

INTERNATIONAL CONFERENCE

Waters in Sensitive and Protected Areas

10 - 13 April 2024, PULA, Croatia

ORGANIZED BY

 Croatian Water Pollution Control Society (CWPCS)



• European Water Association (EWA)



SUPPORTED BY

• International Water Association (IWA)



CO-ORGANIZED BY

- University of Zagreb, Faculty of Civil Engineering
- University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering
- Department of Natural Sciences of the Croatian Academy of Sciences and Arts
- Croatian Waters
- Josip Juraj Strossmayer Water Institute
- · Croatian Hydrological Society
- Croatian Society for Drainage and Irrigation
- Croatian Water and Wastewater Association

UNDER THE AUSPICES OF

- Ministry of Economy and Sustainable
 Development of the Republic of Croatia
- Ministry of Agriculture of the Republic of Croatia
- Ministry of Physical Planning, Construction and State Assets of the Republic of Croatia
- Ministry of Science and Education of the Republic of Croatia
- Croatian Academy of Engineering
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- University North
- University of Slavonski Brod
- Region of Istria
- City of Pula
- Public Institution Natura Histrica
- Brijuni National Park



Dear Participants,

Welcome to the 4th International Conference WATERS IN SENSITIVE AND PROTECTED AREAS (4th WSPA Conference)!

The 4th WSPA Conference is organised by the European Water Association and the Croatian Water Pollution Control Society, maintaining the tradition that began in 1996 with the 1st WSPA Conference in Primošten and continued with the 2nd WSPA Conference in 2007 in Dubrovnik and the 3rd WSPA Conference in 2013 in Zagreb.

The 4th WSPA Conference Programme, divided into five thematic areas with 54 themes, encompasses a diverse array of interlinked activities to capture all important facets of protection of water and biodiversity in sensitive and protected areas. These include four keynote speeches, sixty nine oral and sixteen poster presentations, the workshop "Integrated wastewater management - from the household to the watershed level", the round table on the legal framework related to the protection of water and biodiversity in sensitive and protected areas and two post-conference excursions.

Sensitive and protected areas are important not only for the protection of nature and its biodiversity, but also for the preservation of their values for various human needs. We see every day that human activities and dramatic population growth are greatly exacerbating the impacts of climate and land use change on the physical environment. This leads to degradation of human health and ecosystem services, pollution of water, soil, and air, imbalance of biogeochemical cycles, and tremendous waste production. Over the last decades, sensitive and vulnerable areas, like fertile soils around rivers prone to flooding, karst aquifers influenced by salinization or overexploitation or coasts vulnerable to tropical cyclones, were regularly affected by extreme events, having large socio-economic and environmental impacts affecting many sectors.

Many groundwater and surface water systems are under significant pressure due to overuse or pollution, and demand for water resources is increasing dramatically. Better

knowledge of how to identify and mitigate human-induced environmental problems, and how to help land-use planners and policy makers balance water resource needs with their availability, is central to sustainable development. New knowledge and approaches that enable decision makers and development policy makers to balance water resource needs and availability are key to achieving global and national sustainable development goals.

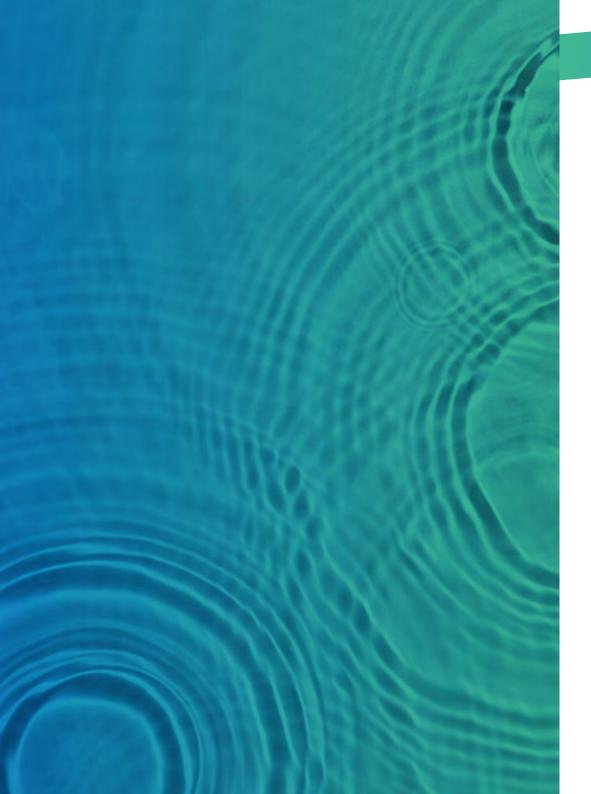
Although significant scientific progress has been made in recent decades in the management of water resources and biodiversity under climate change, there are still research gaps in this area that need to be addressed. The aim of the 4^{th} WSPA Conference is to contribute to the expansion of scientific knowledge aimed at new innovative and cost-effective solutions for the protection of water and biodiversity, as well as to changes in the regulatory framework for sensitive and protected areas.

It is an honour to announce that the 4th WSPA conference is being held under the auspices of all public universities in the Republic of Croatia, as well as numerous international and domestic scientific institutions and professional associations. We thank all the co-organizers, supporters and sponsors of the Conference for recognizing its importance and the need to bring together scientists, experts, entrepreneurs and public administration representatives to present the latest research results and exchange ideas on scientific, technical, socio-economic, legal and educational aspects of protection and rational use of valuable sensitive water resources and ecosystem services.

We believe that you will find the programme of the 4th WSPA Conference both motivating and inspiring. We hope you will have opportunities to enjoy in many social gatherings and in the beautiful city of Pula, with its impressive ancient Roman buildings and magnificent amphitheatre. Thank you for joining us and wish you all a fruitful and lovely conference experience!

Chairman of the Organizing Committee Prof. **Zoran Nakić**

Chairman of the Scientific Committee
Assoc, Prof. Dražen Vouk



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PROGRAMME

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Acknowledgements

We extend our thanks to all our co-organizers, sponsors and donors who have, in any way, provided their support so far, thus facilitating the organization of the 4th International Conference WATERS IN SENSITIVE AND PROTECTED AREAS.



DAY 1: WEDN	ESDAY, 10 APRIL 2024		
08:15 – 18:00	REGISTRATIONS Conference lobby		
08:45 – 17:00	PRE-CONFERENCE WORKSHOP Integrated wastewater management - from the household to the watershed level (Limited to 30 attendees, registration required) Conference room Ulika		
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DAY 2: THURS	DAY, 11 APRIL 2024		
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10:30 – 11:15	PLENARY LECTURE Conference room Ulika Bending the Curve: The quest for solutions that last		
11:15 – 11:45	COFFEE BREAK		
11:45 – 13:15	ROUND TABLE Conference room Ulika Changes in water legislation within the framework of the EU Green Deal - challenges and open questions		
13:15 – 13:45	EXIBITION OF EQUIPMENT Area in front of the hotel Presentation of the four stages of the "ACO WaterCycle" for stormwater treatment; Presentation of new solutions for stormwater sediment and heavy metal removal ACO Građevinski elementi d.o.o. (GOLD sponsor)		
13:45 – 14:45	LUNCH		
14:45 – 16:15	1. Inter- and transdiscipli- nary research in sensitive and protected areas (oral presentations) Conference room Ulika	2. Effective water and wastewater management in sensitive and protected areas under climate change (oral presentations) Conference room Veruda	3. Biodiversity and aquatic ecosystems – Bringing nature back into our life (oral presentations) Conference room Bianca Istriana
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DAY 1: WEDNESDAY, 10 APRIL 2024		
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18:00-21:00	WELCOME RECEPTION (drink and snacks) Hotel Park Plaza Histria outdoor terrace	

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10:30 - 11:15	PLENARY LECTURE Conference room Ulika Bending the Curve: The quest for solutions that last Nicole Silk (The Nature Conservancy, Global Director of Freshwater Outcomes, Boulder — Colorado, USA) Chairpersons: Iva Vidaković Maoduš and Dražen Vouk	

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11:15 - 11:45	Coffee break
11:45 – 13:15	ROUND TABLE Conference room Ulika Changes in water legislation within the framework of the EU Green Deal - challenges and open questions Wendy Francken (EWA), Jill Michielssen (EC, DG Environment, Unit ENV C.1 Sustainable Freshwater Management), Stjepan Gabrić (World Bank), Elizabeta Kos (Ministry of Economy and Sustainable Development of teh Republic of Croatia) Moderators: Zoran Nakić, Dražen Vouk and Iva Vidaković Maoduš

13:15 – 13:45 EXIBITION OF EQUIPMENT Area in front of the hotel
Presentation of the four stages of the "ACO WaterCycle" for stormwater treatment; Presentation of new solutions for stormwater sediment and heavy metal removal

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14:45 - 15:00	Impacts of agricultural activities in the Karašica-Vučica catchment area on groundwater quality in the area of transboundary biosphere reserve Mura-Drava-Danube Tamara Brleković, Josip Janjić, Lidija Tadić, Enikő Anna Tamás	Analysis of water resources vulnerability in the area of northwestern Croatia Jelena Loborec, Ivana Grčić, Lucija Plantak, Lucija Radetić	Barriers removal on the Bijela Rijeka stream (Plitvice Lakes National Park) Andrijana Brozinčević, Kazimir Miculinić
15:00 - 15:15	Hydrogeochemical characteristics of aquifers in Croatian part of the Sava river basin Lea Majetić, Zoran Kovač, Michaela Hruškova Hasan, Vinko Baranašić, Zoran Nakić	Stormwater filtration for the protection of sensitive areas Sam Houlker, Alexander Pasing, Moritz Gesterding	Identification of measures for improving the ecological status of a lowland river through multiple stressor assessment – a scientific approach Iva Vidaković Maoduš

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15:15 - 15:30	Impacts of the GCM-RCM ensemble on streamflow in the Sava river basin Martina Lacko, Mirza Sarač, Ivan Güttler, Damir Bekić, Kristina Potočki	Conservation of Navi Mumbai coastal creeks through regulations of wastewater standards and development of soft computing model for sewage treatment plant D. Ramkumar, V. Jothiprakash	Conservation status of the population of the danube barbel in the area of Nature Park Medvednica Matija Kresonja, Milorad Mrakovčić, Dominik Mihaljević, Juraj Petravić
15:30 - 15:45	Hydrological and Hydrochemical diversity of springs in the Nature park Medvednica Ivan Martinić, Ivan Čanjevac	Wastewater treatment from the wet scrubber with EAOP Morana Drušković, Dražen Vouk, Danica Maljković, Dajana Kučić Grgić	Local communities support Mission Ocean, Seas, and Waters through active and passive restoration measures for wetlands and floodplains: case study of Topoljski Dunavac in Draž Municipality Zlatko Nedić, Ivan Ambroš, Ivica Pavičić, Nikola Bataković
15:45 - 16:00	Risk analysis of drinking water resource with recharge area in karstic and intergranular aquifers – case study from Slovenian Alps Mihael Brenčič, Ines Vidmar, Mateja Jelovčan	Physicochemical water quality of streams in Međimurje (Croatia) that are recipients of final effluent from municipal wastewater treatment plant Dunja Turk, Teuta Tompić, Rosanda Škvorc Vidović	Slovenian maritime spatial plan and its potential for biodiversity and nature conservation improvement Sabina Cepuš, Sašo Weldt, Matjaž Harmel, Aleksandra Krajnc, Klemen Strmšnik
16:00 - 16:15	Soil permeability at Velika Gorica well field, Zagreb aquifer Laura Bačani, Zoran Kovač, Patricia Buškulić, Kristijan Posavec	Relationship between E. coli and physiochemical parameters in Butoniga reservoir Goran Volf, Sonja Zorko	

16:15-16:45 Coffee break

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16:45 – 18:00	1. Inter- and transdisciplinary research in sensitive and protected areas (oral presentations) Conference room Ulika Chairpersons: Zoran Nakić and Tamara Brleković	2. Effective water and wastewater management in sensitive and protected areas under climate change (oral presentations) Conference room Veruda Chairpersons: Jörg Londong and Domagoj Nakić	3. Biodiversity and aquatic ecosystems – Bringing nature back into our life (oral presentations) Conference room Bianca Istriana Chairpersons: Iva Vidaković Maoduš and Igor Stanković
16:45 - 17:00	Isotopic signature of groundwater, surface water and precipitation in the area of the Zagreb aquifer Zoran Kovač, Jadranka Barešić, Nataša Todorović, Jelena Parlov, Andreja Sironić, Jovana Nikolov, Ines Krajcar Bronić, Oliver Kracht	Water supply of the Istrian peninsula and water protection project Bojana Hajduk Černeha	Monitoring beaver (Castor fiber L.) population in Plitvice Lakes National Park Marko Augustinović, Monika Petković, Ksenija Hocenski, Marijan Grubešić, Vedran Slijepčević, Duško Čirović, Ivanka Špoljarić, Sanja Žalac
17:00 - 17:15	Comparative risk assessment for potentially contaminated sites (soil and groundwater): an Italian regional methodology Kinga Makochon, Manrico Marzocchini, Stefano Orilisi, Fabio Tatàno	Towards a large-scale coastal restoration strategy for climate change adaptation and mitigation Nuno Caiola	Functionalised nanoplastics modulate cellular and physiological responses of aquatic fungi to metals Juliana Barros, Santosh Kumar, Sahadevan Seena
17:15 - 17:30	Nitrogen dynamics through the soil zone within the first sanitary protection zone of the Velika Gorica well field Patricia Buškulić, Jelena Parlov, Zoran Kovač	Mainstreaming nature based solutions in the water management sec- tor in Croatia Irma Popovic Dujmovic, Rob Cunningham, Ivana Korn Varga, Max Ricker	Influence of multiple pressures to river phytoplankton Igor Stanković, Nikola Hanžek, Gábor Borics

09:15 - 10:00	PLENARY LECTURE Conference room Ulika Novel Approach to Integrated Coastal Waters Prevention and Pollution Control Modelling – Case Study Poreč Damir Bråanović (IHE Delft Institute for Water Education, Delft University of Technology, Netherlands) Chairpersons: Dražen Vouk and Jörg Londong
10:00 - 10:45	PLENARY LECTURE Conference room Ulika Waters and eco-systems in sensitive coastal areas with special emphasis on the Mediterranean basin Zoran Stevanović (Centre for Karst Hydrogeology, Department of Hydrogeology, University of Belgrade - Faculty of Mining & Geology, Serbia) Chairpersons: Zoran Nakić and Fabio Tatano

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	Fabio Tatano and Lidija Tadić	Dražen Vouk and Gorana Ćosić-Flajsig	Gorazd Urbanič and Zlatko Mihaljević
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17:30 - 17:45	The Holocene evolution of lake Visovac: geological implications for contemporary management Nikolina Ilijanić, Slobodan Miko, Ozren Hasan, Dea Brunović, Martina Šparica Miko, Natalia Smrkulj, Ivona Ivkić Filipović, Saša Mesić, Gordana Goreta	Hydraulic model for managing a water supply system with significant water losses Goce Taseski, Nikola Krstovski	Present-day sedimentation and groundwater dynamics in the Danube wetland area Kopački rit Ivica Pavičić, Željko Duić, Bojan Matoš, Davor Pavelić
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18:00 – 20:00 Free time

20:00 – ... CONFERENCE DINNER WITH A BAND Hotel Restaurant

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11:30 - 11:45	Beyond traditional toxicology research – assessment of safe and sustainable by design chemicals Blaž Likozar, Filipa A. Vicente, Uroš Novak	From lock-in to spill over: time, space and scale of long-distance water transfers in Germany Kuhn David, Luetkemeier Robert, Frick-Trzebitzky Fanny, Soeller Linda, Fehrs Kristiane	Cave protists as indicators of hydrological and biological surface-subsurface connectivity on the example of Miljacka II cave (Krka National Park, Croatia) Najla Baković, Gordana Goreta, Maja Radišić, Josip Rubinić
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12:15 - 12:30	Improvement of the surface water quality monitoring in rural protected areas Gorana Ćosić-Flajsig, Barbara Karleuša, Ivan Vučković	Sewage sludge biochar as adsorbent used in wastewater treatment Domagoj Nakic, Katarina Licht, Drazen Vouk, Hana Posavcic	Monitoring of metal exposure in Stygophilous Amphipod from the hyporheic zone of the Sava River (Zagreb county area, Croatia) Marijana Erk, Zuzana Redžović, Sanja Gottstein, Mavro Lučić, Mario Cindrić

12:30 - 12:45	Sources and processes affecting levels and composition of atmospheric deposition to the area of Brijuni National Park, Croatia Sanja Frka, Ana Cvitešić Kušan, Sara Vignjević, Ivona Mikić, Valentina Gluščić, Ranka Godec, Željka Zgorelec, Andrea Milinković	Sustainable protection of Bokanjac aquifer: an integrated approach to climate change Silvana Mihaljević	Assessment of ecological quality of Kopačevo Lake in Kopački rit Nature Park - another case of one site-one classification system in Croatian natural lakes Zlatko Mihaljević, Ivana Pozojević, Mario Rumišek, Viktorija Ergović, Miran Koh, Natalija Vučković
12:45 - 13:15	EXIBITION OF EQUIPMENT Park Plaza Histria hotel parking lot Small presentation WWTP - BRT model in INOX variant; Special utility vehicle EKOMUNAL TEHNIX 5 m3 TEHNIX d.o.o. (GOLD sponsor)		

13:15 – 14:15 Lunch

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	Chairpersons: Robert Lütkemeier and Zoran Nakić	Chairpersons: Damir Brđanović and Dražen Vouk	Chairpersons: Gorazd Urbanič and Zoran Stevanović

су	
	DAY 3
	3 / FRIDAY

15:15 - 15:30	Calcium carbonate precipitation in conditions favouring tufa formation in Plitvice Lakes, Croatia – field and experimental study Nives Matijaković Mlinarić, Andrijana Brozinčević, Damir Kralj	Prevention of diffuse pollution from traffic areas Károly Kovács, Péter Dózsa"	Distribution and conservation status of the European eel on the Istrian peninsula Matija Kresonja, Milorad Mrakovčić, Dominik Mihaljević, Luka Glamuzina, Sanja Grđan, Branko Glamuzina
15:30 - 15:45	Microbial community seasonal dynamics in the mediterranean swamp coastal swamp Palud-Palù Paolo Paliaga, Andrea Budiša, Gioconda Millotti, Neven Iveša, Moira Buršić, Petra Burić, Emina Pustijanac, Ante Žunec, Ines Kovačić, Mauro Štifanić, Selma Šegulja, Marin Vukušić, Mirjana Najdek	How can the status of the Sutla River recipient be improved by applying the combined approach methodology? Nikolina Bakšić Pavlović, Lea Petohleb, Morana Belamarić Šaravanja	Phytoplankton in deep karst lakes: functional biodiversity and main ecological features Nikola Hanžek, Mario Šiljeg, Igor Stanković
15:45 - 16:00	Explore, understand and protect – on speleo- logical and hydrological research in the Učka cave system, Croatia Dino Grozić, Lovel Kukuljan	Reuse of treated wastewater from municipal WWTP as process water Ludvik Mekuč, Jernej Jelenko	Monitoring of cyanobacterial toxins in eutrophic freshwater bodies in Slovenia: a two-year survey Maša Jablonska, Leonardo Cerasino, Nico Salmaso, Tina Eleršek
16:00 - 16:15	Initial findings: influence of flow velocities on microplastic retention in saturated porous media Hande Okutan, Philippe Le Coustumer, Bedri Kurtulus, Moumtaz Razack, Emrah Pekkan, Çağdaş Sağır"	Co-occurrence of extreme rainfall and high sea levels in Zadar, Croatia Nino Krvavica, Andrea Tadić, Marta Marija Bilić, Igor Ružić	"Polluter pays" principle in Polish water law Karolina Wierzbicka

16:15 - 16:30	Enhanced SAR data analytics for climate resilient and sustainable water infrastructure systems Daniel Kozelj, Kristjan Gašperin	In situ and high frequency BOD5 and COD determination in wastewater treament plant via Fluocopee fluorescence sensor Musabimana Nadege, Goffin Angelique, Guerin Sabrina, Rocher Vincent, Varrault Gilles	Advanced water reclamation process for nutrient-brine valorization in coastal Mediterranean city of Murcia (Spain) - LIFE CONQUER project Adriana Romero, Mateo Pastur, Eva Mena, Simón Nevado, Elena de Vicente, Benoît Lefèvre, Carlos Echevarría, Jose Luis Cortina, Julio López
16:30 - 16:45		Virovitica wastewater treatment plant Optimization of pa- rameters of biological wastewater treatment Sanja Uršanić, Daniel Lamprecht	A literature review of water resource policy in Sweden Emma Enstrom

16:45 - 17:15 Coffee break

17:15 – 18:15	2. Effective water and wastewater management in sensitive and protected areas under climate change (oral presentations) Conference room Ulika Chairpersons: Jörg Londong and Domagoj Nakić	
17:15 - 17:30	Assessment of certification processes for stormwater treatment devices Moritz Gesterding, Alexander Pasing, Sam Houlker	

4 / SATURDAY

17:30 - 17:45		Measures for ensuring the long-term stability of water supply in Istria due to adaptation to climate change Dragan Kranjčić	
17:45 - 18:00		Quaternary wastewater treatment – an overview Mirna Habuda-Stanić	
18:00 - 18:15		Water and man: right- eousness or commodity Josip Jambrač	
18:15 – 18:45	CONFERENCE CLOSING CEREMONY Conference room Ulika Best presentation award for young professionals under the age of 35 Moderator: Zoran Nakić, Chairman of the Organizing Committee		

DAY 4: SATURDAY, 13 APRIL 2024			
	EXCURSION A1: "National Park Brijuni" Excursion guides: Alena Sprčić, Zoran Nakić		
	(Lunch will be provided, registration required)		

1. INTER- AND TRANSDISCIPLINARY RESEARCH IN SENSITIVE AND PROTECTED AREAS

Electrochemical removal of ibuprofen Ivan Halkijević, Katarina Licht, Laura Nižić Nodilo

Vulnerable zones and agricultural sources of pollution by nitrates in surface water and groundwater in Czechia

Hrabankova Anna, Datel Josef Vojtech

Application of the hydrometry in the karst areas as an indicator of the potential flooding – a case study of the River Mirna in Croatia

Bojan Đurin, Karla Novak, Dorotea Topalović, Ema Trstenjak

Nutrient levels in water from pit "Jama u Predolcu" Marina Brailo Šćepanović

The immediate effect of activated carbon, resin and UV in removing anionic surfactants from bathwater

Huchen Liu, Mohammad R. Ghomi, Ulrike Gayh

2. EFFECTIVE WATER AND WASTEWATER MANAGEMENT IN SENSITIVE AND PROTECTED AREAS UNDER CLIMATE CHANGE

The impact of rainfall on the quality and quantity of water source "Rakonek" Katja Milohanović, Denis Kalčić, Barbara Rojnić, Leana Zandona

Combined approach methodology vs numerical analysis of pollution spread from a submarine outfall

Domagoj Nakic, Drazen Vouk, Hana Posavcic, Ivan Halkijevic

Kinetic study of mineral oil removal by sono-electrochemical process Hana Posavcic, Katarina Licht, Ivan Halkijevic, Domagoj Nakic The effect of pH value on electrochemical removal of selenium and strontium Katarina Licht, Ivan Halkijević

Forced degradation study of emtricitabine and ribavirin Šime Ukić, Roberta Hofer, Viktorija Martinjak, Kristina Bule Možar, Martina Miloloža, Dajana Kučić Grgić, Matija Cvetnić, Marinko Markić, Tomislav Bolanča

The effect of seasonal temperature changes on the recovery of tightly-bound biopolymers from waste activated sludge

A. Cydzik-Kwiatkowska, M. Florczyk, Sylwia Pasieczna-Patkowska, S. Ciesielski, M. Komorowska-Kaufman, W. Pomian, K. Jóźwiak, P. Oleśkowicz-Popiel

Urban wastewater treatment plants in part of the Sava River basin Katarina Sedlar Sreš, Matea Perić

3. BIODIVERSITY AND AQUATIC ECOSYSTEMS – BRINGING NATURE **BACK INTO OUR LIFE**

Development of a manual for the implementation of conservation measures in freshwater ecosystems

Ana Đanić, Ivan Vučković, Koni Čargonja – Reicher, Marija Sabolić, Neven Trenc, Zrinka Mesić

The hidden world of the peat bog "Jankove Bare" on Mt. Kopaonik, Serbia Sanja Šovran, Katarina Stojanović, Eva Kabaš, Danijela Vidaković, Ljubica Vlaović, Ana Knežević, Ivana Živić, Predrag Lazarević

Protocol for monitoring tufa habitats and water quality as part of assessment of ailanthus altissima removal in Krka National Park Jelena Mlinarec Novosel, Lovro Turkalj, Gordana Goreta, Ana Ostojić

Impact of nanoplastics on leaf litter decomposition in freshwaters Sahadevan Seena, Juliana Barros, Santosh Kumar

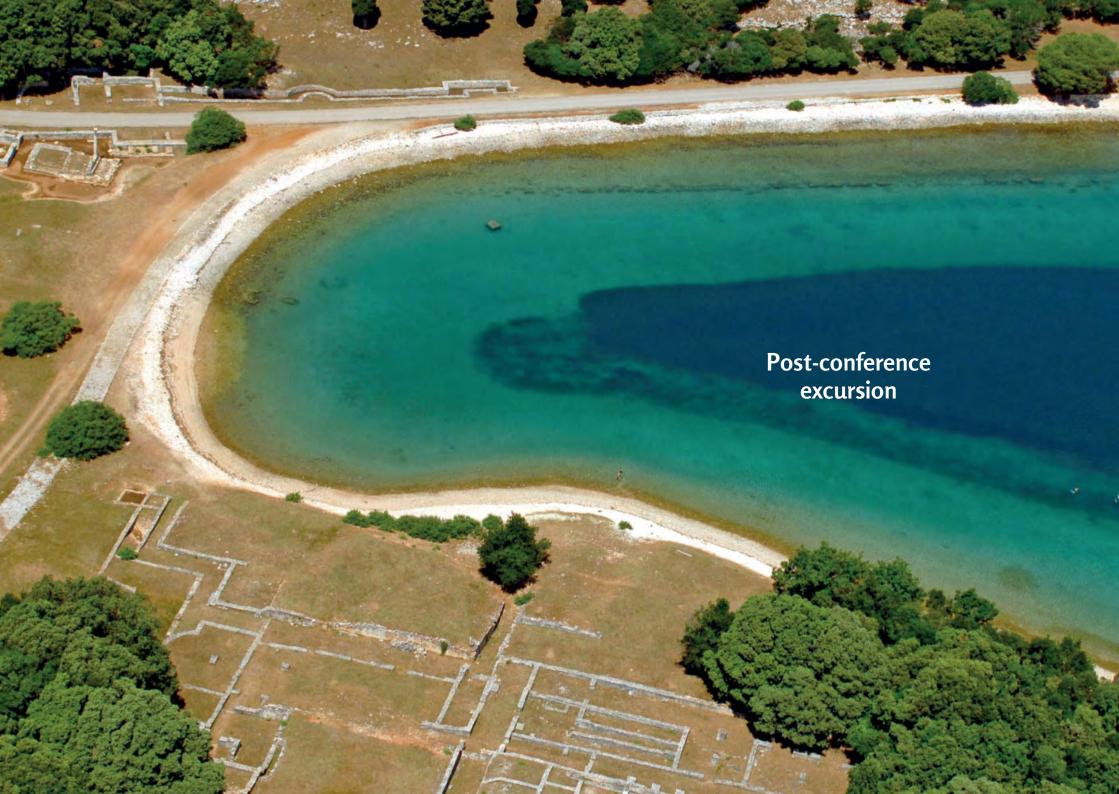
5. CONTRIBUTIONS TO AMENDMENT OF LEGAL FRAMEWORK RELATED TO SENSITIVE AND PROTECTED AREAS

Water permits for the discharge of biodegradable wastewater in sensitive areas of Croatia

Alenka Drenški, Tihana Šiletić

Reuse of water after rinsing blind branches Katja Milohanović, Barbara Rojnić, Leana Zandona, Irena Ankon Premate





EXCURSION A1: Brijuni National Park

Excursion guides: Alena Sprčić, Zoran Nakić

Contact: zoran.nakic@rgn.unizg.hr

Transport: Bus

Preliminary number of participants: Max. 120

Price: EUR 110

Brijuni National Park (NP) consists of 14 islands, islets and rocks located along the western coast of Istria, not far from the city of Pula. Today's boundaries of Brijuni National Park include the islands, the surrounding sea and the underwater, making the total area of the national park 33.95 km2. The Park was named after the largest islands within the archipelago, Veliki and Mali B.

Brijuni National Park is one of eight national parks in the Republic of Croatia. It is designated as one of the most biologically valuable marine areas in Croatia. In addition to biological characteristics, Brijuni also has unique cultural-historical and geological-paleontological values.

Participants of the excursion will have the opportunity to visit the island of Veliki Brijun. After a one-hour ride on the visitor train, during which they will see numerous natural and cultural-historical sights, they will continue their tour with expert guidance. They will learn about the challenges and solutions related to the supply and use of water on the island and about the management of the marine part of the protected area. Information will be given about the results of numerous projects and activities that adapt this protected area to the impact of climate change.

There are also several wetland habitats on Veliki Brijun. The largest such area, called Saline, has great importance for the overall flora and fauna. As a source of water, they are a necessary habitat for organisms, which spend part of their lives next to water bodies, such as dragonflies, bats, and especially wetland birds.



Source: NP Brijuni, author: Augustin Ravnić

"LIVING WATER" - THE MEMORIAL TO SPRING WATER

The memorial well (the so-called glass pyramid) and Kršinić's sculpture, also known as the Water Bearer or Primorka, are part of the memorial to an exceptional technical achievement - the pumping of spring water on the island. Namely, in the period from 1951 to 1953, hydrogeological research was carried out on the island, during which spring water was also found in the meadow with the significant name "Living water". This exceptional technical achievement of the use of groundwater, from a depth of 251 meters, is highlighted on the memorial stone, which, along with the sculpture, cistern and memorial well, forms an integral part of this landmark.



Source: NP Brijuni, author: Marko Vrdoljak

SALINE WETLAND HABITAT

In the deep southern bay of the island of Veliki Brijun, behind Cape Gromača, there is the Saline wetland. It consists of three ponds on an area of about 12 ha. In order to preserve the habitat and not disturb the birds, access to the Saline wetland is limited for visitors. The entire list of birds recorded on Brijuni includes more than 160 species, which makes this archipelago a suitable location for birds. Saline habitat is the key reason why so many birds stay or rest here during their migration routes.



Source: NP Brijuni

JAVORIKA BAY – ZONE OF STRICT PROTECTION

Javorika Bay is located in the vicinity of the Saline habitat. The bay is of great importance in preserving the biological diversity of the sea, it is an important fish hatchery and a habitat rich in fish spawn. In recent years, it has proved to be extremely important in the effort to preserve the largest Mediterranean seashell – the noble Pen Shell, because collectors for the spawn of this extremely endangered seashell have been installed in it.



Source: NP Brijuni

BRIJUNI MEDITERRANEAN GARDEN - DEMONSTRATION AREA WHERE WATER FROM A WELL IS USED

The Brijuni Mediterranean Garden, with an area of 1.7 ha, is located in the area of a former forest nursery, which was once used for the purposes of cultivation and restoring forests throughout the islands, and partly for scientific research. Nowadays, the Garden is a horticultural attraction, intended to educate visitors about various types of plants, as well as pollinators, as one of the most endangered groups of living beings on Earth. The entire surface of the Garden is irrigated with water supplied from one of Brijuni's wells.



VENUE AND DATE

Hotel Park Plaza Histria, Verudella 17, 52100 Pula 10 - 13 April 2024

TECHNICAL ORGANIZER

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OFFICIAL LANGUAGE

The official language of the 4th WSPA Conference is English.

REGISTRATION DESK WORKING HOURS

Wednesday	10 April 2024	08:15 – 18:00
Thursday	11 April 2024	08:15 – 18:00
Friday	12 April 2024	08:15 – 18:00

EXHIBITION "LIVES SHAPED BY WATER"

Set-up time	Wednesday	10 April 2024	from 17:30
Dismantling time	Friday	12 April 2024	from 18:45

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