

NON-TECHNICAL SUMMARY  
Environmental and Social Impact Assessment  
for the Pambukovica Dam Project  
Serbia



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Abbreviation	Full Name
<b>BMP</b>	Biodiversity Management Plan
<b>CFP</b>	Chance Find Procedure
<b>E&amp;S</b>	Environmental and Social
<b>E&amp;S Policy</b>	Environmental and Social Policy
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>EIA</b>	Environmental Impact Assessment
<b>EPRP</b>	Emergency Preparedness and Response Plan
<b>ESCP</b>	Erosion and Sediment Control Plan
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>GBVH</b>	Gender-Based Violence and Harassment
<b>IPCM</b>	Institute for Protection of Cultural Monuments
<b>LMP</b>	Labour Management Plan
<b>LRP</b>	Livelihood Restoration Plan
<b>NTS</b>	Non-Technical Summary
<b>PAP</b>	Project Affected Person
<b>PR</b>	Performance Requirement
<b>PWMC</b>	Public Water Management Company
<b>RMMP</b>	Resource and Material Management Plan
<b>SEP</b>	Stakeholder Engagement Plan
<b>SRRP</b>	Site Restoration and Rehabilitation Plan

# 1. Introduction

The European Bank for Reconstruction and Development (“EBRD”) is considering providing finance to the Republic of Serbia, represented by the Ministry of Finance. The Loan is expected to finance the construction of a new impoundment dam and reservoir infrastructure at Pambukovica including associated works such as upstream sediment traps, State Road IB no.21 realignment etc. (the “Project”). The Project will be implemented by the Public Water Management Company Srbijavode (“Pwmc” or “Srbijavode”). This document, Non-Technical Summary (NTS) developed for the purpose of the Project, provides general information on:

- The construction and operation of the of multipurpose reservoir Pambukovca Dam.
- Potential environmental and social (E&S) impacts and mitigation measures to be implemented to address identified risks,
- Information on how members of the public can contact the Pwmc Srbijavode with any further questions they might have about the Project.

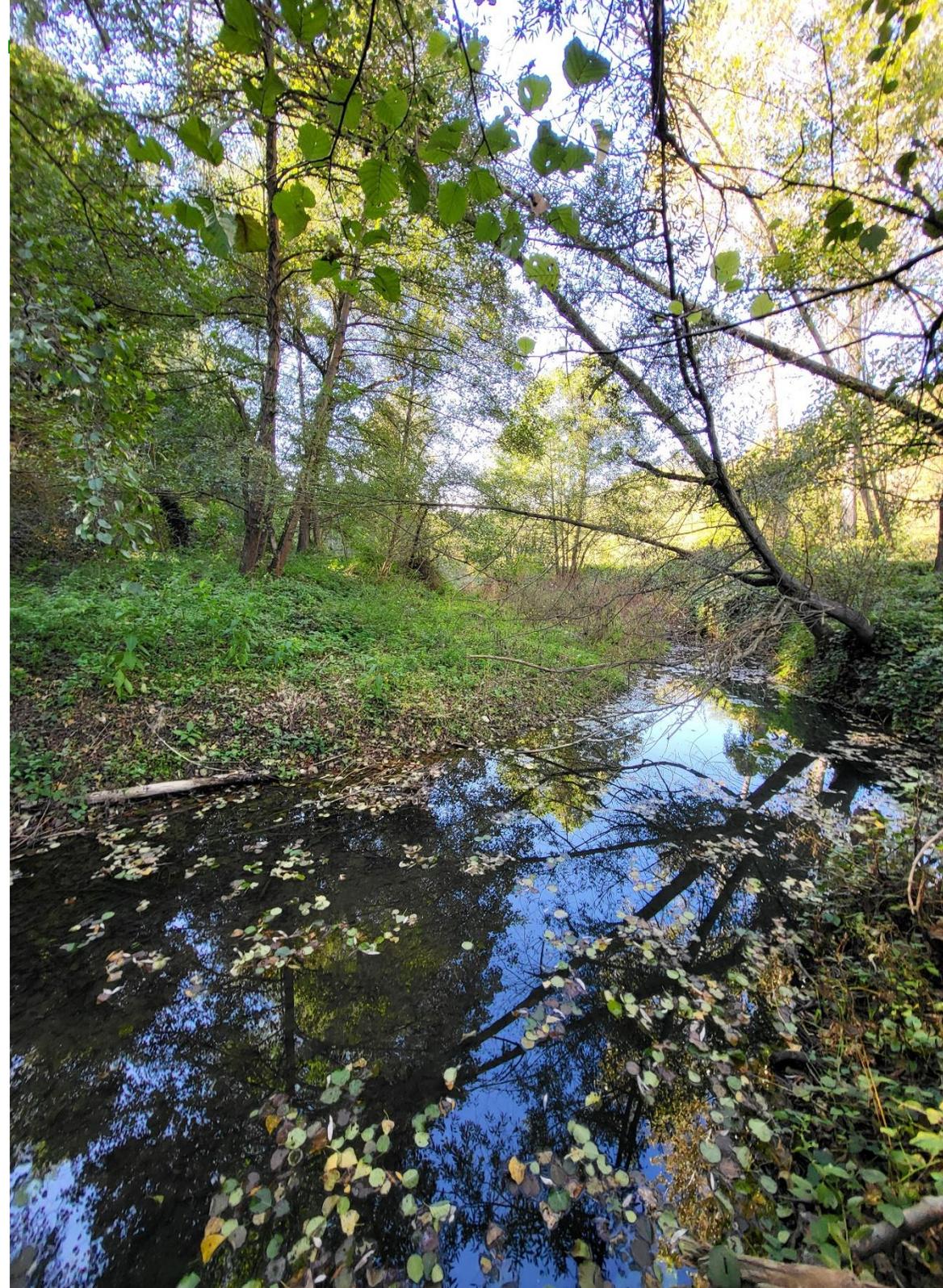
## Public Water Management Company Srbijavode

The Public Water Management Company Srbijavode will be responsible for implementation of the Project. Pwmc Srbijavode is also the main national body responsible for water management, including water use and protection from pollution, as well as flood management. Pwmc Srbijavode operates under the Water Management Directorate, which is an administrative authority of the Ministry of Agriculture, Forestry and Water Management.

## Environmental and Social Impact Assessment (ESIA)

The main purpose of conducting the ESIA is to evaluate the potential E&S impacts and to develop measures to mitigate any adverse effects. This assessment ensures that the project complies with national and international environmental and social standards and regulations, and it helps in identifying and addressing any concerns related to the environment, biodiversity, water resources, and the local communities.

Consideration of the E&S factors throughout the entire lifecycle of the Project (planning and design (pre-construction), construction, operations, and decommissioning) is an essential prerequisite to Project implementation in accordance with the sustainable development concept.



## 2. Project Description

### Project history

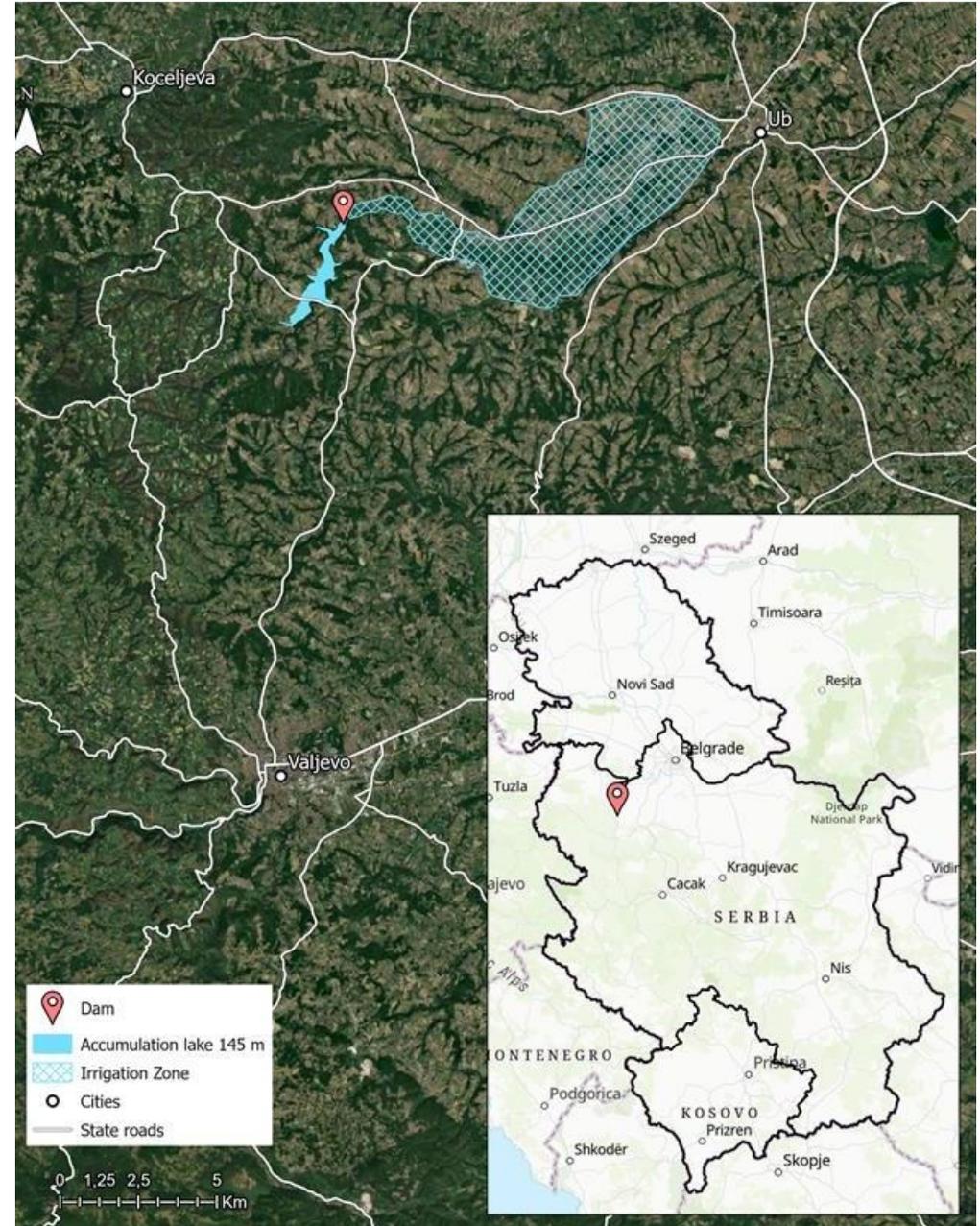
The Kolubara River basin is characterized by unfavourable water regimes and has a long history of flood occurrences. Flood protection for the valley areas within the basin has always been a pressing issue, which has been confirmed through the Preliminary Flood Risk Assessment undertaken in 2012, in which the Kolubara basin was identified as significant at the national level in Serbia. The seriousness of the problem was highlighted by the floods in May 2014, when the population, economy, infrastructure, and natural resources along the Kolubara basin suffered significant damage. The 2018 Kolubara River Basin Catchment Study by the Institute for Water Management Jaroslav Cerni proposed the Pambukovica dam as part of a long-term solution. Since, PWMC proceeded with commissioning of relevant studies for the realisation of the Project including:

- Feasibility Study
- Environmental Impact Assessment Study (Serbian Legislation)
- Conceptual Design
- Design for Construction Permit
- Baseline Biodiversity Surveys

### Main Project parties

Responsible Party	Role
Ministry of Finance	Loan Signatory
Ministry of Agriculture, Forestry and Water Management / Water Directorate	Ministry / Directorate
Public Water Management Company Srbijavode	Implementation of the Project; water management responsibility; future Operator
Local Authorities / Municipalities	Expropriation process (ultimate responsibility PWMC Srbijavode)
European Bank for Reconstruction and Development	Potential Lender

### Project location



## Project phases, key features and function / purpose

### Project phases

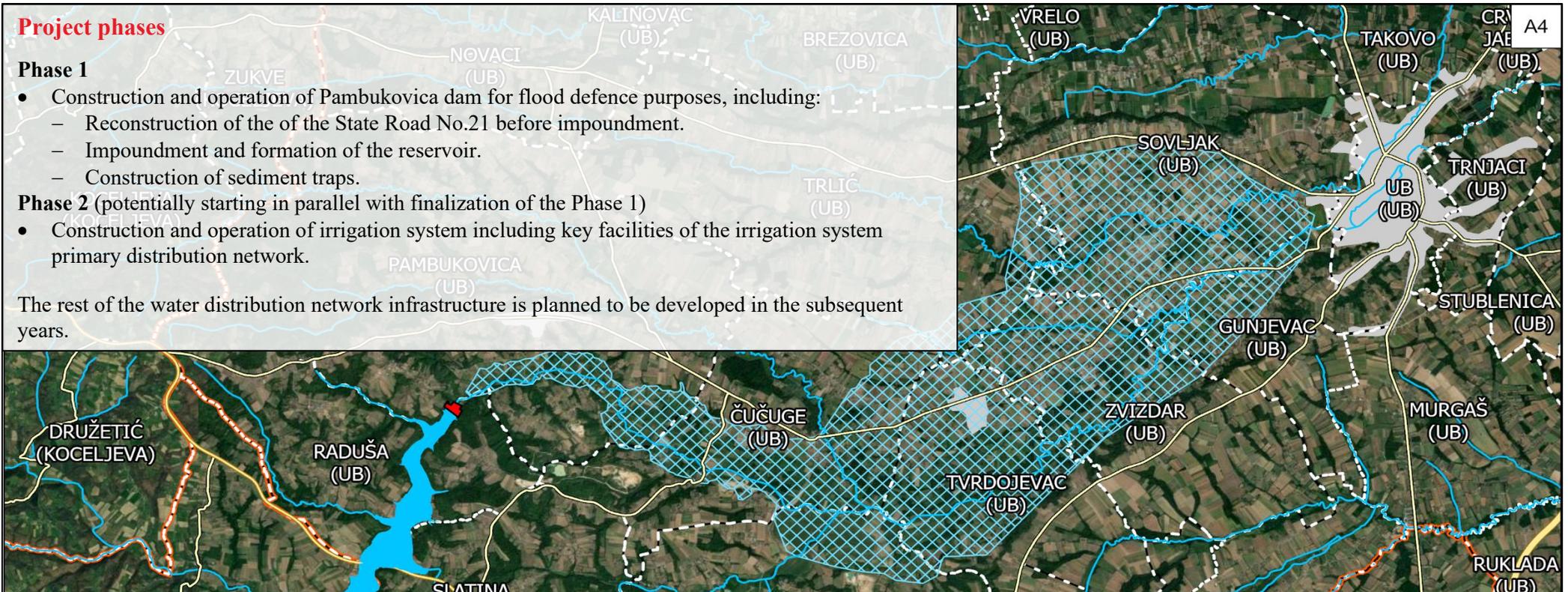
#### Phase 1

- Construction and operation of Pambukovica dam for flood defence purposes, including:
  - Reconstruction of the of the State Road No.21 before impoundment.
  - Impoundment and formation of the reservoir.
  - Construction of sediment traps.

#### Phase 2 (potentially starting in parallel with finalization of the Phase 1)

- Construction and operation of irrigation system including key facilities of the irrigation system primary distribution network.

The rest of the water distribution network infrastructure is planned to be developed in the subsequent years.



### Key Project functions

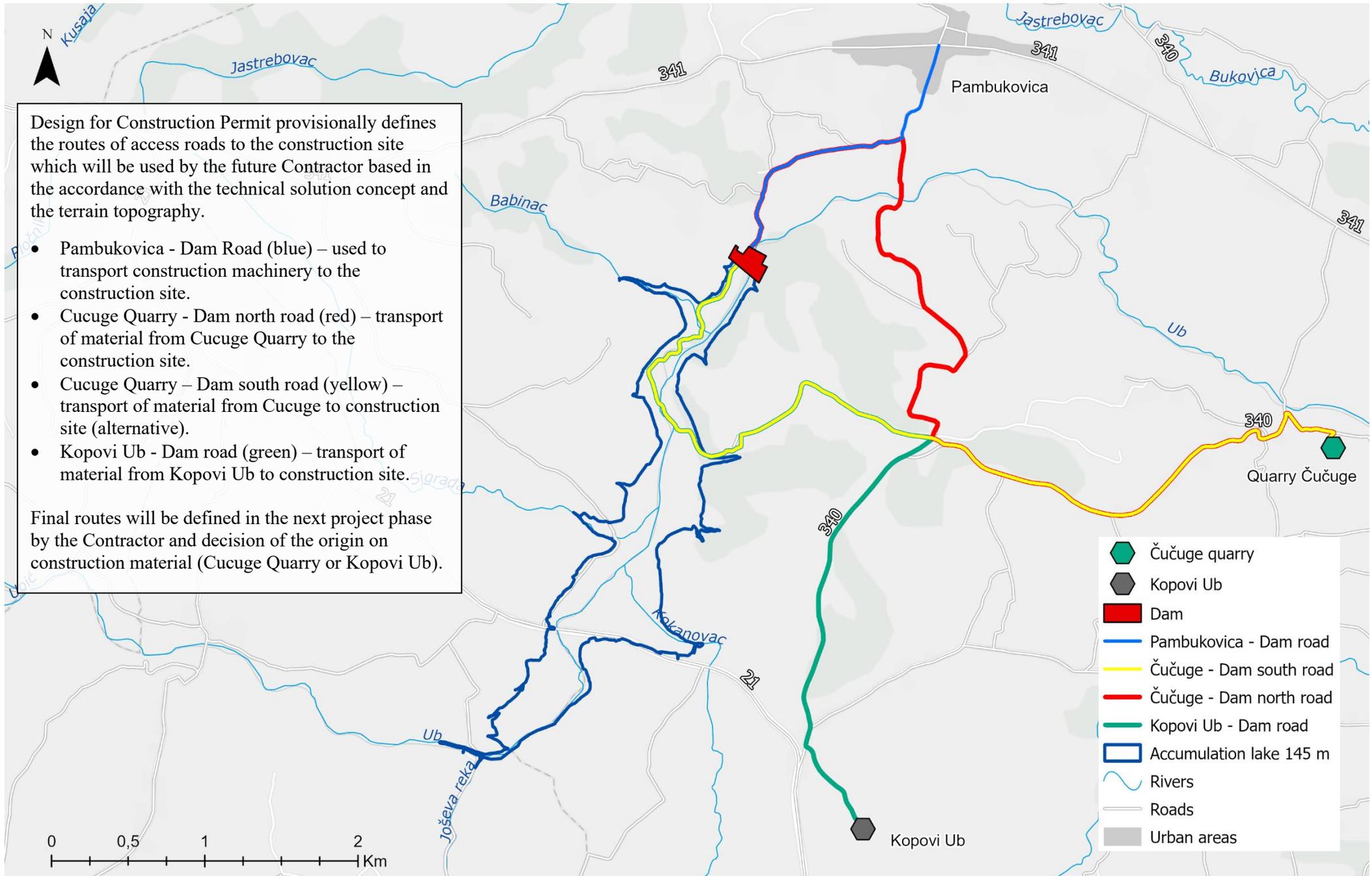
- Flood protection and management (primary purpose),
- Irrigation of up to 2,225ha (secondary purpose),
- Maintaining a guaranteed ecological flow in reservoir and downstream river (secondary purpose).

### Key Project features

- 27.5 m high earth embankment dam;
- Multipurpose reservoir;
- Total reservoir volume of 8.15 million m<sup>3</sup>;
- Construction time – approximately 3 years;
- Assumed dam lifetime is 80 years



## Project access roads



## Project alternatives (dam vs other flood protection solutions)

Alternative	Effectiveness	Feasibility	Environmental Benefits & Impacts	Social Benefits & Impacts	Safety Benefits & Impacts
<b>Retention Basins (Dams)</b>	<ul style="list-style-type: none"> <li>Very High – Effective at reducing peak flood waves and downstream risk</li> </ul>	<ul style="list-style-type: none"> <li>Moderate – Requires land acquisition, engineering and high level of investment</li> </ul>	<ul style="list-style-type: none"> <li>Potential to improve resilience to drought and flood damage to the river</li> <li>May affect habitats, protected areas, and archaeological sites</li> </ul>	<ul style="list-style-type: none"> <li>Long-term protection</li> <li>Potential displacement and land acquisition issues</li> <li>Requires expropriation</li> </ul>	<ul style="list-style-type: none"> <li>High structural protection</li> <li>Requires maintenance and emergency planning</li> </ul>
<b>Embankments &amp; Levees</b>	<ul style="list-style-type: none"> <li>High – Effective in urban and industrial areas</li> </ul>	<ul style="list-style-type: none"> <li>High – Existing infrastructure can be reinforced</li> </ul>	<ul style="list-style-type: none"> <li>Prevents erosion</li> <li>Alters river hydrology and may fragment habitats</li> </ul>	<ul style="list-style-type: none"> <li>Immediate protection for critical areas</li> <li>May transfer risk downstream</li> </ul>	<ul style="list-style-type: none"> <li>Immediate benefit</li> <li>Can fail under extreme conditions</li> </ul>
<b>Anti-Erosion Works</b>	<ul style="list-style-type: none"> <li>Moderate – Reduces runoff and sediment transport</li> </ul>	<ul style="list-style-type: none"> <li>High – Low-tech, locally implementable</li> </ul>	<ul style="list-style-type: none"> <li>Improves soil stability and water quality</li> <li>Limited impact on peak floods</li> </ul>	<ul style="list-style-type: none"> <li>Boosts rural resilience</li> <li>Minimal social disruption</li> </ul>	<ul style="list-style-type: none"> <li>Reduces erosion and landslide risks</li> </ul>
<b>Urban Drainage Improvements</b>	<ul style="list-style-type: none"> <li>Moderate – Targets urban flash floods</li> </ul>	<ul style="list-style-type: none"> <li>High – Especially effective in towns</li> </ul>	<ul style="list-style-type: none"> <li>Improves urban water quality</li> <li>No riverine impact</li> </ul>	<ul style="list-style-type: none"> <li>Enhances urban living standards</li> <li>May cause temporary construction nuisance</li> </ul>	<ul style="list-style-type: none"> <li>Reduces local urban flood risks</li> </ul>
<b>Land Use Planning / Zoning</b>	<ul style="list-style-type: none"> <li>High (Long-Term) – Prevents exposure</li> </ul>	<ul style="list-style-type: none"> <li>Moderate – Depends on enforcement and governance</li> </ul>	<ul style="list-style-type: none"> <li>Preserves natural flood zones</li> <li>No immediate flood protection</li> </ul>	<ul style="list-style-type: none"> <li>Reduces future vulnerability</li> <li>Politically sensitive</li> </ul>	<ul style="list-style-type: none"> <li>No direct structural benefit</li> <li>Indirect long-term risk reduction</li> </ul>
<b>Early Warning Systems</b>	<ul style="list-style-type: none"> <li>Low (Direct Protection) – Supports preparedness</li> </ul>	<ul style="list-style-type: none"> <li>Very High – Scalable and cost-effective</li> </ul>	<ul style="list-style-type: none"> <li>No ecological footprint</li> </ul>	<ul style="list-style-type: none"> <li>Saves lives via timely alerts</li> <li>Dependent on public response</li> </ul>	<ul style="list-style-type: none"> <li>Improves response readiness</li> <li>No structural risk reduction</li> </ul>

## Project Alternatives (alternative project solutions)

Alternative	Impact	Option 1	Option 2
<b>Reservoir Concept</b> Multipurpose Reservoir (Option 1) vs Retention Structure (Option 2)	<i>Environmental</i>	<ul style="list-style-type: none"> <li>Broad benefits: flood control, irrigation, ecological flow</li> <li>Supports ecological balance and groundwater levels</li> <li>Provides habitats and aids afforestation</li> </ul>	<ul style="list-style-type: none"> <li>Focuses mainly on flood control</li> <li>Temporary water storage</li> <li>Limited long-term ecological sustainability</li> </ul>
	<i>Social</i>	<ul style="list-style-type: none"> <li>Supports agriculture, industry, and domestic water use</li> <li>Boosts local economy</li> </ul>	<ul style="list-style-type: none"> <li>Requires more materials and excavation</li> <li>Higher carbon emissions and resource use</li> <li>Greater impact on surrounding vegetation</li> </ul>
<b>Dam Type</b> Earth-fill Dam (Option 1) vs Concrete Gravity Dam (Option 2)	<i>Environmental</i>	<ul style="list-style-type: none"> <li>Naturally blends with surroundings</li> <li>Causes less ecosystem disruption</li> <li>Supports vegetation growth</li> <li>Good stability and seepage control</li> </ul>	<ul style="list-style-type: none"> <li>Requires more materials and excavation</li> <li>Higher carbon emissions and resource use</li> <li>Greater impact on surrounding vegetation</li> </ul>
	<i>Social</i>	<ul style="list-style-type: none"> <li>Cost-effective, uses local materials and suppliers labour</li> <li>Simpler construction and maintenance</li> <li>Could contribute to local employment and skills</li> </ul>	<ul style="list-style-type: none"> <li>Higher construction costs</li> <li>Requires specialized labour and equipment</li> <li>Visual impact may not be preferred</li> </ul>
<b>Location</b> Current Location (Option 1) vs Wider River Valley Downstream (Option 2)	<i>Environmental</i>	<ul style="list-style-type: none"> <li>Geographically and geologically favourable</li> <li>Minimal ecosystem disruption</li> <li>Economical construction due to narrow valley</li> </ul>	<ul style="list-style-type: none"> <li>Less favourable geological conditions</li> <li>Greater habitat loss</li> <li>Larger construction footprint and costs</li> </ul>
	<i>Social</i>	<ul style="list-style-type: none"> <li>Minimizes land expropriation and reduces economic displacement of communities</li> <li>Includes infrastructure improvements like State Road IB 21 reconstruction in line with modern safety standards.</li> </ul>	<ul style="list-style-type: none"> <li>Greater community displacement and land acquisition</li> <li>Longer transport routes affect more recipients</li> </ul>

Alternative	Impact	Option 1	Option 2
<b>Fish Path</b> Fish Path Solution (Option 1) vs No Fish Path Solution (Option 2)	<i>Environmental</i>	<ul style="list-style-type: none"> <li>Improves river connectivity and fish migration</li> <li>Meets regulatory requirements</li> <li>However, technically challenging due to water flow and multi-level structure</li> </ul>	<ul style="list-style-type: none"> <li>Loss of longitudinal river connectivity</li> <li>Technically feasible and aligns with project goals</li> <li>Resident fish species can sustain without fish path</li> </ul>
	<i>Social</i>	<ul style="list-style-type: none"> <li>Improves public perception</li> <li>Fulfils environmental regulations</li> </ul>	<ul style="list-style-type: none"> <li>Maintains dam's primary functions</li> <li>May raise concerns with ecological stakeholders</li> </ul>
<b>Project / No-Project</b> Project (Option 1) vs No-Project Alternative (Option 2)	<i>Environmental</i>	<ul style="list-style-type: none"> <li>Provides ecological benefits: controlled flow, sediment retention, improved water quality</li> <li>Generates construction-related impacts</li> </ul>	<ul style="list-style-type: none"> <li>Avoids construction impacts</li> <li>No ecological benefits realized</li> <li>Continued flood risks</li> </ul>
	<i>Social</i>	<ul style="list-style-type: none"> <li>Reduces flood risks and supports irrigation</li> <li>Promotes local and regional development</li> </ul>	<ul style="list-style-type: none"> <li>Continues high social and economic costs from floods</li> <li>No improvement in irrigation or water availability</li> </ul>

Legend	
Not selected option.	<b>Preferred option</b>

### Summary

Project alternatives presented above show different planning and technical solutions considered during different stages of the project development, from initial planning as part of the Kolubara River Basin up to the Design for Construction Permit (current Project phase).

The chosen solution was selected because it offers the greatest overall benefits to both people and the environment. It provides reliable flood protection while also supporting irrigation and maintaining a healthy flow in the river. The project is expected to help preserve the ecological balance by supporting groundwater levels, maintaining habitats for wildlife, and encouraging the growth of native vegetation and forests.

This alternative also supports local communities by ensuring a steady water supply for agriculture and industry. It brings economic advantages by supporting local employment, using local materials, and improving infrastructure (State Road IB 21). The design fits well with the natural surroundings, causes less disruption to the local ecosystem, and is technically viable, cost-effective, and easy to maintain.

The selected site is geographically and geologically favourable, particularly due to the narrow valley, which allows for lower construction costs and limits the land expropriation needed, hence minimising need to relocate local residents and reducing economic displacement.

The chosen option still results in some environmental and social impacts. It will reduce the natural connectivity of the river along its length, and while current fish species are expected to adapt without the need for a fish passage, some species will require new habitats to be created. Land acquisition has the potential to impact on the livelihood of affected persons, and measures are being put in place to ensure fair compensation and livelihood restoration. Overall, the selected solution represents a balanced approach, offering strong flood protection while also considering environmental sustainability, economic benefits, and technical feasibility.

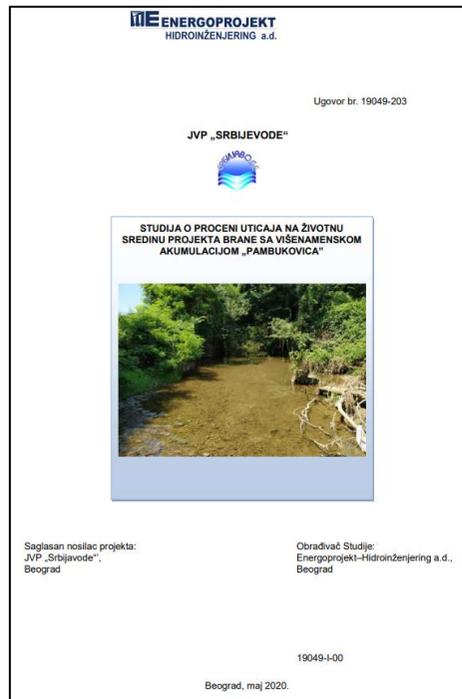
### 3. Environmental and Social Impacts

#### Environmental and Social Impact Assessment Process

Environmental Impact Assessment in line with Serbian legislation was publicly disclosed in November and December 2019 and a final version has been issued in May 2020 and approved by Ministry of Environmental Protection in June 2020.

Additional technical, Environmental and Social Due Diligence was completed in 2020 and recommended development of the full Environmental and Social Impact Assessment in line with the EBRD E&S Policy (2019), as the Project was categorised as “Category A” under this policy.

Environmental and Social Impact Assessment has been developed over 2024 and 2025 in line with the EBRD E&S Policy and relevant international standards, including relevant EU Directives. Biodiversity Baseline Surveys were undertaken over 2023 and 2024 to fully inform biodiversity impact assessment.



#### Project benefits

The Project implementation is expected to result in following positive impacts:

- Construction of the flood alleviation dam will contribute to better water and flood management in the Ub river basin and ultimately contribute to better management of floods in the Kolubara river basin, lowering and limiting negative impact of floods in the areas which have been historically impacted.
- Operation of the multipurpose reservoir in Phase 2 will provide availability of water for irrigation in the area for up to 2,225ha, providing support to local agriculture.
- Through operation, reservoir will contribute to ensuring stable ecological flow during drought periods, bringing the benefit to river ecosystem downstream of the dam.
- Formation / impoundment of the reservoir (open water body) will result in additional habitat and functional benefit for some species. This includes water dependant birds and bats and fish that will have the potential to use the reservoir as a refuge when the River Ub upstream of the dam is in drought conditions..
- Execution of the construction works may potentially support local employment and skills.
- Through limiting flood damage and providing support for irrigation during drought periods, operation of the reservoir will support local and regional development.
- Reconstruction of the State Road IB 21 in line with local and international road safety standards will contribute to improvement of traffic safety.

## Potential impacts and mitigation measures

This chapter gives a brief overview of the possible environmental and social impacts of the Pambukovica Dam Project and how these will be managed. The measures described here are part of a detailed plan called the Environmental and Social Management Plan (ESMP) and other documents mentioned in the text. The ESMP outlines what measures need to be taken to reduce or avoid negative impacts, and it will be followed by both the Client—Public Water Management Company Srbijavode—and the Contractor during construction and operation of the dam.

An Environmental and Social Action Plan (ESAP) has also been developed, which lists specific actions to ensure the Project meets both Serbian laws and international standards, including those of the European Bank for Reconstruction and Development, and bridges any remaining compliance gaps. Together, the ESMP and ESAP are designed to ensure the Project is carried out responsibly, with care for people, nature, and local communities.

### Air Quality

#### Summary of Potential Impacts

The **construction phase** of the Pambukovica Dam is expected to cause temporary changes in air quality, primarily due to dust and emissions from construction activities. These impacts are typical for infrastructure projects and are short-term and localized.

The primary sources of air pollution during construction will include: dust generated from land clearing, excavation, blasting, and the transport of materials. In addition, exhaust emissions like nitrogen oxides and carbon monoxide will result from the use of construction machinery and trucks. Dust dispersion from unpaved roads and material stockpiles is also expected to contribute to the overall temporary reduction in air quality.

Nearby communities, wildlife, or the environment (receptors) located close to the construction site, quarries, and transport routes may be impacted. However, the area around the dam is sparsely populated, with low traffic and no nearby industrial sources, which helps keep background air pollution levels low. Additionally, the local climate—with moderate rainfall and low wind speeds—naturally helps reduce the spread of dust.

During the **operational phase**, air quality impacts are expected to be negligible, as the dam's operation does not involve activities that generate significant emissions. Similarly, the **pre-construction** and **decommissioning phases** are expected to have only minor and short-term impacts.

#### Summary of Mitigation Measures

To minimize air quality impacts, avoid disturbance to and protect the health of local communities and the environment, the following mitigation measures will be implemented:

- **Pre-construction Monitoring:** Air quality monitoring will be conducted before construction begins to establish a baseline for key pollutants. This will help track changes and assess the effectiveness of mitigation measures.
- **Dust Control** by regularly spraying water on roads, excavation areas, and stockpiles; cover trucks and stockpiles to limit dust dispersion; and enforce vehicle speed limits both on-site and along access roads.
- **Reduce emissions** by using modern, well-maintained equipment with emission controls, minimizing engine idling, and optimizing traffic flow to limit congestion and associated air pollution.
- **Monitoring and Management:**
  - Regular air quality monitoring near specific points in the community assessed as sensitive during construction and decommissioning.
  - All measures will be detailed in the Contractor's Environmental and Social Management Plan (CESMP) and the Traffic Management Plan (TMP).

These proactive steps will ensure that air quality remains within acceptable limits and that any temporary impacts are effectively managed. With these measures in place, the project is well-positioned to proceed in a way that supports both environmental protection and community well-being.

## Noise and Vibrations

### Summary of Potential Impacts

The **construction phase** of the Pambukovica Dam will temporarily increase noise and vibration levels in the area. These impacts are expected during activities such as excavation, blasting, road construction, and the use of heavy machinery and transport vehicles. The most noticeable effects will occur near the dam site, borrow pits, quarries, and along transport routes.

Key sources of noise and vibration during construction will include the operation of heavy machinery such as excavators, bulldozers, and trucks, as well as blasting and drilling activities, particularly for foundation works. In addition, the transport of materials to and from the site will contribute to the overall noise and vibration levels.

Sensitive receptors include nearby households in Raduša, Slatina, and Pambukovica, as well as the Pambukovica Health Center and Primary School. Wildlife, including protected species, may also be temporarily affected. However, due to the rural setting and the distance of most receptors from the construction site, long-term or severe impacts are not expected.

During the **operational phase**, the dam will not generate significant noise or vibrations. Similarly, the pre-construction phase will involve only minor preparatory activities, and the **decommissioning phase** is expected to have impacts similar to those **during construction**, but for a limited time.

### Summary of Mitigation Measures

To minimize noise and vibration impacts and protect both people and wildlife, the following measures will be implemented:

- Pre-construction Monitoring: Noise measurements will be conducted before construction begins to establish baseline conditions and ensure compliance with Serbian regulations.
- During **construction phase**, noisy activities will be limited to daytime hours, modern and well-maintained machinery will be used to reduce noise and vibration, unnecessary engine idling will be avoided, traffic will be optimized, temporary noise barriers will be installed near sensitive areas if needed, high-noise activities like blasting will be scheduled for less sensitive times of day, and controlled blasting techniques will be employed with safe distances maintained from sensitive receptors.
- Regular noise and vibration **monitoring during construction** will be conducted near sensitive receptors, supported by a Contractor's Environmental and Social Management Plan (CESMP) with detailed control procedures and a Traffic Management Plan (TMP) to address noise from transport and ensure safe routing.

These measures are designed to ensure that any temporary disturbances are well-managed and that the project proceeds in a way that respects the well-being of local communities and the environment.



## Soil and Groundwater

### Summary of Potential Impacts

During **construction phase** of the Pambuovica Dam, activities such as excavation, material storage, and the use of heavy machinery may disturb soil layers and alter groundwater flow. There is a potential for contamination from fuel, oil, and construction materials if not properly managed. Additionally, the removal of vegetation and topsoil could lead to increased erosion and reduced soil quality.

Groundwater levels may fluctuate due to drainage and water abstraction for construction purposes. While these changes are expected to be localized and temporary, they could potentially affect nearby wells and ecosystems.

During **operation phase**, the reservoir may raise groundwater levels in adjacent areas, which could improve soil moisture, but also alter natural hydrological patterns. Conversely, the flooding of agricultural land by the reservoir will result in the loss of some productive soil, although irrigation provided by the dam will enhance soil fertility in other areas.

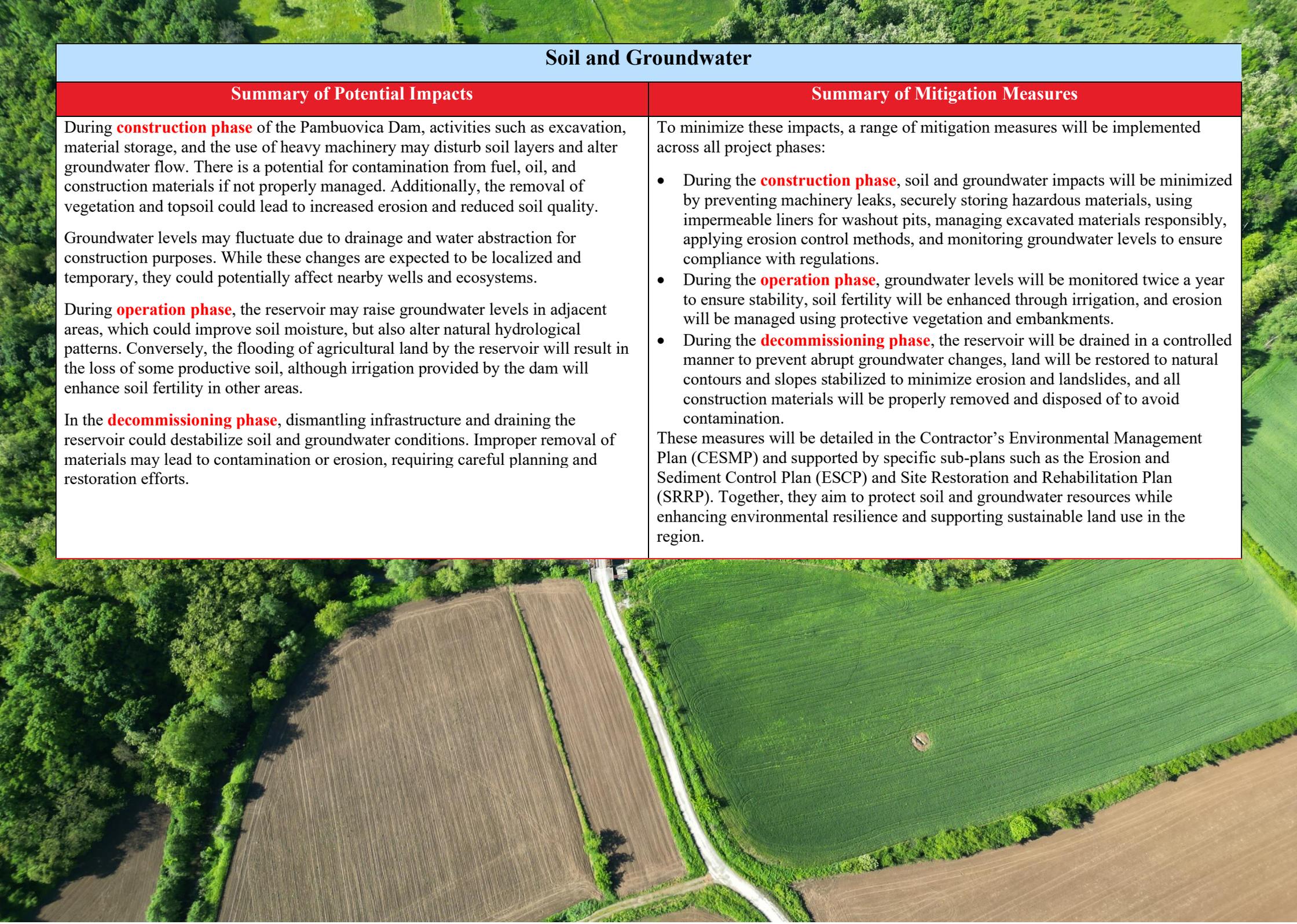
In the **decommissioning phase**, dismantling infrastructure and draining the reservoir could destabilize soil and groundwater conditions. Improper removal of materials may lead to contamination or erosion, requiring careful planning and restoration efforts.

### Summary of Mitigation Measures

To minimize these impacts, a range of mitigation measures will be implemented across all project phases:

- During the **construction phase**, soil and groundwater impacts will be minimized by preventing machinery leaks, securely storing hazardous materials, using impermeable liners for washout pits, managing excavated materials responsibly, applying erosion control methods, and monitoring groundwater levels to ensure compliance with regulations.
- During the **operation phase**, groundwater levels will be monitored twice a year to ensure stability, soil fertility will be enhanced through irrigation, and erosion will be managed using protective vegetation and embankments.
- During the **decommissioning phase**, the reservoir will be drained in a controlled manner to prevent abrupt groundwater changes, land will be restored to natural contours and slopes stabilized to minimize erosion and landslides, and all construction materials will be properly removed and disposed of to avoid contamination.

These measures will be detailed in the Contractor's Environmental Management Plan (CESMP) and supported by specific sub-plans such as the Erosion and Sediment Control Plan (ESCP) and Site Restoration and Rehabilitation Plan (SRRP). Together, they aim to protect soil and groundwater resources while enhancing environmental resilience and supporting sustainable land use in the region.



An aerial photograph showing a dense green forest on the left and a large, cleared brown area on the right, likely a construction site or quarry. The cleared area is rectangular and has some faint tracks or paths. The forest is thick and extends to the top and bottom edges of the image.

## Resources and Materials Management

### Summary of Potential Impacts

The **construction phase** of the Pambukovica Dam will require a significant amount of natural materials, including clay, sand, gravel, and rock. These will be sourced from nearby borrow pits and quarries, such as the Čučuge limestone quarry and the Kopovi Ub site (exact sources to be confirmed in the next project phase).

Excavation activities will probably generate surplus material, some of which may not be suitable for reuse. Approximately 225,000 cubic meters of such material will need to be safely disposed of in designated areas. If not properly managed, this could affect land stability and water quality.

Other impacts include increased traffic from transporting materials, which may lead to road wear and emissions, and the use of water from the Ub River for construction purposes. Additionally, the removal of humus and forest vegetation during site preparation could temporarily affect local ecosystems.

Despite these challenges, the project is designed to minimize long-term environmental effects. Most impacts are temporary and localized, occurring only during the **construction phase**.

### Summary of Mitigation Measures

To address these impacts, a Resource and Material Management Plan (RMMP) will be developed. This plan will ensure that all materials are sourced responsibly, used efficiently, and disposed of safely.

Key measures include designating extraction and rehabilitation zones for borrow pits and quarries, implementing reuse and recycling strategies to minimize waste, planning transport routes and schedules to limit traffic and emissions, monitoring water use from the Ub River, storing and reusing humus and vegetation for landscaping and erosion control, and ensuring all activities comply with permits and environmental regulations.

Additional plans will support the RMMP, including an Erosion and Sediment Control Plan (ESCP) and a Site Restoration and Rehabilitation Plan (SRRP). These will help stabilize disturbed areas and restore the landscape after construction.

By implementing these measures, the project aims to balance development needs with environmental protection, ensuring that resources are managed sustainably and impacts are kept to a minimum.

## Waste and Wastewater

### Summary of Potential Impacts

During **construction phase**, non-hazardous waste such as concrete debris, wood, packaging, and metal scraps will be produced, along with hazardous waste including oils, lubricants, paints, and solvents. Wastewater will arise from construction activities (e.g., concrete washout, dewatering), worker facilities, and stormwater runoff. If not properly managed, these waste streams could lead to soil and water contamination, affecting local ecosystems and public health.

In the **operational phase**, waste will be generated from routine maintenance, including used lubricants and packaging. Wastewater may result from maintenance activities and sanitary facilities. Over time, sediment accumulation in the reservoir could reduce its capacity and require dredging, which would also generate waste.

During **decommissioning phase**, large volumes of demolition waste and wastewater from dust suppression and cleaning activities are expected. These could pose risks to soil, water, and air quality if not handled responsibly.

### Summary of Mitigation Measures

To address these impacts, a comprehensive set of mitigation measures will be implemented across all project phases:

- **Waste Management Plan (WMP):** This plan will guide the segregation, recycling, and safe disposal of all waste types. Hazardous waste will be stored in secure containers and removed by licensed contractors.
- **Wastewater Treatment:** Dedicated systems will treat wastewater from construction and operational activities to meet environmental standards before discharge. Concrete washout areas will be lined to prevent contamination.
- **Sanitary Facilities:** Portable toilets and septic systems will be used during construction, with regular servicing by licensed providers.
- **Stormwater Control:** Drainage systems, sediment traps, and retention ponds will be installed to prevent runoff pollution.
- **Spill Prevention and Response Plan (SPRP):** Measures will be in place to prevent and respond to accidental spills of fuel or chemicals.
- **Sediment Management:** Regular monitoring and maintenance of sediment traps will help preserve reservoir capacity and water quality.
- **Decommissioning Plan:** This will include strategies for dismantling infrastructure, managing demolition waste, and restoring the site.

These measures will be detailed in the Contractor's Environmental and Social Management Plans and PPMC Srbijavode Operation and Maintenance Management Plans and will ensure that waste and wastewater are managed in a way that protects the environment and supports the health and safety of local communities.

## Cultural Heritage

### Summary of Potential Impacts

The Pambukovica Dam project area is rich in cultural heritage, including medieval monuments, archaeological sites, and locally significant structures. Notable assets include two medieval stećaks (tombstones), a no-name unregistered monument located on the private parcel in Raduša, and nearby sites such as the Church and Monastery of Dokmir and Monastery Merksinac. Additionally, archaeological sites in Brgule, Liso Polje, Kalenić, and Radljevo reflect the region's historical depth.

Most of the known and above listed heritage sites are outside the direct footprint of the dam and reservoir, while location of two medieval stećaks (tombstones) will need to be confirmed before start of construction activities. Construction activities—such as excavation, blasting, and heavy machinery traffic and use—could potentially disturb or damage both documented and undiscovered cultural assets if not handled with care. Vibrations from construction and transport may affect nearby structures.

One unregistered cultural monument located on parcel 896 KO Raduša is within the expropriation boundary and is planned for relocation. No intangible cultural heritage was identified through national or international registers or local consultations.

### Summary of Mitigation Measures

To protect cultural heritage, the project will implement a Cultural Heritage Management Plan (CHMP). In addition to coordination with cultural heritage authorities and provision of relevant training to workers, further measure include:

- Site surveys (and investigations if needed) in collaboration with the Institute for the Protection of Cultural Monuments to document known and potential heritage assets. Such surveys will confirm the location of the medieval stećaks and if impacts cannot be avoided, mitigation measures likely including additional investigation and documentation will be agreed with the Institute and implemented prior to any impacts. Local stakeholders will also be consulted as required.
- Chance Find Procedure (CFP) to ensure immediate action if unexpected archaeological discoveries occur during construction or decommissioning.
- Relocation planning for the unregistered monument in Raduša, with community engagement to preserve its cultural significance and ensure access.
- Vibration monitoring near sensitive sites like Monastery Merksinac, with adjustments to construction methods, access routes or other mitigations including traffic speed restrictions if needed.
- Training for construction personnel to raise awareness and ensure proper handling of heritage finds.
- Coordination with cultural authorities throughout all phases of the project.

These measures aim to ensure that cultural heritage is respected and preserved, while allowing the project to proceed responsibly. Through proactive planning and collaboration with local communities and experts, the project seeks to balance development with the safeguarding of Serbia's rich cultural legacy.



Unregistered cultural monument in Raduša, Municipality Ub

## Occupational Health and Safety

### Summary of Potential Impacts

During **construction phase**, workers may face risks associated with heavy machinery, working at heights, excavation, blasting, and handling hazardous materials. Specific risks include slips, trips, falls, exposure to dust and noise, and working near water bodies.

Maintenance activities during the **operational phase** also carry risks, such as confined space entry and working near open water.

### Summary of Mitigation Measures

To ensure worker safety, an Occupational Health and Safety Management Plan (OHSMP) will be implemented during both construction and operation.

Key measures that will be included in this management plan include provision of comprehensive training and supervision, provision of Personal Protective Equipment (PPE), safe work procedures for high-risk tasks like excavation, blasting, and confined space entry, implementation of permit-to-work systems, regular equipment inspections, clear signage and fencing around hazards, maintenance of health and hygiene standards in worker accommodations, and anonymous grievance mechanisms for reporting concerns.

These measures aim to prevent accidents and ensure a safe working environment throughout construction and operation.

## Community Health and Safety

### Summary of Potential Impacts

The local community may be affected by increased traffic, noise, and dust during **construction phase**. There is also a risk of unauthorized access to construction zones and open water areas. Sensitive locations such as the Pambukovica Health Centre and Sveti Sava Primary School are located near transport routes which raises community safety risk in these areas.

During peak construction, around 350–400 workers will be present on site, with a total workforce of 500–700 over the project. The influx of non-local workers may increase community risks, including Gender-Based Violence and Harassment (GBVH).

During **operation phase**, changes to the road layout and the presence of the reservoir may introduce new safety considerations for road users and nearby residents.

### Summary of Mitigation Measures

To protect the community during the **construction phase**, the project will develop and implement Community Health and Safety Management Plan and Traffic Management Plan and other safety measures, including clear signage and fencing to prevent unauthorized access to construction sites; speed limits and traffic controls on access roads; dust suppression techniques such as water spraying; noise reduction measures by limiting work to daytime hours; community awareness campaigns about construction activities and safety; and careful planning for the safe transport of materials like logs and explosives.

In addition, the Project will implement a Labour Management Plan, mandatory Code of Conduct and GBVH training for all workers, accessible grievance mechanisms, and community awareness measures to protect local residents and promote a safe environment.

During **operation phase**, fencing will be installed along the new road and dam facilities to prevent accidental access, while signage and will be placed at potential access points to inform community of possible risks. Road users will be informed about changes to the road layout to ensure safe navigation.

Through careful planning, training, and implementation of best practices, the project aims to minimize risks and promote a safe and healthy environment throughout all phases of development.



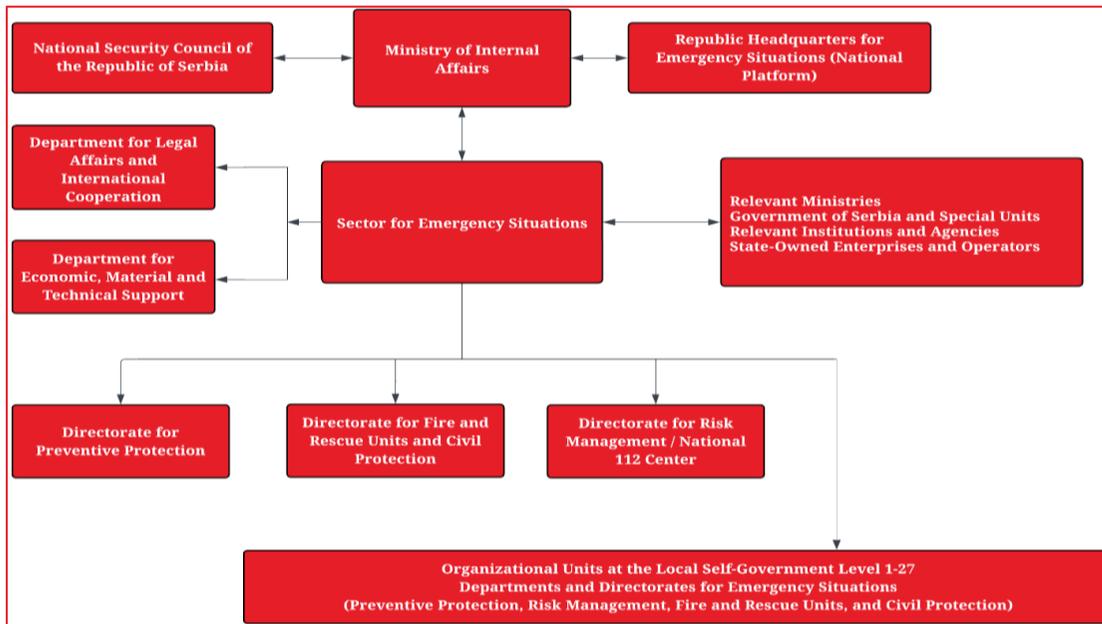
# Emergency Preparedness and Response

## Summary of Potential Impacts

The Pambukovica Dam is designed to provide flood protection and irrigation benefits to the surrounding region. However, like all large dams, it carries certain risks that must be carefully managed. In the unlikely event of a dam failure—due to internal erosion, overtopping during extreme floods, or other structural issues—there could be serious consequences for downstream communities, infrastructure, and the environment.

A detailed dam breach study has shown that, in the worst-case scenarios which are considered unlikely, several settlements could be affected, including the town of Ub. Depending on the scenario, evacuation of people in the impacted may be needed, while over 40 km of roads could be flooded.

These findings highlight the importance of having a robust emergency preparedness and response system in place.



Communication Chart of the Sector for Emergency Situations (state level)

## Summary of Mitigation Measures

The design, construction and operation of the Pambukovica Dam will follow strict national and international standards for dam safety, including guidelines from the International Commission on Large Dams (ICOLD), the World Bank, and the European Bank for Reconstruction and Development. The project will be delivered by experienced contractors and will be supervised by qualified engineers (in a role of the Supervising Engineer). In addition to this, the detailed design, construction and early operation of the dam will be subject to periodic review by an independent group of experts, with significant technical expertise in dams. This will ensure the dam design, construction, and commissioning (including emergency plans described below) will be delivered and implemented on daily basis in accordance with highest international standards for this type of dam.

To ensure the safety of people and property, a comprehensive Emergency Preparedness and Response Plan (EPRP) has been developed. This plan outlines clear procedures and responsibilities for managing emergencies at the dam site and in downstream areas and will be further detailed and subjected to the approval of relevant authorities in the future phases of the Project.

Key mitigation measures include:

- Early Warning System (EWS): Automated sirens, sensors, and mobile/radio alerts to provide timely warnings.
- Alarm Levels & Response: Four emergency levels with specific actions and communication protocols.
- Evacuation Planning: Designated routes and assembly points with local authority coordination.
- Community Awareness: Education campaigns and regular drills, including schools and services.
- Institutional Coordination: Multi-agency group to streamline response efforts.
- Monitoring & Maintenance: Continuous dam monitoring, inspections, and upkeep.
- Regular Updates: Annual plan reviews and five-year full-scale emergency simulations.

These measures aim to minimize risks and ensure that, in the unlikely event of an emergency, communities are well-prepared and protected. The plan reflects international best practices and will be finalized in coordination with all relevant stakeholders and authorities before the dam becomes operational.

## Landscape and Visual

### Summary of Potential Impacts

The construction of the Pambukovica Dam will bring noticeable changes to the local landscape. The most visible transformation will be the creation of a new reservoir, which will stretch approximately 4 kilometers upstream from the dam. This will alter the natural appearance of the Ub River valley, replacing agricultural land and forested areas with a water body.

During **construction phase**, temporary visual impacts will arise from machinery, material storage areas, and construction activities. These may be visible from nearby roads and settlements, particularly from elevated viewpoints. The presence of construction equipment and cleared vegetation may temporarily reduce the scenic quality of the area.

The analysis shows that the dam and reservoir will be visible from several locations, however the overall visual impact is considered moderate due to the rural setting and limited number of sensitive viewpoints. Once in **operation**, the reservoir is expected to blend into the surrounding environment, offering a new visual feature that may be perceived positively by many observers.



View from the left bank in downstream area of the reservoir before the filling of the reservoir.

### Summary of Mitigation Measures

To reduce visual and landscape impacts, several measures will be implemented. During **construction phase**, efforts will be made to minimize the footprint of work areas and to keep material storage and machinery as unobtrusive as possible. Vegetation clearing will be limited to what is strictly necessary, and topsoil will be preserved for later use in site restoration.

Once the dam is built, during **operation phase**, the surrounding area will be landscaped. Vegetation will be planted in areas along the reservoir banks to help the new water body integrate naturally into the environment. These green buffers will also help reduce erosion and improve biodiversity.

Photomontages and visibility maps have been used to guide the design and placement of infrastructure, ensuring that the most sensitive views are respected. In addition, a Landscape and Visual Management Plan will be developed as part of the Contractor's Environmental and Social Management Plan (CESMP). This plan will include detailed actions for restoring disturbed areas, maintaining visual harmony, and monitoring the effectiveness of mitigation efforts.

Overall, while the project will change the landscape, these changes will be managed with care and sensitivity. The result will be a new reservoir that not only serves a vital purpose in water management but also becomes a valued part of the local scenery.



View from the left bank in downstream area of the reservoir before the filling of the reservoir.

## Surface Water

### Summary of Potential Impacts

The Pambukovica Dam project is designed to improve flood protection and support irrigation in the Ub River catchment. While the project brings important benefits, it also introduces changes to the river system. These changes have been carefully studied to ensure that any negative effects are well understood and managed.

- 1. Changes to River Flow and Water Quantity** - The dam will regulate the flow of the Ub River, which may reduce the natural variation in water levels downstream. This could affect aquatic habitats and the availability of water for ecosystems. During irrigation, water will be stored for longer periods, potentially altering the natural flow further. However, the dam will ensure that a minimum flow is always maintained, even during dry periods, helping to protect aquatic life and improve drought resilience.
- 2. Water Quality Concerns** - Construction and operation of the dam may lead to pollution from runoff, accidental spills, or changes in water temperature and oxygen levels. There is also a risk of nutrient build-up in the reservoir, which could lead to algae growth and reduced water quality downstream. These risks are highest in the early years after the reservoir is filled.
- 3. Sediment Accumulation and Riverbed Changes** - Sediment (sand, gravel, and silt) that would normally flow downstream will be trapped behind the dam and in upstream tributaries. This can lead to changes in the shape and structure of the riverbed both upstream and downstream, affecting habitats and the natural movement of materials in the river.
- 4. Erosion and Habitat Fragmentation** - The construction of the dam and associated infrastructure may increase erosion in upstream areas, especially where land is used for farming. The dam will also act as a barrier for fish and other aquatic species, disrupting their movement and fragmenting habitats.
- 5. Localized Scour Below the Dam** - Water released from the dam may cause erosion directly below the spillway, altering the riverbed and potentially affecting aquatic life in that area.

### Summary of Mitigation Measures

To address these impacts, a comprehensive Water Environment Monitoring and Mitigation Plan (WEMMP) has been developed. This plan includes a range of actions to protect water quality, maintain river health, and ensure the project meets national and international environmental standards.

- 1. Pollution Control and Water Quality Monitoring** - A Pollution Control Strategy will be implemented during construction to prevent contamination from runoff and spills. Measures include sediment traps, silt fences, and proper handling of hazardous materials. Water quality will be monitored regularly in the reservoir and downstream areas during operations, with checks on temperature, oxygen levels, nutrients, and other key indicators. If any issues are detected, corrective actions will be taken promptly.
- 2. Maintaining Environmental Flows** - The dam will include a dedicated pipe to release a minimum flow of water throughout the year and management of this flow has been made an integral part of the Operational Rules, ensuring that downstream ecosystems continue to receive enough water. Flow data will be made publicly available to demonstrate compliance with environmental commitments.
- 3. Sediment Management** - Sediment traps will be installed in upstream tributaries to capture material before it reaches the reservoir. These traps will be regularly maintained during operation, and the collected sediment may be relocated downstream to maintain natural sediment movement. In the reservoir, sediment may be managed through flushing or dredging to maintain capacity and prevent build-up.
- 4. Erosion Control and Land Restoration** - To reduce erosion, both biological (tree planting) and biotechnical (stabilization structures) methods will be used in erosion-prone areas. These efforts will be maintained throughout the life of the dam. Improved farming practices will also be promoted to reduce soil loss from agricultural land.
- 5. Enhancing River Connectivity** - To help fish and other species move more freely, the project will explore options to improve or remove existing barriers downstream of the dam. Maintaining a steady flow of water will also help improve water quality and habitat conditions, especially in areas affected by pollution from the town of Ub.
- 6. Long-Term Monitoring and Adaptive Management** - Specialists will carry out regular monitoring of water quality, sediment levels, and riverbed changes in all key zones (upstream, reservoir, and downstream). This data will guide future decisions and allow for adjustments to management strategies as needed.

# Biodiversity

## Summary of Potential Impacts

The project area is located in a mixed landscape of agricultural land, grassland, woodland, and riverine habitats along the River Ub. Biodiversity surveys and assessment conducted in between 2023 and 2025 identified a variety of species and habitats, including fish, amphibians, reptiles, birds, bats, invertebrates, and plant communities. While no internationally protected areas are located within the immediate vicinity of the project, several species of conservation concern were recorded.

Biodiversity impacts resulting from the construction and operation of the dam and reservoir include:

- **Habitat Loss and Fragmentation:** The inundation of land for the reservoir will lead to the permanent loss of natural habitats, including woodlands, grasslands, and river habitats. This will affect species that rely on these environments for feeding, breeding, and shelter.
- **Barrier to Fish Movement:** The dam will create a physical barrier in the River Ub, disrupting the natural movement of fish, mussels, and other aquatic organisms. Although most fish species in the area are non-migratory and can complete their life cycles within localized habitats, there will be a loss of river connectivity within the River Ub.
- **Disturbance During Construction:** Construction activities may disturb wildlife, particularly birds and bats, through noise, vibration, and increased human presence.
- **Water Quality and Flow Changes:** Alterations in water flow and sediment transport could affect aquatic ecosystems downstream.



Stork pictured during biodiversity surveys.

## Summary of Mitigation Measures

To address these impacts, a range of mitigation and management strategies have been proposed:

**1. Habitat Offsetting and Restoration:** To compensate for habitat loss, areas of land will be used to create or improve (restore and enhance) habitats increasing their ecological value. This includes reforestation, grassland creation / restoration, and the enhancement of aquatic habitats. A Habitat Management, Enhancement and Offset Plan has been developed. This will be further developed and implemented in future phases of the project.

**2. Biodiversity Management Plan (BMP):** A detailed BMP will be implemented to guide all biodiversity-related actions during construction and operation. This plan includes species-specific measures and sensitive site clearance, habitat protection protocols, and monitoring requirements.

**3. Fish Passage Considerations:** Surveys confirmed that the fish community is composed mainly of resident species with limited migratory behavior. Suitable habitats exist both upstream and downstream, and the fish population is expected to remain viable without a fish pass showing that there is no need for inclusion of a fish pass. Furthermore, technical studies also concluded that it is not feasible due to the dam's fluctuating water levels and operational requirements.

**4. Monitoring and Adaptive Management:** Ongoing monitoring of key species and habitats will be conducted to assess the effectiveness of mitigation measures. If unexpected impacts are observed, adaptive management strategies will be employed, guided by suitably qualified specialists.

**5. Invasive Species Control:** Measures will be taken to prevent the introduction and spread of invasive plant and animal species, which could threaten native biodiversity.

**6. Stakeholder Engagement:** Local communities, environmental groups, and relevant authorities have been consulted throughout the assessment process. Their input has informed the design of mitigation measures and will continue to be sought prior to and during project construction implementation.

**7. Net Gain Strategy:** The project has been designed and planned to achieve a net gain in biodiversity by enhancing degraded habitats. This will occur at the project site and offsite, beyond the immediate project area.

Through careful planning, robust mitigation measures, and ongoing monitoring, the project is designed to minimize harm and support the long-term health of the region's biodiversity. The commitment to achieving a net gain for biodiversity demonstrates the project's alignment with international best practices and national environmental regulations.

## Labour Standards and Working Conditions

### Summary of Potential Impacts

The Pambukovica Dam project will potentially bring employment opportunities, mainly during the **construction phase**. It is expected to engage skilled professionals such as engineers and technicians, as well as unskilled labour for general construction tasks. It is expected that some of these jobs will be available to local residents.

However, the local workforce may not have the necessary skills or experience for specialized roles, which could lead to the hiring of external workers. This influx may place pressure on local infrastructure and services.

There are also risks related to working conditions. These include informal or unclear contractual arrangements, underpayment, excessive working hours, and inadequate accommodation. Additionally, while Serbian labour laws are broadly aligned with international standards, enforcement is often limited, especially in remote areas or in subcontracted settings.

Women are expected to participate mainly in support roles such as administration, cleaning and catering, with limited involvement in construction. Migrant and foreign workers may face additional vulnerabilities due to language barriers, unfamiliarity with their rights, and poor recruitment practices. Without oversight, these risks may increase the likelihood of exploitative labour practices.

During the **operational phase**, long-term employment opportunities for locals will be limited due to highly specialised roles and small size of the permanent team. The decommissioning phase may again offer short-term jobs similar to those during construction.

### Summary of Mitigation Measures

To ensure fair and safe working conditions, the project will implement a Labour Management Plan (LMP). This plan will include:

- **Local Employment Strategy:** Assessing local workforce capacity and offering training programs to upskill residents, especially in machinery operation and safety.
- **Responsible Recruitment:** Ensuring that all workers, especially migrants, are informed of their employment terms and rights before departure.
- **Fair Employment Practices:** Ensuring clear contracts, defined working hours, and proper compensation for all workers.
- **Subcontractor Oversight:** Requiring all subcontractors to comply with Serbian labour laws and international standards, with penalties for non-compliance.
- **Worker Accommodation Standards:** whether on-or off-site housing is provided, it will meet international guidelines for space, hygiene, and safety.
- **Grievance Mechanism:** Establishing a system for workers to report concerns (including anonymously) and receive timely responses.
- **Code of Conduct and Gender-Based Violence and Harassment (GBVH) Training:** All workers will receive induction training on GBVH, and will be required to sign a Code of Conduct.
- **Community Integration:** Providing cultural sensitivity training for non-local workers and promoting respectful engagement with local communities.
- **Regular monitoring:** In-house monitoring and independent labour audits will be conducted at least every four months during construction, covering all contractors and subcontractors, to ensure compliance with national law, international standards, and the Labour Management Plan. Corrective actions will be implemented as needed to maintain Project standards

These measures aim to maximize the benefits of job creation while minimizing labour-related risks to workers and communities. By prioritizing local hiring and enforcing strong labour standards, the project can contribute positively to the region's economic development and social well-being.



## Land Acquisition

### Summary of Potential Impacts

The construction of the Pambukovica Dam requires the permanent acquisition of land across four communities in the municipalities of Ub and Valjevo. Land acquisition is ongoing and is the most significant social impact of the project. A total of 578 land parcels (476 private, 102 public), covering approximately 267.5 ha (223 ha in Ub and 44,5 ha in Valjevo), are subject to expropriation. Most of land is privately owned and used for agriculture, which is a key source of income and subsistence for many households. The project requires the acquisition of four non-residential structures and one secondary residential structure; physical resettlement is not expected. The process of acquiring land via expropriation started in 2020 in Ub and 2022 in Valjevo and affects an estimated 307 land owners, though this may change as ownership is confirmed. A decision on public interest for the Project was granted in 2020 and amended in 2022 and formed the basis of expropriation proposals which were issued to landowners and on which expropriation decisions from the authorities are based. As of March 2025, almost 90% of all decisions on expropriation have been issued in Municipality Ub, and almost 65% in the City of Valjevo. Compensation proposals are then issued to landowners – in Ub, compensation offers have been mostly accepted by the owners, and compensation has been paid for over 60% of land plots. In Valjevo, no compensation offers have been issued yet.

The main impact is the loss of productive agricultural land, which may reduce household income and disrupt traditional farming practices. Some landowners may also face challenges in finding suitable replacement land due to limited availability and rising land prices. Additional impacts include temporary access restrictions during construction and potential disruptions to ecosystem services such as beekeeping and hunting.

Expropriation is being conducted in accordance with Serbian law and EBRD requirements. After compensation and transfer of ownership, landowners are not required to vacate their land until construction begins. Continued use of the land is permitted until the project requires access, typically allowing at least one additional season of cultivation.

### Summary of Mitigation Measures

To ensure a fair and respectful process, the project has adopted a comprehensive approach to land acquisition that aligns with both Serbian law and international standards. Compensation measures will aim to provide full replacement value, covering land, crops, trees, and structures, as well as transaction costs in the event of acquisition of replacement land.

A Historical Land Acquisition Audit was undertaken and Corrective Action Plan developed to address any gaps between national expropriation procedures and the EBRD Performance Requirement 5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement. Livelihood Restoration Plan has been prepared. This includes measures to support livelihood restoration. Special attention is given to vulnerable groups, including low-income households, elderly without family support, single parents with minor children, households with disabled members, etc.

To ensure transparency and community involvement, a Stakeholder Engagement Plan has been developed. Public consultations will be open to all affected communities, and a formal grievance mechanism will be launched in August 2025 to ensure concerns are addressed in a timely and fair manner (for more information see below).

Overall, the project is committed to minimizing adverse impacts affected landowners and users and supporting affected households in restoring or improving their livelihoods. These efforts aim to ensure that the Pambukovica Dam Project delivers long-term benefits while respecting the rights and wellbeing of local communities.

## Stakeholder Engagement

### Summary of Potential Impacts

The Pambukovica Dam project has already initiated engagement with local communities and authorities, prior to ESIA process. Stakeholder engagement included multiple rounds of public consultation and statutory participation. Key activities include public consultations for the Detailed Regulation Plan (DRP) in Ub (November–December 2016), and for the Environmental Impact Assessment (EIA) (November–December 2019). Additional engagement included meetings with municipal officials in Valjevo (November 28, 2024) and Ub (November 29, 2024), and socio-economic surveys with Project Affected Persons in December 2024.

However, availability of project-related information remains insufficient and is available primarily through informal rather than official channels, which can lead to a sense of being poorly informed about project impacts and planned mitigation measures.

Gaps in communication can contribute to reduced trust in the project and limit community participation in decision-making, raising concerns about the project's impacts on the environment, livelihoods, land, and access to services. The absence of a clearly visible and easily accessible grievance mechanism can make it difficult for community members to raise concerns or seek redress.

### Summary of Mitigation Measures

To foster a more inclusive and transparent process, a Stakeholder Engagement Plan (SEP) has been developed. Key measures include:

- Appointment of a dedicated Community Communications Officer to serve as a direct link between the project and local communities.
- Disseminating regular updates through multiple channels—such as notice boards, community meetings, printed materials, social media—tailored to local preferences and accessibility and sensitive to gender differences as well as any constraints on vulnerable stakeholders.
- Establishment of a formal grievance mechanism that is clearly communicated, easy to access, culturally appropriate, allows anonymous grievances, and is responsive to community concerns.
- Ongoing monitoring and reporting of engagement activities, including the number and type of grievances received and resolved.
- Close collaboration with local leaders and community representatives to ensure that information is shared effectively and that feedback is incorporated into project planning.

These efforts aim to build trust, ensure that all voices are heard, and support the long-term success of the project by fostering positive relationships with the communities it affects.

## 4. Engagement with stakeholders

### Stakeholder Engagement Plan

As part of the Pambukovica Dam Project, a Stakeholder Engagement Plan (SEP) has been developed to guide how the project team communicates and works with local communities and other interested groups. This plan helps ensure that people living near the project, or those who may be affected by it, are kept informed, can ask questions, and share their opinions at every stage—from planning and design, through construction, and into operation.

The SEP reflects the project’s commitment to open and respectful communication. It includes activities like public meetings, surveys, and updates through local notice boards and websites. Special attention is given to making sure vulnerable groups—such as elderly residents or those with limited access to information—are included and supported.

### ESIA Disclosure and Consultation Process

One key component of the stakeholder engagement process is the disclosure and consultation of the Environmental and Social Impact Assessment and associated environmental and social management plans. Full ESIA package was publicly available and subject to a period of public consultation for 120 days, ending in December 2025, with the exception of Livelihood Restoration Plan and Habitat Management, Enhancement and Offset Plan which have been disclosed on 5 December 2025 and will be available until March 2026. Interested parties were able to submit comments on the ESIA in writing via the below contact details or via attending the public consultation events. Public consultations were organized in municipalities -

- Ub
- Gola Glava (Valjevo)
- Pambukovica.

Downloadable digital copies of the ESIA Package are available on the following websites:

- PWMC Srbijavode official website.
- European Bank for Reconstruction and Development official website.
- Local municipalities impacted by the Project - official website (if applicable).

Hard copies of the ESIA package have also been made available at the premises of the PWMC Srbijavode, as well as at the local municipalities listed earlier in the text.

Further information is available in the SEP.

### ESIA Package content

- Volume I – Environmental and Social Impact Assessment Report
  - Book 1 – Introduction (including ESIA Methodology, Legislation Framework, Assumptions and Limitations)
  - Book 2 – Project Description (including Analysis of Alternatives, Overview of Climate, Climate Change and Hydrology)
  - Book 3 - Surface Water
  - Book 4 – Biodiversity Impact Assessment
  - Book 5 – Environment (excluding surface water), Health and Safety, Cultural Heritage, Landscape and Visual
  - Book 6 – Social Impact Assessment
- Volume II – Management Plans
  - Emergency Preparedness and Response Plan
  - Environmental and Social Management Plan (with Commitments Register)
  - Stakeholder Engagement Plan
  - Audit of Historical Land Acquisition with Corrective Action Plan
  - Environmental and Social Action Plan
  - Livelihood Restoration Plan
  - Habitat Management, Enhancement and Offset Plan
- Volume III – Cumulative Impact Assessment
- Volume IV - Non-Technical Summary

## Grievance Mechanism

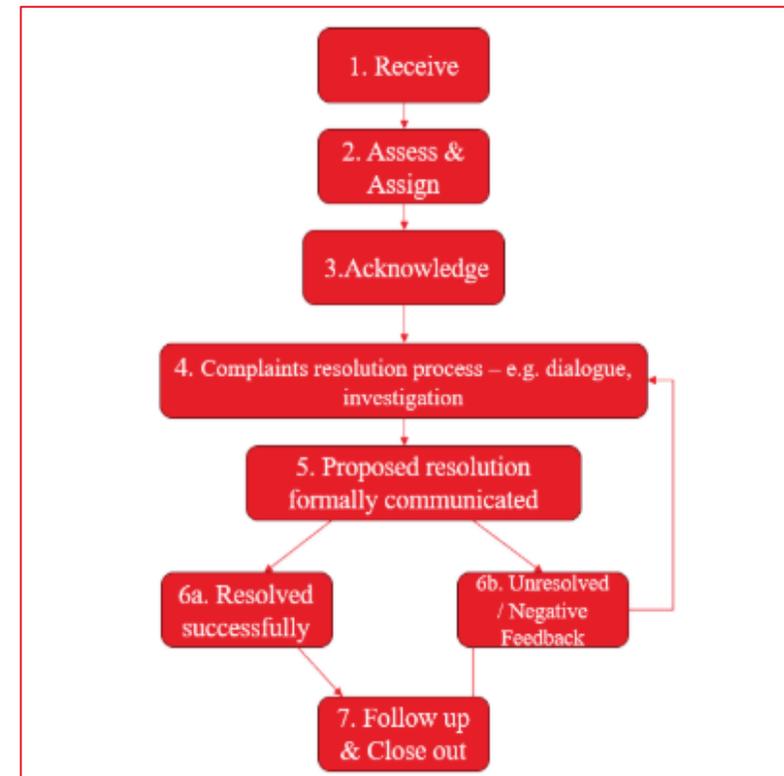
The SEP also includes a grievance mechanism. This means that anyone can raise a concern or complaint about the project, which will be considered and responded to in a transparent and timely way. People can submit their concerns in person, by phone, email, or post, and they don't need to give their name if they prefer to stay anonymous.

The main objective of the grievance mechanism is to assist Project Affected Persons with an efficient and effective resolution of their grievances related to the Project activities. Furthermore, it aims to rapidly address any residual impacts raised by complainants and seeks to avoid, whenever possible, the initiation of lengthy and costly judicial processes. However, it does not prevent stakeholders from having recourse to judicial grievance channels.

- Any person or organisation may send comments, complaints and/or requests for information in person or via post, telephone or email using the grievance form and contact information provided in this document, on PWMC Srbijavode website, on the local municipalities notice board and website, and at the site offices.
- The reception of grievance should be formally acknowledged through a personal meeting, phone call, email or letter as appropriate within 3 working days from submission.
- If the grievance is not well understood or if additional information is required, clarification will be sought from the complainant at this time.
- The person/organization that submitted the grievance should be provided with contact information of the person responsible for its resolution and the estimated time for completion.
- If any grievance cannot be addressed or if action is not required, a detailed explanation / justification will be provided to the complainant on why the issue was not addressed.
- The response will also contain an explanation on how the person / organization that raised the complaint can proceed with the grievance in case the outcome is not satisfactory.
- All grievances will be responded to within 30 working days from submission. In case of delay, complainants will be notified about the reasons for the delay and the expected timing for when their grievance will be addressed.

- The proposed resolution should be confirmed with the complainant before implementation to minimise unnecessary/unwarranted actions.
- If they agree with the approach required actions are implemented to deal with the issue.
- Completion of actions is recorded in the Grievance Log Register.
- The response is signed off by the appropriate manager. This includes either signing off the Grievance Log Register or confirming in official correspondence (which will then be filed with the grievance to indicate agreement and referenced in the register).
- A grievance form is at the end of the document.

Grievance Mechanism Flow Chart



## Contact Information

<b>CONTACT INFO</b>	<i>Full name of the authorised person for the handling requests for the free access to information of public importance</i>	<b>ADDRESS</b>	<b>TELEPHONE</b>	<b>E-MAIL</b>	<b>WEB</b>
<b>Future Contractor</b>	<i>Contact details of the contractor(s) will be added once the contractor(s) have been contracted</i>	<i>To be confirmed</i>	<i>To be confirmed</i>	<i>To be confirmed</i>	<i>To be confirmed</i>
<b>Ministry of Agriculture, Forestry and Water Management / Water Directorate</b>	Aleksandra Savic	Bulevar umetnosti 2A, Beograd 11070	+381 11 2013 356	<a href="mailto:aleksandra.savic@minpolj.gov.rs">aleksandra.savic@minpolj.gov.rs</a>	<a href="https://rdvode.gov.rs/#kontakt">https://rdvode.gov.rs/#kontakt</a>
<b>PWMC Srbijavode</b>	Tamara Vuckovic	Bulevar umetnosti 2A, Beograd 11070	+381 11 3119 400 +381 11 3119 402	<a href="mailto:office@srbijavode.rs">office@srbijavode.rs</a>	<a href="https://www.srbijavode.rs">https://www.srbijavode.rs</a>

**Public Grievance Form**

<b>Reference No:</b>	
<b>Full Name</b> <i>*not mandatory</i>	
<b>Contact Information</b> <i>*not mandatory</i>	<input type="checkbox"/> <b>By Post: Please provide mailing address:</b> _____ _____ _____
Please mark how you wish to be contacted (mail, telephone, e-mail). <i>*not mandatory</i>	<input type="checkbox"/> <b>By Telephone:</b> _____ <input type="checkbox"/> <b>By E-mail</b> _____
<b>Description of Incident or Grievance:</b>	What happened? Where did it happen? Who did it happen to? What is the result of the problem?
<b>Date of Incident/Grievance</b>	<input type="checkbox"/> <b>One-time incident/grievance (date _____)</b> <input type="checkbox"/> <b>Happened more than once (how many times? _____)</b> <input type="checkbox"/> <b>On-going (currently experiencing problem)</b>
<b>What would you like to see happen to resolve the problem?</b>	