



Republic of Serbia

The effects of the performance audit

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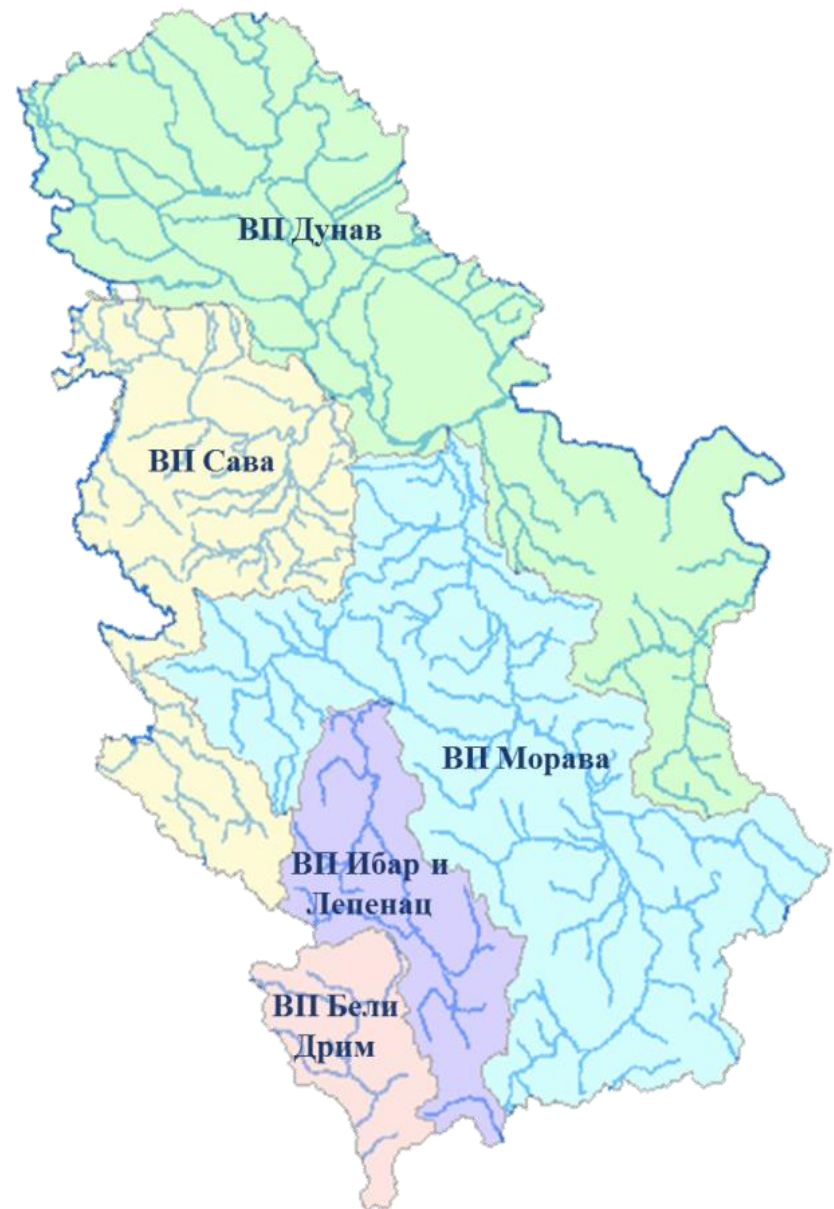


Flood Prevention in the Republic of Serbia (RS)



Flood protection system

- ↓ In 2019, the flood protection system in RS consisted of numerous **capital facilities**:
 - *about 3,700 km of embankments*
 - *about 25,800 km of canal networks*
 - *almost 200 pumping stations*
 - *58 dams*
- ↓ the territory of RS is divided into **5 water areas**, named after the largest rivers
- ↓ all waters on the territory of the RS are divided into **waters of the first and second order**
- ↓ according to the Preliminary Flood Risk Assessment from 2011, **99 significant flood areas were identified**



Selection of audit topic



- ↓ increasingly frequent floods, primarily torrential in nature (for example, the floods in May 2014 caused damages of around **1.5 billion euros in the 24 most affected municipalities** - which you can see in the picture)
- ↓ outdated and damaged flood defense infrastructure, which requires significant investments in order to maintain functionality
- ↓ fulfilment of EU requirements related to the field of water protection, set through Chapter 27 - Environment and climate change

Scope of the audit

↓ Scope of audit was:

- preventive activities, which are undertaken in order to protect against floods, in the period when flood defense has not been declared
- waters of the first order, which include all significant watercourses in the RS (over 250 watercourses)
- dams as the most important water facilities for flood protection

↓ Auditees were:

- ↓ The Republic Directorate for Water and the Provincial Secretariat for Water Management, i.e. the holders of duties in the field of water protection in the RS, who at the same time manage the budget funds for water
- ↓ Serbian Waters and Waters of Vojvodina, two public water management companies (PWMC) that manage water facilities for flood protection and carry out flood defense on waters of first order

↓ **Audit period** was 2017-2018, but data from 2015 and 2016 were also used, as well as available data from 2019.



The law and the strategy, in the field of water management, recognize the importance of flood prevention, which in practice is not regulated to a sufficient extent, because the competent institutions have not undertaken all the necessary activities



The application of the European Union Directive, in the field of flood risk management, has not fully taken root in practice, because competent institutions are late in adopting key planning documents

The existing method of management is not established in such a way as to ensure integral management of flood risks



The fulfillment of the goals of the Water Management Strategy, in the field of water protection, is jeopardized, because funds and personnel were not provided in the required volume, in the period 2017-2018

Some dams have not been transferred to the management of public water management companies, which has the consequence that their condition is not satisfactory and may affect an increase instead of a decrease in the risk of floods



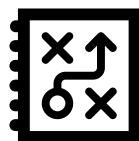
the first conclusion was based on **four findings** :



The Republic Directorate for Water did not review and update the preliminary flood risk assessment from 2011, which is why not all **significant flood areas**, which require a special approach in flood defense, were recognized



Public water management companies did not create and verify **flood hazard maps and flood risk maps**, which would be available to the public and state authorities and included in spatial and urban plans



The Republic Directorate for Water and public water management companies did not prepare **flood risk management plans** for the territory of the Republic of Serbia and for water areas, even though the deadline was 2017

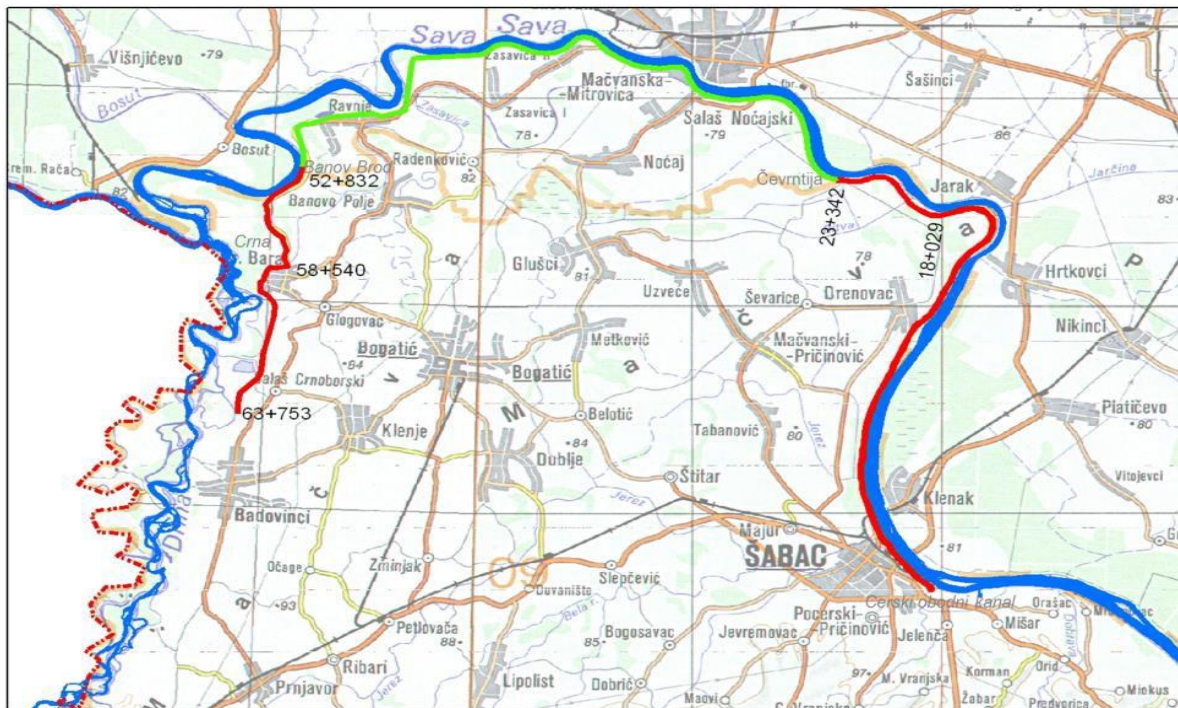


The Republic Directorate for Water has been late in 3 of the last 4 years with the adoption of **an operational plan for flood defense for I order waters**, which may result in powers and responsibilities not being clearly defined during floods



↓ The second conclusion was made on the basis of **two findings** :

- The shared management of flood risks between public water management companies, in **the Danube and Sava water areas**, with the absence of a clearly established method of cooperation, carries the risk that the water areas are not managed in a unique, complete and comprehensive manner
- The Republic Directorate for Water did not undertake the necessary activities to establish **the Water Council** and **the National Water Conference**, which is why greater professional influence and public participation in water protection was not ensured



Serbian Waters
Waters of Vojvodina

↓ The third conclusion was made on the basis of **two findings**:

- The existing **model of financing water protection**, in the period 2017-2018, did not provide enough funds and is completely dependent on the budget of the Republic of Serbia and AP Vojvodina
- **Staffing of PWMC Serbian waters** was at the level of about **50%** of the needs determined by systematization, which makes it difficult to carry out the company's work in the field of water protection



↓ The fourth conclusion was made based on **two findings**:

- The precondition for efficient management of dams is not provided, because public water management companies have not established reliable and complete **records** about them, that is, they have not entered two thirds of the dams in the register of water facilities
- Some dams were not transferred to the management of public water companies, and some of them were not included in **the flood protection system**, although this is one of their main purposes



Dam „Goli Kamen“



Dam „Gornji Banjani“



Application of recommendations

Auditees	Applied	Partially applied
Republic Water Directorate	6	-
PWMC Serbian Waters	3	6
PWMC Waters of Vojvodina	6	3
In total	15	9

- All auditees showed a significant willingness to act on the issued recommendations and to remove the identified inefficiencies, therefore there were no recommendations that were not applied
- A part of the recommendations is partially applied because their implementation is in progress
- COVID-19 pandemics affected partial application of certain recommendations



Policy changes

in 2019



in 2023

- **The Preliminary Flood Risk Assessment from 2011** was not reviewed and amended, although it should be done every six years (it determines significant flood areas)
- The adoption of **the operational plan for flood defence for waters of first order** was delayed by about two months for 2018 and 2019 (it determines individual authorities and responsibilities during floods, and is adopted by the end of the current year for the following year)
- No members **of the National Water Conference were appointed** (it is an expert body that monitors the implementation of the Water Management Strategy)
- Revised and amended **the Preliminary Flood Risk Assessment from 2019**, taking into account data on floods and damages in the period 2012-2019.
- **Operational plan for flood defence for waters of the first order** adopted in time for 2020, 2021, 2022 and 2023.
- All 14 members of **the National Water Conference were appointed**

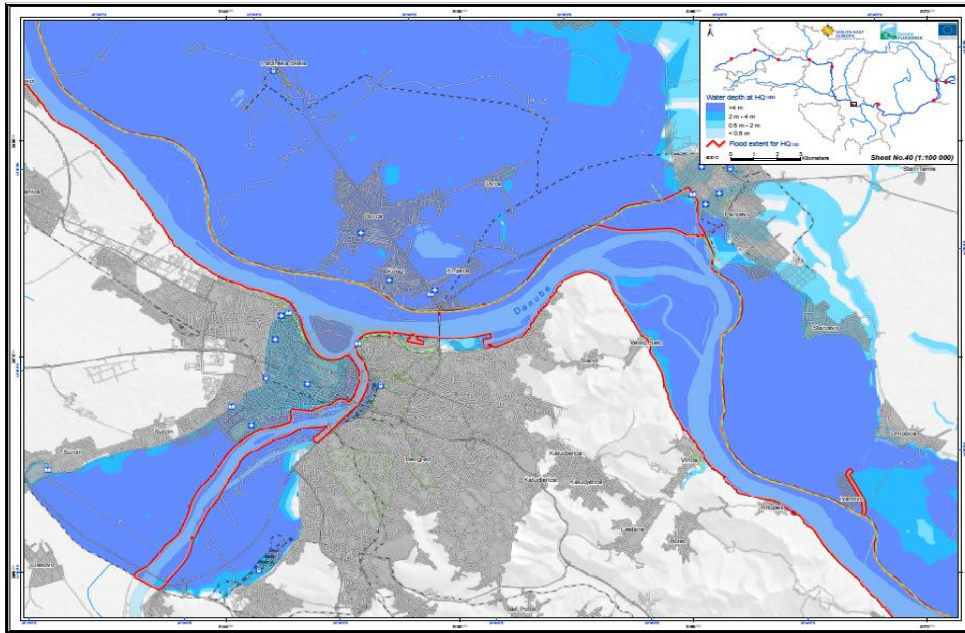


Changes in significant flood areas

- ↓ **A significant flood area** requires a special approach in flood defense
 - represents an area where there is a high risk of flooding in the future, which would cause damage over 10% of the national income of the municipality
 - it is determined on the basis of data from the past, as well as expected projections
- ↓ The Preliminary Flood Risk Assessment from **2011 identified 99 significant flood areas**
- ↓ After reviewing and amending the Preliminary Flood Risk Assessment from **2019, 101 significant flood areas were identified**, compared to the previous
 - six new significant flood areas were identified
 - one significant flood area lost that status
 - three significant flood areas were annexed to others (reduced from six to three significant flood areas)
 - seven significant flood areas retained that status, but with certain border changes



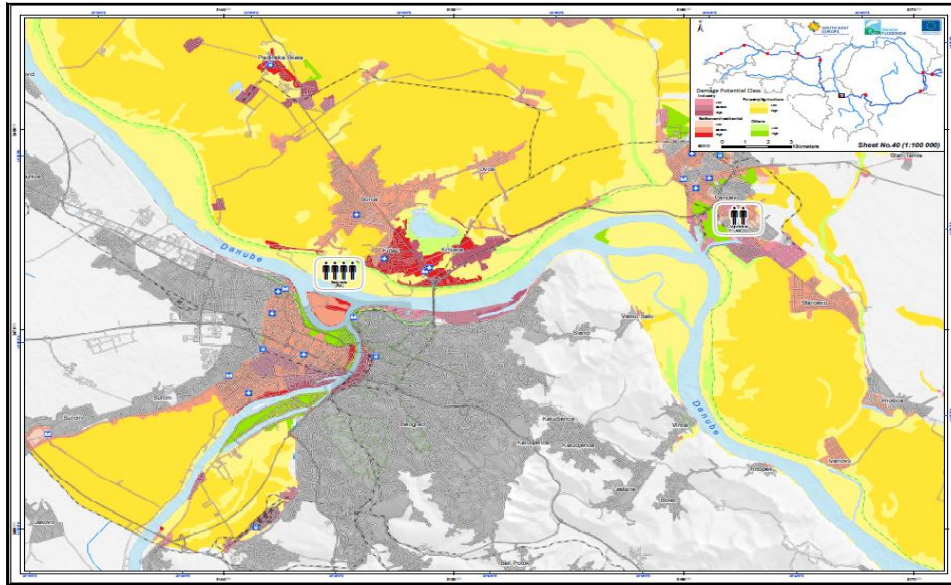
Creation and amendment of flood hazard maps



- Before the audit, flood hazard maps were not created for 58 significant flood areas, and now this is the case only for six significant flood areas, and these are new significant flood areas that were identified in 2019.

Flood hazard maps	in 2019	in 2023
number of significant flood areas from the preliminary flood risk assessment	99	101
prepared flood hazard maps (up to 6 years old)	15	84
prepared flood hazard maps (over 6 years old)	26	11
flood hazard maps not been prepared or are being prepared	58	6

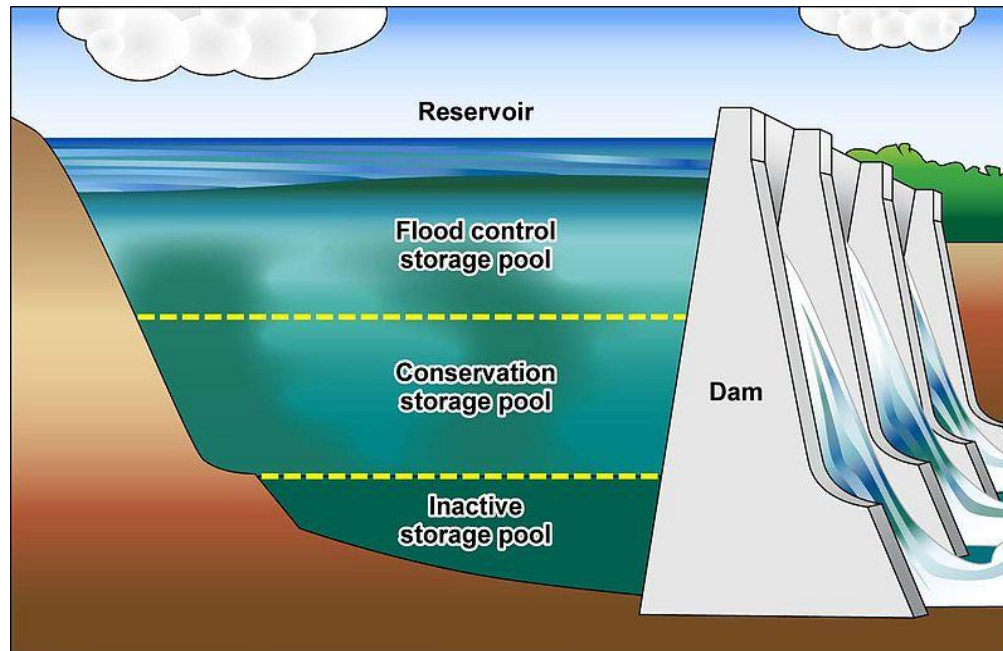
Creation and amendment of flood risk maps



↓ Before the audit, flood risk maps were not created for 73 significant flood areas, and now this is the case only for six significant flood areas, also in the case of new significant flood areas that were identified in 2019.

Flood risk maps	in 2019	in 2023
number of significant flood areas from the preliminary flood risk assessment	99	101
prepared flood risk maps (up to 6 years old)	0	84
prepared flood risk maps (over 6 years old)	26	11
flood risk maps have been prepared or are being prepared	73	6

Inclusion of dams in the protection system



- ↓ after the audit, 13 dams were additionally included in the flood protection system, which was not the case before, although this is one of their main purposes
- ↓ five of these 13 are high dams, which are now included in the operational flood defense plan for waters of first order, i.e. when heavy rainfall is expected, part of the reservoir is emptied in advance to accommodate the flood wave

Register of water facilities - dams	in 2019	in 2023
Territory of PWMC Serbian Waters	48	49
Territory of PWMC Waters of Vojvodina	10	22
Territory of the Republic of Serbia	58	71

Thank you for your
attention.

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