Project BG16M1OP002-1.017-0001 RBMP 2022-2027

MINISTRY OF ENVIRONMENT AND WATER

Danube River Basin Directorate

Interim Overview of Significant Water Management Issues in the Danube River Basin Management District

Executive Summary

This document was created with the financial support of Operational Program Environment 2014 - 2020, co-financed by the European Union through the Cohesion Fund, under the BG16M1OP002-1.017-0001-C02 “RBMP 2022-2027” project

1. Introduction

This document is an executive summary of the technical report on the Interim Overview of the Significant Water Management Issues in the Danube River Basin Management District (DRBD), which will be addressed within the 3rd River Basin Management Plan (RBMP) for the period 2022 - 2027. The purpose of the Interim Overview is to inform the general public and stakeholders, and present for their feedback the most important water management issues in the Danube River Basin Management District and the means to address these issues (the choice of measures) in order to achieve the environmental objectives - achieving and maintaining good status of the water bodies.

The implementation of measures planned under the second RBMP for the Danube RBD is ongoing, and actions to address the significant issues identified in this report are planned as a natural follow-up, which builds on what has been achieved during the previous RBMP cycles.

The main report on significant water management issues includes several chapters, presenting information on the characteristics of the river basin management district, main pressure sources affecting surface and groundwater bodies, identified significant issues, a summary of already implemented and planned activities to address the established impact on waters and achieve good status, as well as on public participation in the process of drafting the third RBMP.

2. Main Water Management Principles

2.1. Requirements under the WFD and the national legislation

The Water Framework Directive (WFD) has allowed river basin based water management by delineating water bodies as the main management unit. The RBMP is the main tool for integrated water management. The plan sets specific objectives related to the protection of waters and water dependent ecosystems such as common heritage, achieving and maintaining good status, promoting sustainable water use, preservation of water for human consumption, bathing waters and important water-dependent habitats and birds, reducing the negative impact of anthropogenic activities. In order to achieve these objectives and to reduce the impact, basic measures are planned in line with the legislation in the water field, and should those be insufficient to achieve the environmental targets, supplementary measures are also foreseen. Climate change and its manifestations, i.e. floods and droughts, is also taken into account.

The planning process requires integration and coordination of environmental, economic and social aspects of different national and local policies and plans, as well as meeting water needs of the population and the various economic sectors, which requires consultation and commitment from all stakeholders, including local businesses, non-governmental organizations (NGOs) and the general public, including transboundary coordination in case the river basin management district is part of an international river basin.

The RBMP is developed in coordination with the Flood Risk Management Plan (FRMP) for the respective river basin management district.

The WFD is transposed in the Bulgarian legislation with the adoption of the Water Act (WA) and its subsequent amendments. In line with the legislation, the waters in Bulgaria are managed at national and at basin level.

Water management at the basin level covers all catchment areas in a river basin management district and is carried out by the Basin Directorates.

The Water Act defines four river basin management districts:

1 **Danube River Basin Management District** with headquarters in Pleven – covering the water catchment areas of the rivers in the Bulgarian territory of the Danube river basin: Iskar, Erma, Nishava, Ogosta and

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rivers west of Ogosta, Vit, Osam, Yantra, Rusenski Lom and the Danube Dobrudzha rivers, as well as the Danube river itself;

2 **Black Sea River Basin Management District** with headquarters in Varna – covering the water catchment areas of the rivers flowing into the Black Sea - between the north and the south border of the country, including internal sea waters and territorial waters;

3 **East Aegean River Basin Management District** with headquarters in Plovdiv – covering the water catchment areas of the rivers Tundzha, Maritsa, Arda, Byala Reka;

4 **West Aegean River Basin Management District** with headquarters in Blagoevgrad – covering the water catchment areas of Mesta, Struma and Dospat rivers.

2.2. Interim Overview of Significant Water Management Issues - an important stage in the planning process

The development and publication of the report on the Interim overview of significant water management issues in the Danube river basin management district is the second key stage of the update of the RBMP in the Danube district for the period of 2022 - 2027.

Based on an analysis of the pressure from anthropogenic activity and its impact on the waters, the present consultation document informs stakeholders and the general public about the main water management issues at an early stage, while ensuring transparency of the process of RBMP's development, taking into account the different interests and needs of different stakeholders.

Public consultations and public discussions of the Interim Overview are of crucial importance for the whole planning process, as the proper identification of the water issues in the district is the basis for proper planning of appropriate measures at the next stage, in order to address the identified issues and to achieve RBMP's and WFD's objectives, namely: good water status.

2.3. The Drivers - Pressure - Status - Impact - Response Model

The **"drivers-pressure-status-impact-response"** model is identified as a key tool in the integrated water management, in line with the principles of the Water Framework Directive. This principle was also used in the process of drafting the Danube River Basin Management District's Interim Overview of Significant Water Management Issues, as it reflects cause and effect relationships and provides information on actions that were undertaken or are planned to be undertaken in order to achieve the objectives, i.e. good water status (Figure 1). The present analysis is a starting point for the next stage of the planning process - the draft RBMP.

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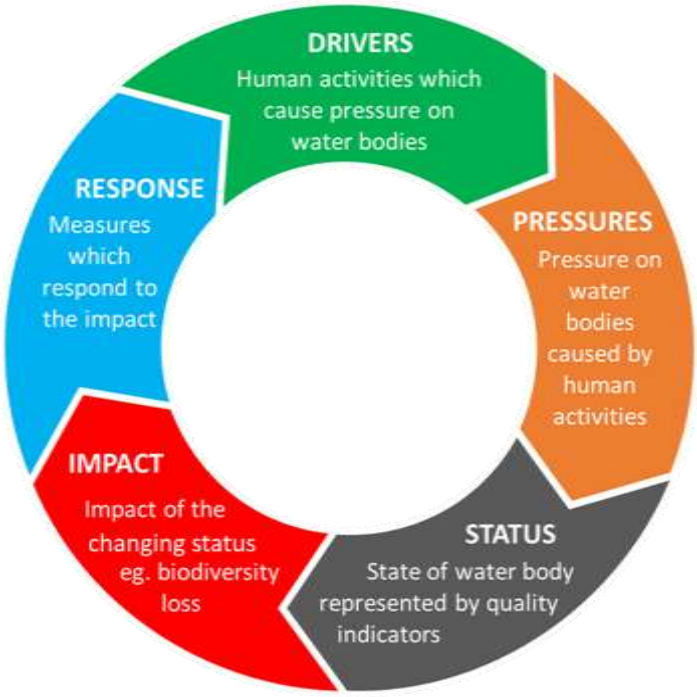
Figure 1: "Drivers – Pressure – Status – Impact – Response" Model



(source: IBRD)

3. Characteristics of the Danube River Basin Management District

The Danube River Basin District (DRBD) is situated in the northern part of Bulgaria. The Danube basin management area covers the Bulgarian territory of the international Danube river basin. With an area of 47 235 km^2, this is the largest river basin management district in Bulgaria. To the north it borders the Republic of Romania, to the east - the Black Sea River Basin Management District, to the west - the Republic of Serbia and to the south - the East Aegean and West Aegean River Basin Management Districts.

The area of the region represents 42.5% of the territory of Bulgaria and 5.9% of the territory of the international Danube river basin. The region almost overlaps with the geographical concept of Northern Bulgaria. The small differences come from the inclusion of the catchment areas of Nishava and Erma rivers and the exclusion of the catchments of the rivers in the Dobrudzha area, which flow into the Black Sea. The Danube river basin district includes the Danube plain and the northern slopes of the Balkan mountain (**Грешка! Източникът на препратката не е намерен.**2).

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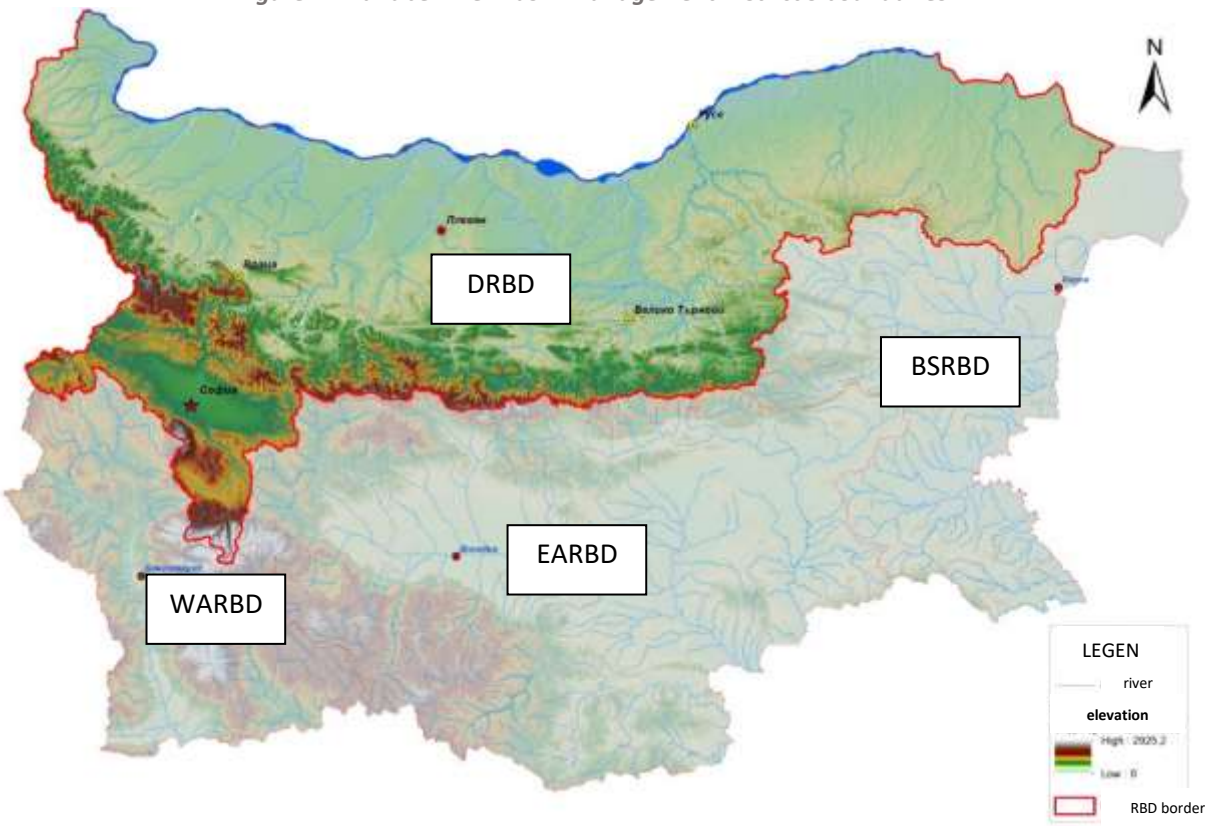
Figure 2: Danube River Basin Management District's boundaries



(source: DRBD)

Within the territorial scope of the DRBD are 18 administrative districts of Bulgaria (in whole or in part), 126 municipalities and 2329 settlements, including the capital of the country - Sofia. The district has the largest share of the country's population. In 2017, the population living within the territorial scope of the Danube River Basin District was 3,275,256 people, which represents 46.5 % of Bulgaria's total population.

The latest economic analysis for the Danube River Basin Management District carried out for the purposes of the third cycle RBMPs, shows that in 2017 the district generated 59 % of the country's total GDP and with its BGN 49.6 billion ranks first among all river basin management districts. The Danube River Basin Management District generated BGN 43 billion in gross value added (GVA), which represents 59 % of the country's total GVA.

The Danube Basin Management District covers the river catchment areas of all rivers flowing into the Danube river on the territory of Bulgaria or outside it (crossing the country's western border - the catchment areas of the rivers Iskar, Erma, Nishava, Ogosta and the rivers west of Ogosta, Vit, Osam, Yantra, Rusenski Lom and the Danube Dobrudzha rivers, as well as the waters of the Danube river itself.

During the second planning cycle (RBMP 2016-2021), the total number of the identified surface water bodies in the river basin district was 256, falling within two main categories – rivers and lakes (**Грешка! Източникът на препратката не е намерен.**). On the territory of the DRBD, 6 aquifers and 50 groundwater bodies were identified and they are all determined to be groundwater protection areas for drinking water supply.

Figure 3: Categories and number of water bodies in DRBD

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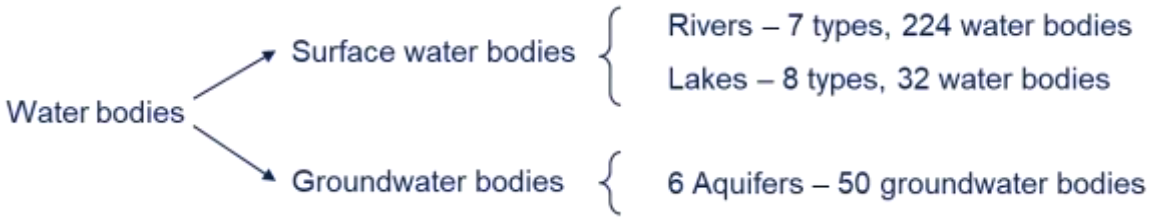

(source: DRBD)

The Danube River Basin District is part of the international Danube river basin, and Bulgaria shares part of the territory of the river basin with two of its neighbouring countries: Republic of Romania and Republic of Serbia. The Danube river is a common river between Bulgaria and Romania, and forms part of Bulgaria's north state border.

The International Commission for the Protection of the Danube River (ICPDR) is a transnational platform, which coordinates the activities related to the development of the RBMP for the Danube's international river basin. The Interim Overview of Significant Water Management Issues in the international basin of the Danube river was prepared with the active participation and in coordination with the representatives of the ICPDR countries. In the framework of this process, the necessary bilateral coordination between neighboring countries is underway, in this case Bulgaria and Romania with regard to the Danube River.

Bilateral transboundary coordination with Romania complements the coordination within the ICPDR, and is based on the Agreement between the Ministry of Environment and Water of the Republic of Bulgaria and the Ministry of Environment and Water Management of Romania for cooperation in the field of water management, signed on 12 November 2004 in Bucharest. Bilateral platform for cooperation with the Republic of Serbia has not yet been established.

4. Significant Water Management Issues

The present section summarizes the information from the main technical report following the concept of the **drivers - pressures - status - impact - response** model. The aim is to determine the links between anthropogenic pressure and surface and groundwater impacts, to assess the extent of impact on water bodies, to consider drivers and pressures that cause the identified impacts, since these are significant issues that should be addressed, as well as to provide response ideas, i.e. measures aimed at resolving the issues and improving the water status.

4.1. Surface waters

Different types of pressure have a characteristic effect on surface water's status. This impact is expressed in an adverse change in various quality elements characterizing the water body status, respectively the aquatic ecosystems. Information obtained from the implementation of the water monitoring programmes is used to evaluate the degree of impact of different types of pressure on water bodies, as well as to assess the ecological and chemical status of the surface water bodies.

4.1.1. Nutrient pollution

Nutrient emissions and nutrient pollution are one of the most significant issues in the DRBD. Nutrients content (nitrogen and phosphorus) plays an important role for the status of aquatic ecosystems. In order to assess the pressure of nutrient pollution, the indicators total nitrogen (N- Total), ammonium as nitrogen (N-NH4), nitrogen nitrite (N-NO2), nitrogen nitrate (N-NO3), total phosphorus (P-Total) and orthophosphates such as phosphorus (P-PO4), as well as the biological quality elements (e.g. for rivers - phytoplankton (just

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for the Danube), macrophytes and phytobenthos, and for lakes - phytoplankton and macrophytes) were assessed. Exceedances of these indicators were found in 67% of the total number of water bodies in the 'river' category. Most affected by this impact are the water bodies from this category in the river basins of Iskar, Yantra, Ogosta and Osam. Pressure from nutrient pollution is found in 41% of the total number of water bodies, which are identified as 'lake' type (lakes and reservoirs). Most affected by this impact are the water bodies from this category in the river basins of Iskar, west of Ogosta, Yantra and Rusenski Lom.

In human-influenced ecosystems, the main source of nutrients is agriculture (because of the use of fertilizers that are not fully absorbed and leach into groundwater) and wastewater from settlements and industrial sites.

4.1.1.1. Nutrient pollution from agriculture

Over the last decade there is a more intensive approach to agricultural practice which results in increased environmental pressure. The agricultural sector contributes to nutrient emissions through the use of synthetic and natural fertilizers as well as through nitrogen emissions into the atmosphere. Elevated levels of total nitrogen and phosphorus in certain areas might be because of sources of pressure from wastewater discharge from urban and industrial sites, as well as because of application of fertilizers in the agricultural sector and intensive development of livestock farming. Impact from livestock farming on surface waters is realised mainly through the improper storage of animal manure in the farms.

On the other hand, deforestation at the expense of increasing arable land leads to reducing the green areas, which serve as a storage for the carbon coming from the atmosphere (the so-called carbon depots) . Deforestation and forest degradation, as well as desertification lead to erosion processes that contribute to the introduction of pollutants, including increased nutrient loads in the waters.

The links between the drivers, pressures, status and impacts of nutrient pollution are presented in the figure below.

Figure 4: Relationship between drivers, pressure, status and impact of nutrient pollution from agriculture

DRIVERS Agriculture (growing crops which require fertilization, animal farming)	**PRESSURE** Synthetic and natural fertilizers applied to the land leach into the surface waters and groundwater. Improper manure storage and its application in the soil release ammonia into the atmosphere. This ammonia then deposits back to the land and water surfaces.
STATUS Elevated concentrations of nutrients in surface waters intensify eutrophication of surface waters. Primary production of biomass (algae growth) intensifies, at the same time removing oxygen from the environment.	**IMPACT** Eutrophication implies a number of adverse environmental effects on aquatic ecosystems, which lead to loss of biodiversity and deterioration of surface water quality. Toxic algae blooms, sometimes observed alongside eutrophication, pose a threat to human health and aquatic ecosystems.

(source: IBRD and DRBD)

Reversing the trend of increasing nutrient concentrations in waters, which is causing the deterioration of many water bodies, will require significant cross-sectoral efforts, implementing specific measures in agriculture and applying good agricultural and farming practices.

RESPONSE Ongoing implementation of the requirements to protect waters against nitrate pollution from agricultural sources, including limiting fertilizer use in Nutrient Vulnerable Zones; compliance with the good agricultural, farming and environmental practices requirements; implementing the programme of measures to reduce and prevent nitrate pollution from agricultural sources in vulnerable areas and

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strengthening control over its implementation; implementing the monitoring program under the Nitrates Directive for surface and groundwater; introducing rules and controls to reduce nutrient pollution from aquaculture; providing incentives for additional activities and investments that directly reduce the diffuse nutrient pollution loads.

4.1.1.2. Nutrient pollution from urban and industrial wastewater

The sources of nutrient emissions from urban and industrial areas are wastewater discharges from sewer systems in settlements and industrial sites. Additionally, nutrients reach surface waters from atmospheric emissions from transportation and industry.

Large investments have been made over the past years in the wastewater collection and treatment infrastructure, however part of the population is still not connected to sewer systems or wastewater treatment plants, contributing to pollution from point sources in case of sewerage networks without the necessary treatment plants, and from diffuse sources in case of areas which are not connected to sewerage networks. According to NSI data, the share of the population connected to public sewerage and wastewater treatment plants has increased in the DRBD in the period 2010 - 2019.

In the territorial scope of DRBD, there are 123 agglomerations with population of more than 2 thousand people
equivalents (PE) (85 with population between 2,000 PE and 10,000 PE and 35 with population above 10,000 PE), with a total wastewater load of 3,248,035 PE, for which compliance with Directive 91/271/EEC concerning urban waste-water treatment needs to be ensured.

Nutrient loads from industrial sources are mainly resulting from wastewater discharge of industrial sites, which generate biodegradable wastewater and atmospheric emissions. It should be noted that the emissions of nitrogen oxides have been on a decreasing trend over the last years, while the emissions of ammonia are fairly constant.

Another point source of pressure is fish farming. Artificial flow pools (fishponds) and farming aquaculture in cage farms cause an increase in nutrient levels in aquatic ecosystems, which in turn leads to algae blooms and a sharp decrease in oxygen during the dark period of the day.

The links between the drivers, pressures, status and impacts of pollution from urban wastewater and industrial sources are presented in the figure below.

Figure *1*: Links between drivers, pressure, status and impact of nutrient pollution ***from urban wastewater and production sites***

DRIVERS Urbanization Industry	**PRESSURE** Discharges of partially treated or untreated wastewater from towns, villages, settlements, villa zones, resorts, holiday villages and industrial plants cause excessive loads of nutrients to surface water bodies. Old municipal landfills that are not reclaimed and do not meet environmental requirements. Nutrient pollution because of aquaculture cultivation in cage farms located in large, deep dams and semi-intensive (free) aquaculture cultivation in medium and small dams.
STATUS Elevated concentrations of nutrients in surface waters intensify eutrophication processes in surface waters.	**IMPACT** Eutrophication implies a number of adverse environmental effects which lead to loss of biodiversity and algae bloom, representing a threat to aquatic ecosystems.

(source: IBRD and DRBD)

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Having in mind that wastewater discharge is a significant source of pressure of nutrient pollution, continued improvement of wastewater collection and treatment infrastructure should be one of the pillars of the 3rd cycle RBMP. On the territory of the DRBD, for agglomerations of more than 2,000 PE, 41 WWTPs have been constructed with a degree of up to secondary treatment, of which 32 WWTPs also have an additional tertiary wastewater treatment, with some serving more than one agglomeration.

Regulation of surface water pollution from production sites that discharge wastewater with nutrient and organic pollution is carried out through the permit regime for wastewater discharge (under the Water Act and through complex permits), through control over compliance with emission restrictions and the tax policy. In this regard, it is necessary to plan for a revision of the permit conditions for production sites, which affect the failure to achieve good status objectives, and if necessary, plan stricter emission limits and strengthen control.

RESPONSE

Urban wastewater collection and treatment - construction or finalising the construction of urban sewerage networks; construction of new WWTPs or refurbishment of existing ones; development of wastewater collection and treatment systems for smaller settlements with a population under 2,000 PE; **Industrial wastewater treatment** - refurbishment and improvements of industrial wastewater treatment plants; Review of permit conditions for production sites, which are responsible for non-achievement of good status objectives and if necessary, planning more stringent emission restrictions and strengthening control; Review of wastewater discharge permits in order to achieve compliance with the environmental protection objectives for the respective water body.

4.1.1.3. Combined impact of nutrient pollution

The impact of nutrient pollution is expressed by elevated concentrations of nitrogen and phosphorus, which in lakes, reservoirs and rivers reflects also in changes to the biological quality elements' (BQEs) status and to the supporting physico-chemical quality elements (for instance, in reservoirs impacts are also expressed in chlorophyll-a and transparency levels changes). High concentrations of total nitrogen are also observed in river water bodies, while total phosphorus exceedances are observed in the water bodies of the 'lake' type (lakes and reservoirs). Exceedances of the EQS levels set for these parameters are the result of combined sources of pollution. Based on preliminary nutrient balance estimations in the sub-basins, it is clear that the main part of the impacts are caused by diffuse pollution to which agriculture is the main contributor. While big progress has been made during the last decade in limiting the urban wastewater pollution pressure and impact, preliminary nitrogen balance calculations indicate that the agricultural sector is accountable for an estimated 70%-90 % of the anthropogenic nitrogen pollution and 25%-90 % of phosphorus pollution in surface waters.

The current situation indicates high urgency to fulfill the requirements of the Nitrogen Directive and to successfully implement the national “Programme of measures to limit and prevent nitrate pollution from agricultural sources in the vulnerable areas for the period 2020-2023”. Additional measures will be proposed in the 3rd cycle RBMP, following finalizing the results of the detailed analysis of pressure from agricultural sources and their impact that is currently under development.

4.1.2. Organic pollution

Pressure from organic pollution loads causes changes to the oxygen content in surface water bodies. Other indicators of organic pollution in water are the main physico-chemical indicators, including pH, 5-day Biological Oxygen Demand (BOD5), chemical oxygen demand (COD), total organic carbon, salt content

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(electrical conductivity), as well as the biological quality elements (for example, phytoplankton in rivers (only for the Danube) phytobenthos and benthic invertebrates, and phytoplacton for lakes).

Failure to achieve environmental objectives because of organic pollution was found in 45% of the total number of water bodies in the "river" category. Most affected by this impact are the water bodies in this category in the river valleys of Iskar, Ogosta, Vit and Osam. Organic pollution is established in 53% of the total number of water bodies from the 'lake' type (lakes and reservoirs). Most affected by this impact are the water bodies in the river catchments west of Ogosta and Rusenski Lom.

Organic pollution in surface waters originates to a large extent from untreated or insufficiently treated municipal and industrial wastewater discharges, as well as from diffuse pollution sources (for instance improperly landfilled or stored municipal waste). The key indicator of organic pollution in water is the 5-day Biological Oxygen Demand (BOD5). In general, the average concentrations of BOD5 calculated for all DRBD surface water bodies are slightly decreasing on a multiannual trend. This is most likely related to the investments in wastewater treatment infrastructure. Overall, in DRBD the impacts of organic pollution are not as significant as the ones from nutrients.

The links between the drivers, pressures, status and impacts are presented in the figure below.

Figure 6: Relationship between drivers, pressures, status and impacts of organic pollution

DRIVERS Urbanization Industry Agriculture (animal husbandry)	**PRESSURE** Discharge of partially treated or untreated urban wastewater from settlements, industrial plants (waste from the leather, paper, dairy, pulp and other industries) and animal farming (wastewater and products from livestock breeding facilities), as well as improperly stored household waste add additional loads of organic matter to surface water bodies.
STATUS Elevated levels of organic pollution (expressed as BOD5) reduce oxygen levels and deteriorate the status of surface waters.	**IMPACT** Low dissolved oxygen levels in water have a negative impact on aquatic habitats, reduce biodiversity and may be a threat to aquatic ecosystems.

(source: IBRD and DRBD)

The Programme of Measures in the second RBMP for DRBD contains a number of measures to reduce pollution from urban and industrial sources wastewater discharge. In this regard, ongoing improvements to wastewater collection and treatment infrastructure should be one of the cornerstones of the third RBMP.

RESPONSE Collection and treatment of household and industrial wastewater; Refurbishment and improvements of industrial wastewater treatment plants; Review of permit conditions for production sites, which are responsible for non-achievement of the good status objectives and, if necessary, planning stricter emission restrictions and strengthening control; Review of wastewater discharge permits in order to achieve compliance with environmental protection objectives for the respective water body.

4.1.3. Chemical pollution of surface waters (priority substances, specific and other pollutants)

In order to assess the impact of hazardous substances, specific pollutants as per the list of specific pollutants in Appendix 7, under Art. 12, para. 1 of Ordinance H-4 for the characterization of surface waters, as well as priority substances, according to the requirements of the Ordinance on environmental quality

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standards for priority and other pollutants, as well as BQEs (for instance benthic invertebrate for rivers and phytoplancton for lakes) have been analyzed.

The analysis revealed the impact of specific pollutants in 29% of the total number of water bodies from the 'river' category, mostly in the Iskar, Ogosta and Yantra river basins, as well as in 7 water bodies from the 'lake' type (lakes and reservoirs) in the river basins west of Ogosta, Rusenski Lom, Ogosta, Iskar and Danube Dobrudzha rivers.

Exceedance of quality standards for priority substances (in water matrix) is observed in 6 water bodies of the 'river' category in the Iskar, Danube, Yantra and West of Ogosta river basins. There are no exceedances observed of quality standards for priority substances in surface water bodies from the 'lake' type (lakes and reservoirs).

Pollution from specific and priority substances in surface waters is mainly due to discharge of untreated or partially treated urban and industrial wastewater, improper use and/or storage of fertilizers; pesticides and plant protection products; emissions of harmful substances from households and industries to the atmosphere. Source of pollution are also old functioning or non-reclaimed landfills that do not meet environmental legal requirements, as well as old industrial areas (for instance old and active mining sites).

The links between drivers, pressure, status and impact of chemical pollution are presented in the figure below.

Figure 7: Links between the drivers, pressures, status and impacts of chemical pollution

DRIVERS Urbanization Industry Agriculture	**PRESSURE** Discharge of industrial wastewater, pesticide depots, old industrial sites and landfills that are not reclaimed and do not meet environmental requirements add harmful chemical substances to surface water bodies. Application of plant protection products in agriculture and forestry. Emissions of harmful substances to the atmosphere and subsequent deposition onto water surfaces.
STATUS Elevated concentrations of specific pollutants that determine the ecological status and priority substances that determine the chemical status in surface waters, sediments and biota.	**IMPACT** Loss of habitats and potential threat to aquatic ecosystems and human health.

(source: IBRD and DRBD)

Responses to chemical pollution from settlements, production sites, including past activities, and from agriculture are related to:

RESPONSE Review of conditions for wastewater discharge permits for production sites (if necessary, planning more stringent emission limits); strengthening control over industrial wastewater quality before its discharge into sewerage systems; reclamation of landfills; planning specific measures to treat mine waters from liquidated mining sites; reduction of diffuse water pollution from agricultural activities and from forestry; strengthening control over the application of plant protection products near water bodies.

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4.1.4. Pressure from water abstraction and physical modifications

Anthropogenic pressures on surface water bodies include all changes in the water flow, mainly because of abstraction, diversion or discharge; morphological changes (alterations to river beds and river banks) caused by construction in the river or on the natural floodplains; and barriers that impact transverse and longitudinal continuity of the river caused mainly by dams or water abstraction facilities which physically disconnect parts of the river and impact its continuity.

Indicators to assess hydromorphological pressure as a result of physical modifications are associated with deterioration of the BQEs, change in the oxygen regime, change in the temperature regime.

The most significant hydromorphological pressure in the DRBD is the water abstraction pressure, followed by river corrections, impaired sediment transport and migration barriers. Activities are currently underway for a detailed assessment of hydromorphological pressure and impact in each water body, and these data will be taken into account in the development of the draft RBMP 2022-2027.

4.1.4.1. Pressure on the hydrological regime

Hydrological changes are changes in the water regime, which manifest to different degree and in different forms - permanent or seasonal changes in runoff (for example downstream from a dam or due to water abstraction), changes in river velocity, changes / variations in water levels.

Water abstraction from surface waters is carried out to provide water for all economic sectors - for drinking water supply, for irrigation, for industrial needs, for electricity production and for some other purposes. Pressure from water abstraction can be considered from two points of view: changes in runoff due to abstracted water quantities and the impact of water abstraction facilities. Regulation and limitation of the degree of pressure from water abstraction on surface waters is carried out through the conditions in the water abstraction permits, water abstraction fees and subsequent control.

According to the second cycle RBMP, 189 out of a total of 256 surface water bodies in the Danube RBD have water abstraction permits, i.e. 74% of water bodies were subjected to some degree of abstraction pressure. Therefore, it can be concluded that most of the surface water bodies in Danube RBD experience some degree of pressure on their hydrological regime as a result of water abstraction.

Another aspect which should be addressed relates to the technical state of water infrastructure. In the context of water abstraction, a key issue is water loss in the water distribution networks, as well as lack of or malfunctioning water metering equipment. The current average water losses from public water supply networks in DRBD are on an extremely high level of 53%, and, although this indicator has been steadily decreasing, it can be stated that progress is much too slow and does not promise reaching reasonable levels of water losses (below 25%) in the near future without a major effort.

4.1.4.2. Pressure from morphological changes

Morphological changes include various alterations of the physical structure of water bodies - changes in river bed shape and structure, interruptions to river continuity, changes to the river banks and coastal territories. Examples of such alterations are construction of embankments, weirs and dams, corrections and straightening of rivers, construction of dikes, modifications of the river bed due to removal of alluvial deposits.

Construction of dikes and corrections of rivers are traditionally carried out as measures to provide flood protection. This type of pressure also includes the strengthening of river banks in order to protect against erosion. These changes lead to changes in the morphology of the river channel and therefore, to changes in the habitats that support aquatic ecosystems in these areas relative to their natural conditions. In cases where corrections are related also to straightening of the river bed, the characteristics of the water flow and the flow velocity change, which leads to erosion of the river bottom and the river banks, and often - to an increased risk of flooding in the lower sections of the river.

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Most of these river modifications were constructed in the period 1960s - 1980s and are subject to ongoing maintenance and repair work, which can alter locally the river morphology in a limited area. Repair and reinforcement activities are subject to a permit regime, the purpose of which is to regulate the activities for construction, repair and maintenance of the protective facilities and to strengthen the riverbanks, ensuring that the implementation of these activities takes place with the least possible negative impact on the water status.

Since 2015, 528 permits for construction of new systems and facilities or for reconstruction or modernization of existing systems and facilities in 108 water bodies were issued. Most of the permits are issued for reconstruction / repair of existing facilities and bridges and do not introduce any new additional negative impacts on the hydromorphological regime of the water bodies. Additionally, it should be noted that in case of construction of new developments and facilities, the reach of the impact on water bodies is marginal in most cases and of a small scope compared to the total length of the water body.

With the amendment of the Water Act of 2010, the alluvial deposits/sediment removal from water bodies is not allowed, except for the Danube River and storage reservoirs, as well as in some cases specified in the Water Act such as cleaning river beds from alluvial deposits to ensure their normal conveyance capacity. Sediment removal is also carried out through dredging the Danube river which is related to provision of conditions for navigation. The activities related to the removal of alluvial deposits are subject to a permit regime according to the provisions of the Water Act.

4.1.4.3. Pressure from transverse barriers in rivers

Migration barriers affect 36% of the water bodies in Danube RBD (93 out of a total of 256). Existing transverse barriers disrupt the continuity of the river and change both its hydrological regime and sediment transport characteristics, relative to their natural state. Such facilities are constructed for the purposes of water abstraction for irrigation, electricity generation, industrial and other purposes. In terms of the subsequent impacts on biota, fish are most affected group, as most fish species make seasonal breeding, feeding and other migrations upstream and downstream, either locally within a catchment or over much larger spatial scales. The presence of migration barriers impacts the migration patterns and behavior of the populations of such species, as well as the availability of suitable habitat during key life cycles.

In order to reduce the negative impact of migration barriers, the Fisheries and Aquaculture Act provides for the construction of special facilities to ensure continuity of the river (fish passes, bypasses, etc.) on all facilities that disrupt the transverse continuity of the river. Analysis of the pressure from transverse barriers in the rivers, which was performed during the second cycle of the RBMP found that in a number of cases in the DRBD, the water abstraction facilities are not equipped with facilities to ensure river continuity. The most affected are the valleys of Iskar, Yantra, Ogosta, Osam and Vit rivers. The greatest pressure is on the upper and middle reaches of the Iskar river, the upper reaches of Ogosta, Vit and Osam rivers, and the upper and middle reaches of Yantra river.

In the period 2015-2019, 29 new permits for water abstraction with the presence of facilities to ensure river continuity in 18 water bodies were issued, which does not imply a significant increase of this type of pressure.

Existing hydropower plants (HPPs) are assessed as the most significant source of hydromorphological pressure in the Danube region, with HPPs operating in 44 water bodies in the DRBD.

Links between the drivers, pressures, status and impacts of water abstraction and physical modifications are presented in the figure bellow.

Figure 8: Links between the drivers, pressures, status and impacts of hydromorphological changes

DRIVERS	PRESSURE

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Urbanization Industry Energy Agriculture (farming) Navigation Climate change / Flood protection	Water abstraction for domestic use, industrial water supply and irrigation. Construction of dams and flood protection structures. Dredging of waterways for navigation. Alterations to river beds for flood protection and extraction of sediments.
STATUS Altered hydrological regime, morphological changes, disruption of river continuity, which impact BQEs, oxygen regime, temperature, etc.	**IMPACT** Hydromorphological changes pose a threat to aquatic life and cause loss of biodiversity. Disruption of river continuity implies reduced mobility of aquatic organisms and barrier to fish migration.

(source: IBRD and DRBD)

Within the 2nd RBMP, numerous measures were planned which address the hydromorphological pressure, including regulating water abstraction pressure, regulating the hydrological regime and ensuring the ecological flow through review f and withholding water permits, ban on new permits, strengthening control over meeting permit requirements; introducing requirements for self-monitoring to assess the pressure and impact, construction or rehabilitation of fish passes, improving monitoring and additional surveys. These efforts need to be continued in the 3rd cycle of the RBMPs in order to ensure successful implementation, alongside additional mitigation measures.

Additional measures related to water abstraction should drive towards a higher efficiency of water consumption in all economic sectors. In the water supply and irrigation sector efforts should be continued to reduce water loss. In agriculture, the irrigation schemes should be optimized in order to avoid overirrigation and to reduce the amount of water used per produced output. The same water use optimization should be promoted within the water-intensive industrial sectors.

In order to reduce the pressure from morphological alterations intended for flood protection, instead of structural measures, an ecological alternative or the so-called 'green measures' can be applied at certain places, where feasible. An example of such 'green measure' is floodplains restoration, where possible.

RESPONSE
Regulating water abstraction pressure, regulating hydrological regime and ensuring ecological flow by reviewing and revoking permits; Construction or reconstruction of fish passages; Reducing water losses in the water supply network; Optimizing water use in all economic sectors; Implementing environmentally-friendly (“green”) flood protection measures (e.g. restoration of floodplains)

4.2. Groundwater

On the territory of the DRBD, 50 groundwater bodies were identified and managed, and they are all determined to be groundwater protection areas for drinking water supply. For the purposes of the interim overview of significant water management issues, a review of the currently available monitoring results for the period 2015-2020 was performed for all monitored quality elements for all groundwater bodies in the DRBD. The objective of the review was to determine the links between anthropogenic pressure and impact on groundwater.

4.2.1. Pressure on groundwater quantity

The main pressure on quantitative status of groundwater is caused by water abstraction for agricultural, industrial and drinking water supply purposes.

NIMH performs an annual evaluation of the natural and the available resources in the GWBs and determines what quantities are needed for the terrestrial ecosystems directly dependent on groundwater

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for all groundwater bodies in the Republic of Bulgaria. These assessments and data on groundwater quantities permitted for water abstraction in the DRBD are used in determining the available water quantities in groundwater bodies.

Impact assessment of abstracted water quantities is related to lower water levels in GWBs. Since 2013, DRBD has been determining the available free water quantities for each groundwater body on a monthly basis, which is the basis for assessing the requested water abstractions against the available water quantities. According to the Registry of available free groundwater quantities in the GWBs by month, the ratio of permitted water quantities for the period 2014 - 2020 against the available groundwater resources is relatively stable. As a direct result of the implementation of measures that started in 2014 to preserve and prevent the deterioration of the quantitative status of groundwater on the territory of the DRBD, from 2017 onwards there has been a positive trend in reducing the percentage of permitted water quantities. As of the beginning of 2020, the quantitative status of groundwater bodies in the DRBD is assessed as good, and for 7 GWBs the exploitation index is over 40%.

Based on monitoring data, including data from the hydrogeological observation points, it is evident that for the past period of operation of the RBMP there are no significant negative changes in groundwater levels on the territory of DRBD.

The links between the drivers, pressures, status and impacts on the groundwater quantity are presented in the figure below.

Figure 9: Links between drivers, pressures, status and impacts of groundwater quantity

DRIVERS Urbanization Industry Agriculture Climate change	**PRESSURE** Abstraction of groundwater for domestic use and drinking, industrial water supply and irrigation. Reduced recharge of aquifers caused by droughts. Dewatering of open mines.
STATUS Deterioration of quantitative status of groundwater and the related ecosystems.	**IMPACT** Reduction of available groundwater resources. Lowering of groundwater table. Low groundwater table levels may negatively impact the related terrestrial ecosystems and cause desertification and biodiversity loss because of disrupted hydrological connections between surface waters recharged by shallow groundwater aquifers. Risk of water scarcity for economic purposes.

(source: IBRD and DRBD)

Regulation of pressure on groundwater quantity is carried out via the permit regime under the Water Act, water abstraction fees and monitoring and control activities.

Implementation of the measures set in the second cycle RBMP 2016-2021 regarding the preservation and prevention of deterioration of the quantitative status of groundwater on the territory of DRBD have led to preserving the good status of the GWBs. Groundwater levels are stable, without significant changes, and for GWBs, where initially decreased levels were observed due to groundwater depletion, the measures set out in the RBMP are applied and controlled. As a result of measures implemented during the second cycle of RBMP 2016-2021, there is a decrease in water abstraction pressure, which is reflected in the significantly reduced values of the exploitation index for some groundwater bodies. These efforts should continue in the third RBMP cycle.

RESPONSE Limiting water abstraction and improving water use efficiency; Regulation via permit regime and strengthening control; Digitization and automation of water management; Groundwater conservation in deep aquifers as a main source of drinking water.

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4.2.2. Pressure on groundwater quality

The requirements (quality standards) regarding the quality of groundwater bodies are stipulated in Appendix 1 to Ordinance No.1 of 10.10.2007 on the exploration, use and protection of groundwater. Assessment of anthropogenic pressure on groundwater in the DRBD is based on the threshold values set during the second cycle RBMPs 2016-2021.

When assessing the impact on groundwater quality, it was found that in 15 out of the 50 GWBs, i.e. in 30 % of all GWBs, certain indicators show deviations from the quality standards. Most often, exceedances are the result of elevated nitrate levels caused by point or by diffuse sources. The reasons for that are lack of sewerage systems in smaller settlements and lack of appropriate facilities for wastewater treatment, improper manure use and storage, excessive use of artificial fertilizers, cultivation (especially fallowing) and precipitation.

The rest of the quality issues are caused primarily by the presence of manganese, iron and chromium. It should be noted that some of these exceedances might result from natural hydro-geological conditions. For example, for groundwater bodies with code BG1G0000QAL004 - Porous waters in Quaternary aquifer - Tzibarska lowland and BG1G0000QAL007 - Porous waters in Quaternary aquifer - Karaboazka lowland, which were assessed in RBMP 2016 - 2021 in poor chemical condition with an observed deviation of total chromium, it is considered that exceedances are of natural origin. A similar conclusion can be made also for part of the GWBs that show deviation of the quality standards for manganese and iron, which are not due to pollution, but to subjective factors and are of natural origin.

In some cases, industry and waste management are also contributing factors to chemical substances pollution of groundwater.

Analysis of the impact of hazardous substances (specific organic pollutants) has shown impact in 4 monitoring points in different GWBs. Analysis shows that pollution is localised in specific monitoring points and is not observed in the other GWBs monitoring points.

The links between the drivers, pressures, status and impacts on the groundwater quality are presented in the figure below.

Figure 10: Links between the drivers, pressures, status and impacts on the quality of groundwater

DRIVERS Urbanization Industry Agriculture	**PRESSURE** Industrial sites, including from operations in the past, mining and uranium mining, pesticide depots and waste landfills. Use of artificial and organic fertilizers in agriculture and manure storage in livestock farming. Application of plant protection products in agriculture and forestry. Emissions of harmful substances to the atmosphere and their subsequent deposition onto the soil and leaching into groundwater.
STATUS Elevated groundwater concentrations of harmful chemical substances of anthropogenic origin.	**IMPACT** Deterioration of the status of groundwater. Limitations to the usability of groundwater resources for human consumption, irrigation and economic activity. Negative impact on groundwater-dependent terrestrial ecosystems. Threat to aquatic life and loss of biodiversity.

(source: IBRD and DRBD)

As the increasing nutrient contamination of surface water bodies seems to also be impacted by agriculture, it will be extremely important to integrate the environmental and agricultural policies in the 3rd RBMP and beyond. Policies to encourage and reward the use of the best agricultural management practices for farmers that receive European funds will also help control nitrate accumulation in groundwater.

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RESPONSE

Prioritization of all described measures in response to nutrient and organic pollution and chemical pollution from agriculture in the context of groundwater protection; Promoting the use of good agricultural practices; Expansion of groundwater protection zones; Additional modeling to increase the level of understanding of groundwater issues.

4.3. Climate change

Climate change is a change in normal atmospheric conditions or climatic processes that takes place over decades or over a longer period of time. Climate change affects water more than any other natural resource. It leads to intense changes in the hydrological cycle, as a result of which globally the dry seasons become even drier and the rainy seasons even wetter, as a result of which the risk of larger and more frequent floods and droughts increases. Climate change has a huge impact on the quality and quantity of available and accessible water resources.

Climate change has specific regional dimensions. There is an increase in damage from extreme hydro-climatic phenomena, such as floods, extremely high temperatures, storms, droughts, hailstone storms, etc. In the future, they are expected to occur more often and to be more intense.

Climate change is projected to lead to significant changes in annual and seasonal precipitation and water runoff, flood risks and coastal erosion, water quality and the distribution of species and ecosystems.

Pressure from climate change cannot be taken in isolation from the presence and significance of other types of pressure on surface waters. The expected changes related to climate change will have impact mainly on the magnitude of water runoff, the period of recurrence, seasonality, variation between averages and extremes; water quality; the sensitivity and resilience of ecosystems, habitats and / or species affected by these changes. It is expected that climate change will exacerbate the existing pressure on water resources.

Climate change is a water management issue, which can be addressed in two aspects: floods and droughts.

4.3.1. Floods

Harmful effects of water are expressed mainly through floods. Reducing flood risk and flood-related damage is the main purpose of the flood risk management plans (FRMPs).

For the past 9 years, 217 flood events in 341 locations were reported on the territory of the DRBD. 28 flood events have been classified as significant according to the latest Preliminary Flood Risk Assessment, with the most significant events caused by rainfall (pluvial flooding) and rivers (fluvial flooding) or – most frequently – by a combination of the two sources.

The floods in 2014, which claimed human lives and caused great damage to the population and the economy, confirm the importance of the problem and the need for targeted and adequate measures to prevent or reduce the negative consequences of these natural phenomena. All floods were caused by torrential rainfalls, which are related to climate change.

Based on the analysis carried out within the latest preliminary flood risk assessment, 34 areas of potential significant flood risk have been identified, of which 19 are categorized as purely fluvial (caused by river overflow), 2 are purely pluvial (caused by rainfall), while the remaining 12 are areas where the risk of both pluvial and fluvial floods coexists.

4.3.2. Droughts

Climate change can affect the gradual change of average conditions, as well as the frequency and magnitude of the deviations, thus effecting the occurrence of droughts. Drought is usually expressed as a

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significant reduction in precipitation for prolonged periods of time and a large territorial scope. Droughts are associated with lack of precipitation and moisture in the atmosphere and in the soil. They are seasonal or annual. Drought can last for months or even years. This pressure has a negative impact on water resources and wetlands, as well as on habitats.

The performed analysis shows that the key driver of the current water scarcity issues in Bulgaria are long term climatic changes, mainly related with reduced rainfall and lower water inflow, higher temperatures and increased evapotranspiration.

Climate change and droughts are expected to increasingly affect Bulgaria's territory in the medium- and long-term. Because of the expected changes, climate change will also lead to differentiated regional yield impacts on the Bulgarian agricultural production depending on the type of crops.

Links between drivers, pressure, status and impact of climate change, as well as response to address this issue, are presented in the figure below.

Figure 11: Links between the drivers, pressures, status and impacts of climate change

DRIVERS Climate change due to urbanization, industry and agriculture (atmospheric greenhouse gas emissions from industry, agriculture, transport and households)	**PRESSURE** Climate change leads to increased air and water temperatures which affect evapotranspiration rates, causing droughts in the long term. Intense rainfall leading to extreme water runoff and water levels. Increased risk and frequency of extreme weather events - floods and droughts.
STATUS Reduced river runoff, seasonal runoff changes and changes in snowmelt periods. Low water levels in rivers and lakes. Increased pollutant concentrations. Flooding of urban and agricultural areas, industrial sites and critical infrastructure.	**IMPACT** Negative water balance in water catchment areas. Loss of habitats and threat to aquatic life. Increased impact of pollution because of higher water temperature (water bodies with a better status have a greater adaptive capacity and are therefore less at risk of climate change-related disturbances).

(source: IBRD and DRBD)

Prolonged droughts have become more common in recent years, posing new water management challenges to meet needs, related to water scarcity. Particularly sensitive in this regard are those issues related to drinking water supply and water supply for irrigation, improving management of complex and significant dams, as well as the combined use of surface water and groundwater to provide sufficient water quantities for aquatic ecosystems.

Climate change and droughts exacerbate the challenges related to sharing water resources and require closer cooperation between adaptation and water management authorities, in close cooperation with all sectors concerned.

RESPONSE **Floods:** Coordination between data, information, assessment outcomes and the measures set in the RBMPs and the FRMPs; Increasing the share of natural water retention measures, which contribute to both reducing the flood risk and to improving ecosystem status and achieving RBMPs' objectives (rehabilitation of floodplains, wetlands, restoration of the natural state of riverbeds, etc.). **Drought:** Reducing water losses; Improving water efficiency (including ensuring alternative water sources) in the potable water supply and irrigation sector; Improving water management through better control over water use, information on available water resources and converging it into a single information system; Collection and dissemination of information on good practices and technologies for saving water in all economic sectors and its reuse; Improving the management of complex and significant

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dams and control over water use; Land use management and promotion of growing crops in drought-vulnerable areas.

4.4. Water scarcity

Climate change is expected to exacerbate the structural issues that are already leading to water scarcity. Water scarcity is defined as a long-term imbalance between water supply and demand in a region (or a water supply system), most likely characterized by a semi-dry or dry climate and/or intensified by rapid increase in water demand due to growing population and/or expanding irrigated agriculture.

Climate change may further exacerbate existing water scarcity issues. Many economic sectors are heavily dependent on water availability; hence a major challenge for water management is to balance water supply and demand; this challenge will be exacerbated by climate change.

The links between the drivers, pressures, status and impacts of water scarcity are presented in the figure below.

Figure 12: Links between the drivers, pressures, status and impacts of water scarcity

DRIVERS Urbanization Industry Agriculture	**PRESSURE** Water scarcity zones
STATUS Long-term systemic imbalance between water supply and demand	**IMPACT** Water scarcity in the changing climate environment (droughts) could be a reason for further deterioration of the water status.

(source: IBRD and DRBD)

A large part of the measures described in response to drought impacts are also measures to mitigate the effects of water scarcity. Achieving reduced water consumption and water reuse will be major contributor to increased resilience of the society to water scarcity and climate change.

Measures to improve reliability and efficiency of water supply systems and reduce water loss should be top priority. The main actions that are necessary to implement should include improvement of monitoring of WSS networks, optimized pressure management, introducing automatic and digital management practices, leak detection and repair, and rehabilitation of critical infrastructure. In addition, the water saving potential of industries and agriculture in regions with threat of water shortage should also be exploited. Re-use of treated wastewater effluent or storm water should also be considered to increase water availability.

RESPONSE

Improving water abstraction efficiency and reducing water losses; Improving the reliability and efficiency of the water supply systems; Improving the monitoring of W&S networks; Improving control; Digitization and automation of the water forecasting, control and management processes; Improving coordination between institutions and stakeholders; Water saving practices by industry and agriculture in areas under threat of water scarcity; Reuse of treated wastewater or rainwater in order to increase water availability.

4.5. Danube navigation and transportation

Navigation along the Danube river is another source of pressure. Most of all, hydromorphological pressure on the Danube river is related to the provision of navigational conditions and the maintenance of the function of the river as a transport corridor. Maintenance of the shipping route is achieved through

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dredging activities with the aim to remove accumulated alluvial deposits and shoals which could obstruct navigation. The deposit build-up in waterways is driven by natural sediment transport, as well as by erosion of upstream watersheds often related to anthropogenic activity.

Navigation is also a source of water pollution related to accidental releases from ships and ports. An indirect indicator of the pollution pressure from navigation is the amount of collected solid waste, liquid waste and ballast from ships. This amount has been on a decreasing trend since 2010.

Pressure from transportation on water bodies is observed mainly through nitrogen oxide emissions as well as emissions of copper, and to a lesser extent also zinc and lead. Overall it can be said that the role of the transport sector is the most significant in terms of copper pollution. In the case of nitrogen oxide, although the emissions are significant (close to 50 000 tons per year for the whole country), the nutrient pressure from agriculture is by far a greater cause of concern. Thus the current pressure from the transport sector is not considered a significant issue.

4.6. Issues related to the international basin of the Danube river

There is a strong overlap of the significant water management issues reported for the whole Danube basin and the issues observed in this report for the Bulgarian part of the Danube river basin. These overlapping issues are related to organic pollution, nutrient and hazardous substances pollution, groundwater quantity and quality, hydrological and morphological alterations, interruptions to river continuity.

4.7. Other potential issues

Invasive species

These are alien species (plants, animals and fungi of non-native origin) that are imported into the wild from other areas where they are distributed. Their appearance is usually the result of anthropogenic activities - transport, tourism, trade, agriculture, gardening, afforestation, woodworking. It can also happen when crossing the natural boundaries between countries and continents - through the water basins, by air, carried by birds and animals, etc.

According the information available, the widely distributed “traditional” alien invasive species of fish within the DRBD are *Lepomis gibbosus*, *Pseudorasbora parva* and *Carassius gibelio*; however, the Danube river is a corridor for distribution of new alien invasive fish species, such as: *Perccottus glennii* and *Ameiurus melas* which appeared recently in Bulgarian waters. For the time being however, these two species are distributed only in the Danube and the adjacent water bodies. Another invasive species typical for the Danube tributaries is the round goby *Neogobius melanostomus*, which is of a Black Sea origin. Invasive species of invertebrate fauna include *Branchiura sowerbyi*, *Corbicula fluminea*, *Sinanodonta woodiana*, etc. The zebra mussel is also widespread in almost all reservoirs and lakes within the DRBD, where it causes damage to water abstraction facilities. The above-mentioned Asian corbicula (Corbicula fluminea) initially appeared in the Danube but currently it spreads more and more upstream and in the tributaries.

Sturgeon conservation

In Bulgarian waters sturgeons occur only in the Danube river and in the Black Sea. Currently they are represented by 4 species: *Huso huso*, *Acipenser ruthenus*, *Acipenser gueldenstaedti* and *Acipenser stellatus*. The fifth one, *Acipenser nudiventris*, currently is considered extinct in the Danube river, and both in the Bulgarian and in the Romanian Black Sea waters.

Sturgeons are declared endangered species in the Bulgarian Red Data Book (2012) because of the dramatic decrease of their populations. The main reasons for the decreasing of their populations are considered the anthropogenic pressures: intensive fishing (including poaching) and the human activities in the lower reach

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of the Danube river. The gravel abstraction and some activities for improvement of the navigation disturb the spawning migrations of the sturgeons and damage the spawning habitats.

In recent years, measures to preserve the populations of the Danube sturgeons are implemented. A total ban of the fishing of sturgeons were agreed between Danube countries for the last 10 years. Activities for ex situ conservation (artificial breeding and stocking) together with regular monitoring are developed under different projects related to the Biological Diversity Act.

5. Public participation and next steps towards the draft RBMP 2022-2027

Water plays a key role in everyday life, as well as for all sectors of the economy, and is essential in maintaining ecosystems and biodiversity. Integrated water management and securing water of sufficient quantity and of the required quality is the main objective of water management.

Being aware of the issues and their causes is key to their resolution, which is expected to be fully realized at the next stage in the planning cycle - the draft RBMP. The present document, which is subject to consultation, outlines the main issues for which it can be concluded on the basis of an analysis of the data available at this stage that they are the reason for the water bodies in the Danube River Basin Management District being at risk of not achieving good status.

The Significant Water Management Issues report is published on the DRBD's and on the MOEW's websites for a six-month consultation period until 18.04.2022. In the consultation process, various format will be used to discuss the issues raised with different target groups and with the general public. The aim is through discussions and exchange of views to better identify the significant water management issues, to outline appropriate proposals for adequate and applicable measures to address them, as well as to reach a consensus on policies to attain the objectives of achieving good status.

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