

Notification

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Plan or Program Information

Name of the plan or program:

Nistru River Basin Management Plan, Cycle II (2024-2029).

Justification of the need to prepare the plan or program:

The Nistru River Basin District Management Plan (hereinafter – Management Plan) has been prepared in accordance with Article 19 of the Water Law No 272/2011.

The Management Plan, Cycle II (2024-2029), is a revised and updated document based on the Nistru River Basin District Management Plan for 2017-2022. The plan's revision was carried out per the provisions of Chapter V of Government Decision No 866/2013, which approved the Regulation on the procedure for developing and revising the River Basin District Management Plan. Thus, the Management Plan, Cycle II (2024-2029), will contribute to:

➤ achieving the objectives set out in the policy documents included in the priority areas for the development of a healthy environment to improve the quality of life of the population and aquatic ecosystems (National Development Strategy “Moldova 2030”, approved by Government Decision No 377/2020, 2014-2023 Environmental Strategy and the Action Plan for its implementation, approved by Government Decision No 301/2014, Water Supply and Sanitation Strategy (2014-2030), approved by Government Decision No 199/2014, Government Decision No

1063/2016 approving the National Program for the implementation of the Protocol on Water and Health in the Republic of Moldova for 2016-2025);

- achieving the targets set out in the Sustainable Development Goals (SDGs) on ensuring the availability and sustainable management of water resources, minimizing water pollution, improving water use efficiency in all economic and social sectors, and enhancing the protection of water-related ecosystems. The objectives also include aspects of sustainable water resources management, including through international cooperation and the involvement of local and regional communities in integrated water resources management.
- the implementation of the provisions of the Water Framework Directive (Directive 2000/60/EC), transposed by the Water Law No 272/2011;
- the implementation of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 17 March 1992) promotes the implementation of integrated water resources management, including the protection and use of water resources.

Central and local public authorities, civil society, the Nistru River Basin District Committee, sub-basin committees, and external donors are the stakeholders involved in developing and implementing the management plans.

Purpose of the Document

The Management Plan aims to protect, improve, and maintain water resources' ecological condition and sustainable management under drought and flood conditions. **The general objectives** are set to protect water resources, reduce water pollution and improve public health, achieve a “good ecological” status of water for human consumption, reduce pressures from hydro morphological changes and adaptation to climate change, improve integrated water resources management, including during droughts and floods, and improve the status of water resources as a significant factor.

The Management Plan is divided into the textual part and the action plan. The latter was developed after analyzing the existing pressures within the Nistru River basin district to protect and improve the status of water resources.

Thus, the management plan is a tool for the practical implementation of measures to protect, conserve, sustainably use, and implement integrated water resources protection systems.

Document Content

The Management Plan contains the following three general objectives:

General Objective 1 aims to improve the quality of water resources by reducing the amounts of pollutants discharged into the water bodies of the Nistru River basin district. To achieve this objective, specific targets are set to prevent, reduce, and mitigate pollution of water resources from point and diffuse sources/agricultural activities.

The activities planned under this objective aim to achieve the expected results centered on reducing pollutants' discharges into water resources and improving water quality. Implementing the

activities proposed under Objective 1 is planned to contribute to improving the quality of water supply and sanitation services provided to the population by the water supply and sanitation operators managing these systems. Thus, the population will benefit from adequate living conditions by constructing and expanding water supply and sanitation systems.

General Objective 2 provides for adaptation to climate change in water resource management and mitigation of hydromorphological change pressures. To achieve this objective, specific stormwater management activities and activities related to flood and drought risk management have been identified.

Accordingly, measures have been developed to regulate stormwater collection and treatment to improve stormwater management and minimize anthropogenic impacts on water resources. Methods have been used to prevent stormwater pollution in water bodies. The use of rainwater harvesting/retention technologies for irrigation will allow for the sustainable use of water resources and the application of low-impact infrastructure. In addition, the treatment of stormwater collected into sewerage systems with subsequent treatment at wastewater treatment plants will significantly reduce the flow of pollutants into water bodies.

This objective will address flood risk management by improving the situation in the natural ecosystems of the river basin district's sub-basins. Moreover, strengthening the capacity of environmental laboratories by equipping them with equipment and creating a database will maintain the hydrological and hydromorphological monitoring system.

Activities are also envisaged to dredge ponds and water bodies to improve the quality of water resources and the condition of aquatic habitats.

General Objective 3 provides for good governance and optimization of integrated water resources management capacities. The specific objectives will contribute to improving the regulatory framework and identifying mechanisms to be applied in water resources management in line with EU requirements. Moreover, the measures established for surface and groundwater quality monitoring will bring monitoring programs in line with the Water Framework Directive 2000/60/EC standards and improve reporting on the progress and analysis of water quality. Thus, implementing the measures set out in this objective will contribute to streamlining the water resources management process through an accessible data platform and the access and involvement of all stakeholders in the field of water resources management.

The main environmental protection aspects included in the draft plan or program;

The Management Plan contains a set of measures focusing on the integrated management of water resources by protecting them and limiting the risks of pollution and hydromorphological changes.

The priorities identified for water bodies at risk of hydromorphological changes.

To reduce pressure on flows:

– ensuring environmental flows in rivers (e.g., controlled discharge from lakes and ponds of flows required for optimal environmental conditions downstream);

– creating optimal flow continuity conditions, particularly for sediment transport (management).

For the pressure category – sediment dynamics:

- improving the continuity of sediment transport through proper management of dams;
- removal of silt and regulation of sediment extraction;
- cleaning clogged ponds/lakes (e.g., in the Ciuluc River basin).

For the pressure category – morphological changes:

- improving the condition of aquatic and riparian habitats (re-naturalization) (beds of the Nistru River and the rivers Botna, Bîc, Răut, etc.);
- supporting hydraulic engineering measures for the morphological restoration of watercourses.

To prevent hydro morphological changes:

- development/verification/harmonization of technical regulations for the operation of water bodies;
- development of methodology for cleaning of clogged lakes/ponds;
- strengthening of the hydrological monitoring system.

The most important means of mitigating and preventing the consequences of prolonged drought is natural water retention, which includes a set of measures:

- restoration of floodplains and wetlands (middle reaches of the Răut River, lower reaches of the Bîc and Botna Rivers);
- afforestation;
- promotion of conservation agriculture (increasing the water retention capacity of agricultural land) – applies to the whole district;
- creation of small ponds for rainwater harvesting – applies to the whole district;
- promotion of low-water-consuming agricultural crops and prohibition of water-intensive agricultural crops in water-scarce areas;
- implementation of an insurance mechanism (against drought) for agricultural land;
- conducting studies to assess the current and potential impacts of climate change on water bodies;

Floods pose a risk to the Nistru River basin district, and implementing flood risk management measures is essential in preventing and mitigating floods. Flood risk mitigation and prevention measures include:

- development of feasibility studies for the creation of new wetlands;
- creation/restoration of wetlands and re-naturalization of rivers;
- provision of institutional support through technical assistance;
- updating of legislation on flood risk prevention and management.

Main areas and timelines for implementation:

The management plan shall be included in the area of *Water Resources Management* specified in Article 3(1) of Law 11/2017¹ and item 19 of the Guidelines for Strategic Environmental Assessment Procedures².

The Management Plan mainly contains several activities aimed at legislative and institutional strengthening of integrated water resources management and their management and protection.

At the same time, **Objective 1** contains several technical and semi-technical activities that may have potential environmental impacts, namely:

- dredging of lakes and rivers in the Ciuluc basin;
- dredging of strategic lakes – Dubăsari and Ghidighici;
- cleaning of the Bic River bed;
- rehabilitation works on springs. It is planned to rehabilitate 20 springs, but the Action Plan does not specify which springs are to be rehabilitated;
- decommissioning of non-functioning/unauthorized wells. As with the above activity, the Action Plan does not specify the number of wells and their possible location, which will be identified during the implementation of the plan;
- creation and restoration of riparian buffer strips and watersheds, forests on degraded lands, and green areas;
- revitalization of the Lower Nistru wetlands through re-profiling and re-vegetation of banks.

These activities are scheduled to be implemented between 2024 and 2029.

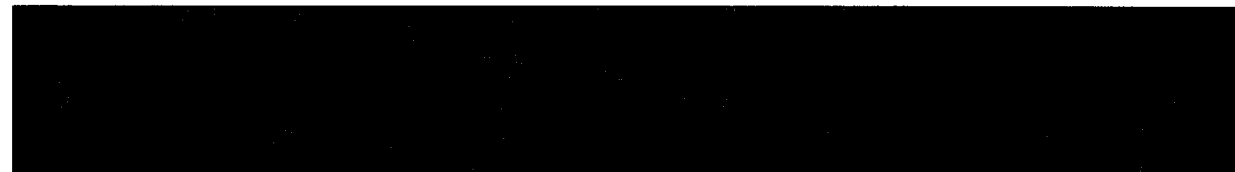
Objective 2 contains several activities that may have an impact on the environment. These include:

- technical assistance for the construction of the Soroca wastewater treatment plant;
- Sludge treatment at the Chişinău and Bălţi wastewater treatment plants will be done by installing a pumping station, a sludge concentrator, methane storage and combustion systems, and distribution and communication networks.

The timeframe for completion is also set for 2024-2029.

Existence of a framework for projects and activities listed in Annexes 1 and 2 of Law No 86/2014 on Environmental Impact Assessment:

The technical measures mentioned above and their inclusion in Annexes 1 or 2 to Law No 86/2014 on Environmental Impact Assessment:



¹Law on Strategic Environmental Assessment No 11 of 02.03.2017, in force since 07.04.2018;

² Guidelines for Strategic Environmental Assessment Procedures approved by Order of the Minister of Agriculture, Regional Development and Environment No 219 dated 01.10.2018 (in force since 12.11.2018);

1	Dredging of rivers and lakes	No	
2	Rehabilitation of springs	No	
3	Decommissioning of non-functioning/unauthorized wells	No	
4	Creation and restoration of riparian buffer strips and watersheds, forests on degraded lands, and green areas	No	
5	Re-profiling, re-vegetation of banks	No	
6	Construction of the Soroca wastewater treatment plant	No	It is subject to EIA in the case of wastewater treatment plants with a capacity of 50,000-150,000 inhabitants.
7	Sludge treatment at the Chişinău and Bălţi wastewater treatment plants will be done by installing a pumping station, a sludge concentrator, methane storage and combustion systems, and distribution and communication networks.	Yes	The activity falls under item No 11: other activities, namely (d) <i>Industrial sludge storage sites</i> . As the activity is not detailed, it is not possible to assess the planned activity's impact and environmental consequences at this stage.

At this stage, it is difficult to say which of the activities specified in the management plan fall under the scope of Law 86/2014 and for which of them the environmental impact assessment procedure will be initiated. **According to preliminary data, only one activity in the plan of measures partially falls within the list of activities included in Annex No 2 to Law No 86/2014 on Environmental Impact Assessment.**

The likely significant impact on the environment, including public health, as a result of the plan or program:

All proposed measures aim to improve environmental quality and reduce pollution of water resources. Thus, we consider that all proposed measures will have a positive impact on the environment and human health.

The measures related to dredging, cleaning, or re-profiling will impact the quality of water resources and aquatic habitats.

Regarding technical support to Soroca wastewater treatment plants, one environmental effect is the elimination of excess sludge generated during the technological process, reducing the level of pollution of water resources.

The possible environmental aspects and environmental impact of a wastewater treatment plant depend on several important factors. Among them, the most important is the type of wastewater to be treated; the location of the treatment plant, i.e., distance from buildings and type of receptor; the technology of wastewater treatment and sludge treatment; the number of stages of wastewater treatment; the method of sludge management; and the chemicals used (including coagulants and flocculants). For this activity, the World Bank methodology carried out a social and environmental assessment, i.e., impacts were identified, and optimal solutions to address them were pre-determined. As the activity does not fall under the EIA, the procedure was not carried out.

Another potential impact activity is sludge treatment at the Chişinău and Bălţi wastewater treatment plants by installing a pumping station, sludge concentrator, methane storage and combustion systems, distribution and communication networks.

To determine exactly what the impact of such a plant would be, it is important to carry out a feasibility study that shows the location, capacity, types of sludge to be treated, the treatment system, and the morphology of the sludge.

Thus, some measures can only be assessed when preparing technical documentation and feasibility studies.

Term of preparation and method of approval of the plan or program;

The Nistru River Basin Management Plan's program of activities will be implemented from 2024 to 2029.

Information About the Affected Area:

Definition of the affected area:

The management plan has been developed to manage the Nistru River basin. The Nistru River forms the border between the Republic of Moldova and Ukraine for 142.5 kilometers. Administratively, the Nistru River basin district occupies entirely the districts of Drochia, Soroca, Bălţi municipality, Sîngerei, Floreşti, Şoldăneşti, Teleneşti, Rezina, Călăraşi, Orhei, Dubăsari, Chişinău, Criuleni, Anenii Noi, Tighina and the Transnistrian region, and partially Briceni, Edineţi, Ocniţa, Donduşeni, Râşcani, Glodeni, Făleşti, Ungheni, Nisporeni, Străşeni, Hânceşti, Ialoveni, Cimişlia, Căuşeni and Ştefan Vodă. The population of the Nistru River basin district

(NRBD) is about 2,635 thousand inhabitants, of whom 1.4 million live in urban areas (53%). In the districts bordering the Nistru River, 713 thousand people live, or 1/3 of the population of the NRBD. The average population density is 137 inhabitants/km², higher (more than 200 inhabitants/km²) in the central part of the Nistru River basin district in the vicinity of Chişinău (districts of Străşeni, Orhei, Criuleni, Ialoveni, Anenii Noi and Chişinău municipality), in the districts of Nisporeni, Drochia, Sângerei and in the south of Transnistria. Low population density values were recorded in Transnistria's central-northern part and the Bessarabian part's northern half. The area of the Nistru River basin (within the borders of the Republic of Moldova) is 19,232.79 km². The basin is located asymmetrically concerning the central axis of the Nistru Valley so that the basin area on the left (within the borders of the Republic of Moldova) is 3,514.79 km² (18.27%) and on the right, 15,718.0 km² (81.73%).

Based on the information provided in the management plan activities, the potentially affected areas are **Sorocea** – construction of the wastewater treatment plant; **Lower Nistru** – re-profiling of the banks; **Chişinău/Bălţi municipality**, where a sludge treatment system at the Chişinău and Bălţi wastewater treatment plants will be installed by installing a pumping station, sludge concentrator, methane storage, and combustion systems, distribution and communication networks.

The main characteristics and problems of the environment in the affected area.

According to the information provided in the Management Plan, the following sources of pollution are identified:

Point sources of pollution – the most significant anthropogenic impact on water resources were identified in the basins of the Bîc, Răut, Colcotov-Cuciurgan, Ichel, Botna, Naslavcea-Vasilcău, Baltaţa-Serpeni rivers. Of 881 settlements within the boundaries of the Nistru River basin district (right side of the Nistru River), 546 are connected to the water supply system, and only 102 settlements are connected to the sewerage system, significantly affecting the quality of water resources. The most significant number of inhabitants connected to water supply systems live in the basins Nistrul Vechi-Ştiubei-Liman, Baltaţa-Şerpeni – about 70%, Bîc – 91%. In the basins, Răut, Ichel, Botna, Naslavcea-Vasilcău, and Saharna-Jidauca, about 50-56% of inhabitants are supplied with water from the centralized system. The lowest shares are in the basins Ciorna-Rezina – 41%, and especially Racovăţ-Sănătăuca-Alcedar – 18.7%. At the same time, the population connected to the sewerage system is 2-3 times more minor or non-existent. In the Racovăţ-Sănătăuca-Alcedar basin, there are no sewerage systems; in the Nistrul Vechi-Ştiubei-Liman, Botna, Ciorna-Rezina basins, the number of population connected to this service is only 2-7%, in the other basins this value is 17-27%. Given the insufficiency of sewerage systems and treatment facilities, the impact of discharging the maximum possible volumes of wastewater was assessed based on population size and minimum wastewater flow rate. As a result, it was calculated that this factor exerts significant pressure on the quality of water resources in the basin.

Diffuse sources of pollution: The primary sources of diffuse pollution in the Nistru River basin district are agricultural land and livestock farms. The impact of agricultural activities on arable

land is expressed in the use of mineral fertilizers, pesticides, and many other crop care products and, as a consequence, in the pollution of surface and groundwater with nutrients (N, P, and K) and, in specific periods, with other fertilizers, pesticides, etc. The assessment of the impact of agricultural activities is conventionally estimated by determining the share of arable land in the total area. In this respect, arable land occupies more than 30% of all basins, significantly impacting water resources. The highest share of arable land – about 60-70% – is found in the Râbnița-Iagorlâc, Iagorlâcul Uscat-Comarova, Balțata-Serpeni, Kolkotov-Kuchurgan basins, and the lowest – about 35-40% – in the Ichel and Bîc basins. The livestock sector pollutes the environment with animal waste. Their accumulation on livestock farms or agricultural land redistribution is the leading cause of water pollution.

The hydromorphological changes of water bodies within the basin district are caused by the construction of reservoirs on rivers that disturb the longitudinal connection of rivers and by protection dams and irrigation canals that affect the transverse connection of the river with the meadow. Channel regulation is one of several factors determining hydromorphological changes in rivers. The Nistru, Răut, Bîc, Botna, Căinari, Cubolta, Middle Ciuluc and Small Ciuluc, Ichel, and Cula rivers were chosen to show the impact of human activity on the hydromorphological state of watercourses.

One of the main drivers of hydromorphological changes is the construction of reservoirs on watercourses. The number of reservoirs built on a river varies from river to river. The largest reservoirs were constructed on the Cubolta (19) and Căinari (10) rivers, and 8-9 reservoirs on the Ichel and Small Ciuluc rivers. The Dubăsari reservoir was built on the Nistru River, which turned about 20% of the course into a reservoir, having a medium impact on the river. Medium impacts are also noted for the Cubolta and Small Ciuluc rivers. The other rivers are not significantly affected by the construction of reservoirs, with only up to 10% of their length being turned into a lake.

Hydrological changes – the category of anthropogenic factors affecting water flow usually includes human economic activities, e.g., agricultural activities, which are mainly related to irrigation, urbanization resulting in increased surface runoff due to increased area of impervious surfaces, freshwater abstraction, and wastewater/treated water discharge, transfer of river water from one basin to another, regulation of river flow to reduce the effects of drought or floods, etc. The assessment of the total anthropogenic impact on inland water resources found that water volumes in the Kolkotov-Kuchurgan basin increase by about 20% and in the Naslavcea-Vasilcău basin decrease by 10%, with water volumes in other basins varying by up to $\pm 10\%$.

Surface water quality: Over six years (2017-2022), 38 sampling sites located on rivers and lakes were monitored (Figures 25 and 26). Of these, 7 sites have moderately polluted ecological status (class III), 9 have polluted ecological status (class IV), and the remaining 22 have significantly polluted environmental status. Of the 45 regulated priority substances within the district boundaries, only 15 are monitored. It is noted that the detection/quantification limits of the

investigated priority substances are too high, often exceeding the maximum permissible concentration or the annual mean reference concentration according to Directive 2013/39/EU.

The ecological and chemical status of water within the Nistru River basin district is presented in the table below.

Nr. ord.	Stația monitorizată	Stare ecologică	Stare chimică
1	r.Nistru - s.Naslavcea. r-nul Ocnița. amonte	III	rea
2	r.Nistru - or.Otaci. r-nul Ocnița		
3	r.Nistru - s.Cosăuți. r-nul Soroca		
4	r.Nistru - or.Soroca. amonte	III	
5	r.Nistru - or.Soroca. aval		
6	r.Nistru - s.Vasilcău. r-nul Soroca		
7	r.Nistru - s.Sănătăuca. r-nul Florești		
8	baz.Dubăsari - or.Rezina	III	
9	baz.Dubăsari - s.Ustia. r-nul Dubăsari amonte	III	
10	r.Nistru - or.Vadul-lui-Vodă	III	rea
11	r.Nistru - s.Cremenciug. r-nul Căușeni	III	
12	r.Nistru - s.Olănești. r-nul Ștefan Vodă	III	
13	r.Nistru - s.Palanca. r-nul Ștefan Vodă. aval		rea
14	r.Cușmirca - s.Cușmirca. r-nul Șoldănești. aval		
15	r.Ciorna - s.Ciorna. r-nul Rezina. amonte		
16	r.Răut - mun.Bălți. amonte	V	rea
17	r.Răut - mun.Bălți. aval	V	rea
18	r.Răut - or.Florești. amonte	V	rea
19	r.Răut - or.Orhei. amonte	V	rea

20	r.Răut - or.Orhei, aval	V	
21	r.Răut - s.Ustia, r-nul Dubăsari, aval	V	
22	r.Cubolta - s.Mărășești, r-nul Singerei, aval	V	rea
23	r.Căinar - s.Gura Căinarului, r-nul Florești	V	
24	r.Camenca - s.Gvozdova, r-nul Florești, amonte	V	
25	r.Cohâlnic - s.Cișmea, r-nul Orhei, amonte	V	
26	r.Soloneț - s.Roșieticii Vechi, r-nul Florești	V	
27	r.Ichel - s.Greblești, r-nul Strășeni, amonte	V	
28	r.Ichel - s.Goian, mun. Chișinău, aval	V	rea
29	r.Bic - or.Strășeni, aval	V	
30	baz.Ghidighici - or.Vatra, amonte	V	
31	r.Bic - mun.Chișinău, amonte	V	
32	r.Bic - mun.Chișinău, aval (or. Singera)	V	
33	r.Bic - s.Gura Bicului, r-nul Anenii Noi, aval	V	
34	r.Ișnovăț - or.Sângera, mun. Chișinău, aval	V	
35	r.Botna - s.Ulmu, r-nul Ialoveni, amonte	V	rea
36	r.Botna - s.Zâmbreni, r-nul Ialoveni	V	
37	r.Botna - or.Căușeni, amonte	V	rea
38	r.Botna - s.Chircăiești, r-nul Căușeni	V	rea