The value of water resources as part of ecosystem services of forests in the area of Belgrade (Republic of Serbia)

Emerging pollutants in aquatic ecosystems

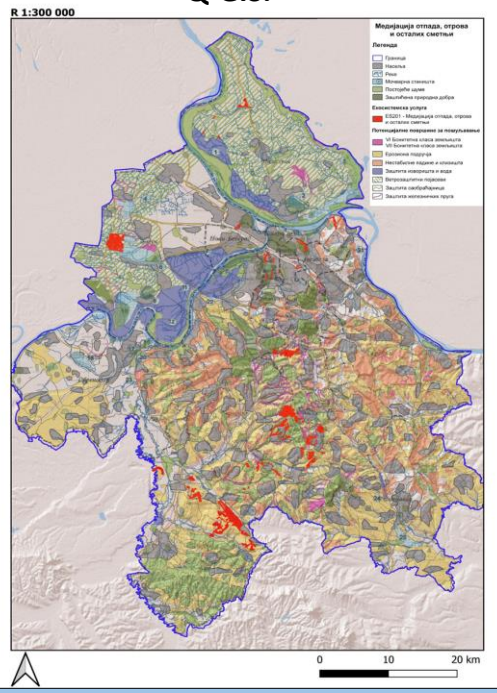
UNESCO-IWRA ONLINE CONFERENCE 17-19 JANUARY 2023 3rd IN THE IWRA ONLINE CONFERENCE SERIES

The strategy was adopted as an official strategic document by the Assembly of the City of Belgrade on December 26, 2022. It will be in force from 2023 to 2030 with projections to 2100. The City of Belgrade covers an area of 3,22268.00 hectares, while the area under forest amounts to 16.1%. The area is divided into 11 units in accordance with the European Landscape Convention. Based on the regional climate model (REG-IN), the risks for scenarios A1B and A2 are presented (Ratknić T. et al., 2019). The total value of forest ecosystem services (ES) amounts to RSD 106,819,176,233 (EUR 910,214,874).

The value of ecosystem services (2021)

Section	RSD	%
Section: Provision		
Fishing	31.230.100	0,0
Protection of surface and underground water	9.595.080	0,0
Other ES Sections of Provision	8.095.598.653	7,5
Total: Provision Section	8.136.423.833	7,6
Section: Regulation and Maintenance		
Bioremediation	309.172.219	0,2
Erosion control	903.496.645	0,8
Flood control	258.740.795	0,2
Climate regulation	3.666.708.095	3,4
Other ES Sections of Regulation and	87.385.053.951	81,8
Total: Maintenance Section:	92.523.171.705	86,6
Section: Cultural services		
Entertainment (Recreation)	687.332.692	0,6
Esthetics	4.682.167.350	4,3
Other ES Sections of Cultural services	790.080.653	0,7
Total: Cultural values	6.159.580.695	5,7
Total	106.819.176.233	100,0

The established database is displayed in Q-GIS.



Projected risk for ES of surface and groundwater protection caused by climate change (part)

Model A1B

Risk	Spring	Summer	Autumn	Winter
Heatwave	Very high	Very high	High	
Extreme cold	High			Medium
Drought	Very high	Very high	Very high	
Abundant rainfall/ floods	High	High	Medium	
Storms				

Model A2

Risk	Spring	Summer	Autumn	Winter
Heatwave	Very high	Very high	Very high	
Extreme cold	High			High
Drought	Very high	Very high	Very high	
Abundant rainfall/ floods	Very high	Very high	High	
Storms				

With the public engagement (participatory approach), ten special goals have been defined with a great number of measures and activities that should ensure the durability of ES and their sustainable use. The following objectives are related to water resources:

Special objective 3. Pollution prevention and conservation of drinking water resources

Special objective 4. Suppression of water erosion and soil degradation as risk factors for the use of ecosystem services

Special objective 8. Preservation, condition improvement and sustainable use of the population of indigenous species of fish resources and the protection of fish biodiversity

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