharge locations for the Prut pilot area in the Republic of Moldova”.*
2. *„Refurbishment of ground water monitoring network for the assessment of factors influencing ground water quality in Prut river basin”.*
3. *“Baseline monitoring and design of WFD compliant monitoring programme for Beleu Lake from the “Lower Prut” Protected Area”.*

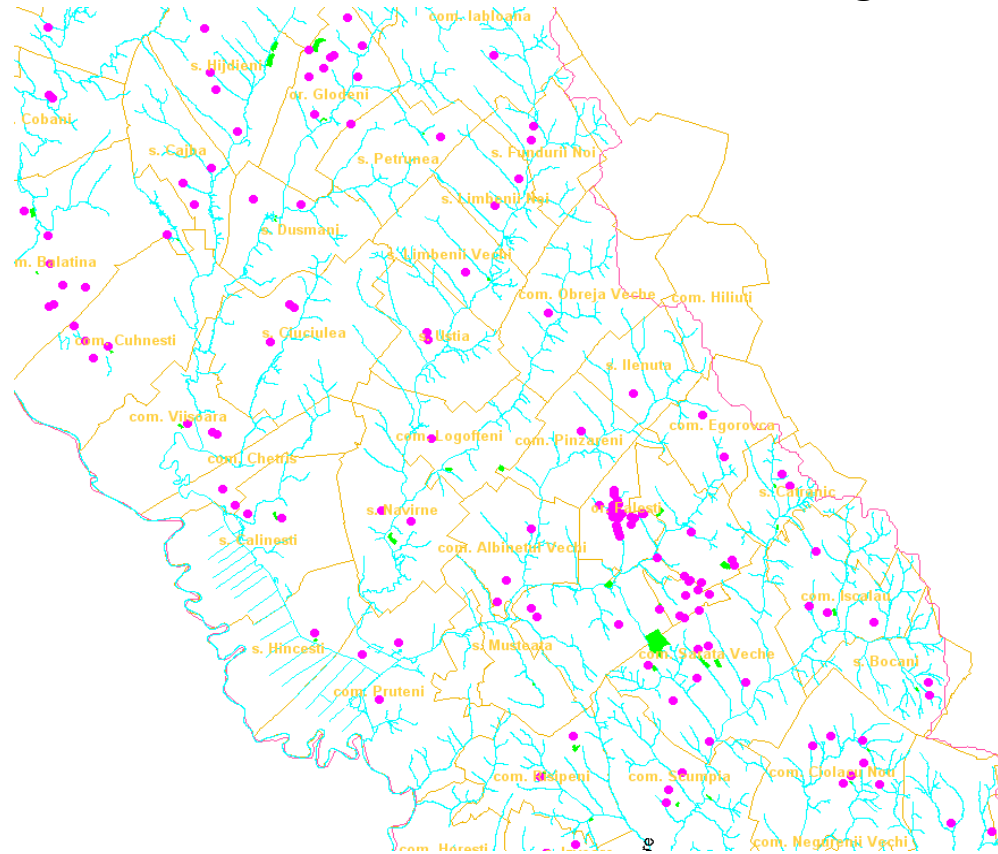
Pilot project 1. Results of infrastructure assessment

Prut river basin, Moldova

Groundwater catchment points by wells - 853 points

Wastewater treatment plants – 159, of which 24 are functioning

WWW.GISMEDIU.GOV.MD



17 towns use for the centralized water supply network the wells spring (Cărpineni Pogănești, Iurcenii etc.)

Are operating 36 factories for grapes processing, two sugar factories (Falesti, Glodeni), 7 factories for cans production



*Wastewater balance based on
the reports of operators from
Prut basin*

Sources: google.maps

Bing.maps

Ortofoto 2007

Treatment Plant UNGHENI

Ex: WWW.GISMEDIU.GOV.MD

Ministerul Mediului x

gismediu.gov.md/en/default/map#lat=210520.532265&lon=288897.936017&zoom=0

Layers

All layers ▼	☑	🌐	ABC	✎
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dbga_work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water users y. 2013	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discharge points	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discharge points basin r.Botna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water catchment points	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
_work_polygon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lakes: property of RM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Rezervații de resurse	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Rezervații peisajere	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mixte	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De plante medicinale	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silvice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sectoare reprezentative cu vegetație silvică	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hidrologice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geologice și paleontologice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parcuri naționale	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rezervații științifice	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arbori seculari	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
habitat_types	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Legend

Ministerul Mediului
2015-02-10

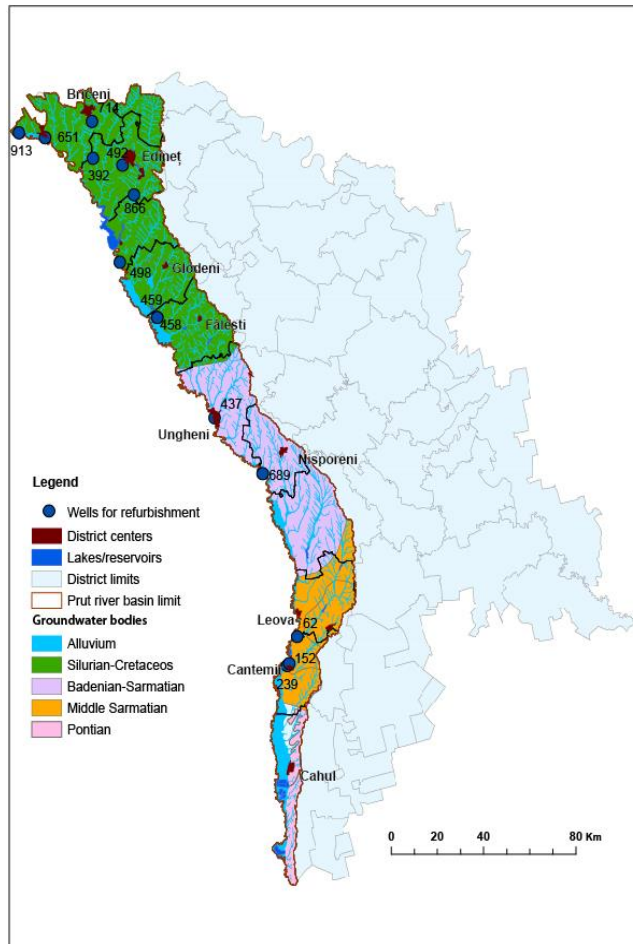
UTA Găgăuzia

r-ul. Soroca
r-ul. Florești
r-ul. Singerei
r-ul. Fălești
r-ul. Ungheni
r-ul. Orhei
r-ul. Criuleni
r-ul. Anenii Noi
r-ul. Hîncești
r-ul. Ialoveni
r-ul. Căușeni
r-ul. Cimișlia
r-ul. Taraclia

Ministry of Environment, National geospatial data fund

Developed by VEC 1.4.2

Pilot project 2 GW monitoring.

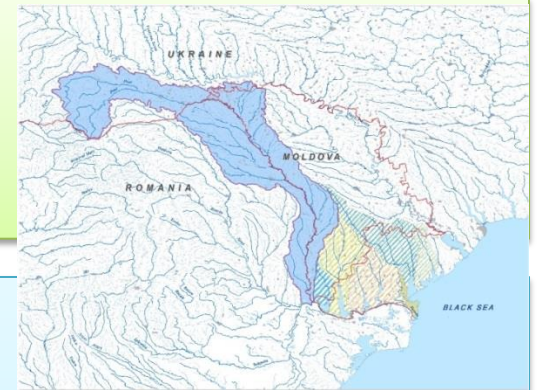


Pilot project 3.

SW monitoring of natural lakes



Prut - Transboundary river basin (waters do not recognise boundaries)



1. The Prut Basin - trans-boundary area between Ukraine, Moldova and Romania
1. The Prut is part of the greater Danube basin and thus Ukraine and Moldova have reporting obligations against ICPDR
2. Fulfilling these obligations will motivate further approximation of Ukraine and Moldova towards the EU WFD-compliant assessment methodology of RBMP process
3. Consulting Romanian and Ukrainian partners in developing RBMP and sharing experience.
4. EPIRB project created trilateral Prut Working group. Next meeting will be organised on 26 of November in Chisinau.

Main Conclusions

1. Reorganization in water management sector according provisions of WFD and Water law, EU Association Agreement.
2. Adopting by Governmental decision RBMP for Danube-Prut and Black Sea River basin district
3. Cooperation with EU transboundary country Romania,
4. ICPDR and Prut Working group
5. Implementing Programme of Measures through pilot projects and cooperation with Danube region countries
6. Implementing WFD, Directive on nitrates and urban waste waters and other EU directives.
7. EU Strategy for Danube region

Thanks for your attention !
Mulțumim pentru Atenție !
Danke !

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Prut RBMP eng. Version: <http://blacksea-riverbasins.net/en/>

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