

Statement of scientists

on the cancellation of plans of new hydropower plants on the Mura River by the
Ministry of Environment of Slovenia

February 27th, 2019



Natural Mura River in Slovenia

We, the undersigned scientists from Slovenia, Austria, Germany, Hungary, Croatia, Serbia, Spain, Portugal and Switzerland highly welcome the position of the Slovenian Minister of Environment Jure Leben not to build new hydropower plants on the Mura River in Slovenia and at the border river section with Austria.

Hence, we very much appreciate the recently issued [draft decree](#) of the Ministry of Environment of Slovenia to withdraw the concession decree for the planning and construction of eight hydropower plants along the Mura River in Slovenia between Sladki Vrh to Veržej, and encourage the government of Slovenia to confirm it rapidly.

The decree would additionally bring the planned first power plant "Hrastje-Mota" to a final close, due to the expected negative impacts to the environment and the drinking water supply for 46.000 inhabitants.

In our point of view, the decree is very wise and foresighted. It is in line with the [coalition agreement](#) of the Slovenian government from September 2018, which has decided not to build hydropower plants on Mura but to protect this valuable river ecosystem. And it is also in accordance with the findings of two [international expert studies](#) from 2017 on the environmental impacts of the planned power plant "Hrastje-Mota" on the Mura in Slovenia and the neighbouring countries Austria, Croatia and Hungary.

This move of the Ministry of Environment is a major and necessary step in achieving the protection and sustainable development of the region within the just solemnly opened UNESCO Biosphere Reserve Mura in Slovenia. It forms a solid foundation for achieving the larger initiative of the planned [Five-country Biosphere Reserve](#) "Mura-Drava-Danube", which is planned by Slovenia together with Austria, Croatia, Hungary and Serbia.

Over the past two decades, the value of river systems and their floodplains for human well-being has clearly been identified: natural rivers provide a wide array of ecosystem services, such as natural purification of water, vast groundwater aquifers for drinking water supply and agriculture, flood mitigation, maintenance of natural biodiversity, and unique opportunities for recreation and tourism development.

Ecosystem services have been widely recognized as a useful tool for a holistic approach to solve multiple ecological and socio-economic challenges. The significance of these ecosystem services is recognized by EU policy (e.g. EU strategy to halt biodiversity loss by 2020, EU COM Green Infrastructure Initiative) and is fostered by environmental regulations such as the European Water Framework Directive, EU Birds and Habitats Directive and EU Flood Risk Directive.

Moreover, studies and experiences from numerous examples have shown that hydropower plants lead to fundamental changes of river ecosystems, with negative consequences on the natural habitats and species as well as ecosystem services. New hydropower plants are one of the main causes of freshwater biodiversity loss including fish species on a global level.

This is in particular true for the planned hydropower plants on the Mura River, as they threaten one of Europe's last remaining free-flowing rivers and large scale river ecosystems, which is of national and international conservation importance. This is supported by following facts:

The Mura

- is part of the **largest, natural free-flowing river system in Central Europe** comprising the dam free Mura, Drava and Danube Rivers; a **unique fish migration corridor in Europe** of about 1000 km from Spielfeld (Austria) to Iron Gate at the Romanian-Serbian border.
- is the **last large free-flowing river in Slovenia** without any dams, with a high restoration potential.
- hosts the **largest floodplain forests of Slovenia** (Fauna-Flora Habitats Directive priority habitat type 91EO* (softwood alluvial forest) and Fauna-Flora Habitats Directive habitat type 91FO (hardwood alluvial forest).
- hosts the **richest diversity of native fish in Slovenia**. A total of 51 fish species (67 % of all Slovenian fish species) occur: 13 qualifying under Natura 2000, 36 species or 70% are on the IUCN Red List of Threatened Species of Fish.
- is the **richest biodiversity area in Slovenia**. Several endangered species live only along or in the Slovenian Mura, for example *Salvinia natans*, *Stratiotes aloides*, *Aeshna viridis*, *Abramis sapa*, *Pelecus cultratus*, *Umbra krameri*, and *Triturus dobrogicus*. It is the area with the best preserved oxbow lakes in Slovenia.
- is a **Natura 2000 site** (SI3000215; SI5000010) **with the highest number of qualification species in Slovenia** (66 species in total: 36 species reg. FFHD, 30 species reg. BD) including white-tailed eagle, black stork, kingfisher, beaver and otter and 8 habitat types (FFHD and BD).
- is a central part of the **planned 5-country Biosphere Reserve “Mura-Drava-Danube”** between Austria, Slovenia, Croatia, Hungary and Serbia. This is currently the **largest river protection initiative in Europe**, aiming at the protection and sustainable development of the transboundary region for nature and the local population.
- serves **local communities** as the most important drinking water source, natural flood protection and a valuable recreational area.

The Mura River in Slovenia, as part of the larger Mura-Drava-Danube area has a unique potential for maintaining and restoring unique and highly threatened biodiversity and ecosystem functions in Europe.

We, the undersigned scientists offer our assistance, support, and experience to the Ministry of Environment and Government of Slovenia in preserving and realizing those benefits in the future.

Yours sincerely,

1. **Prof. Dr. Mihael J. Toman**, Biotechnical Faculty Ljubljana, University of Ljubljana, Slovenia
2. **Prof. Dr. Mitja Kaligarič**, Biology Department, FNM, University of Maribor, Slovenia
3. **Prof. Dr. Peter Trontelj**, Biotechnical Faculty Ljubljana, University of Ljubljana, Slovenia
4. **Asocc. Prof. Dr. Mateja Germ**, Biotechnical Faculty, University of Ljubljana, Slovenia
5. **Asocc. Prof. Dr. Alenka Gaberščik**, Biotechnical Faculty, University of Ljubljana, Slovenia
6. **Assoc. Prof. Dr. Igor Zelnik**, Biotechnical Faculty, Department of Biology, University of Ljubljana, Slovenia
7. **Prof. Dr. Rok Kostanjšek**, Biotechnical Faculty, Department of Biology, University of Ljubljana, Slovenia
8. **Ass. Prof. Dr. Simona Prevorčnik**, Biotechnical Faculty, Department of Biology, University of Ljubljana, Slovenia
9. **Ass. Prof. Dr. Maja Zgmajster**, Biotechnical Faculty, Department of Biology, University of Ljubljana, Slovenia
10. **Ass. Prof. Dr. Cene Fišer**, Biotechnical Faculty, Department of Biology, University of Ljubljana, Slovenia
11. **Assoc. Prof. Dr. Sonja Škornik**, Department of Biology, University of Maribor, Slovenia
12. **Assoc. Prof. Dr. Simona Sušnik Bajec**, Biotechnical Faculty, University of Ljubljana, Slovenia
13. **Dr. Aleš Snoj**, Biotechnical Faculty, Department of Animal Science, University of Ljubljana, Slovenia
14. **Ass. Prof. Dr. Miha Krofel**, Biotechnical Faculty, Department for Forestry and Renewable Forest Resources, University of Ljubljana, Slovenia
15. **Dr. Aleksandra Golob**, Biotechnical Faculty, University of Ljubljana, Slovenia
16. **Dr. Andrej Gogala**, Slovenian Museum of Natural History, Ljubljana, Slovenia
17. **Dr. Rajko Slapnik**, ZOSPEUM, Molluscs, Cave & Karst Biological Consulting, Freelance of the Slovenian Museum of Natural History, Slovenia
18. **Dr. Tomi Trilar**, Invertebrate Department of Slovenian Museum of Natural History, Slovenia
19. **Dragan Abram, univ. dipl. biol.**, Biotechnical Faculty, University of Ljubljana, Slovenia
20. **Dr. Katarina Dea Zetko**, School Centre for Postal Services, Economics and Telecommunications, Ljubljana, Slovenia
21. **Dr. Andreja Rafaelič**, The Social Protection Institute of the Republic of Slovenia, Slovenia

22. **Prof. Dr. Rajko Muršič**, Department of Ethnology and Cultural Anthropology, Faculty of Arts, Ljubljana, Slovenia
23. **Prof. Dr. Darja Zaviršek**, Faculty of Social work, University of Ljubljana, Slovenia
24. **Dr. Anja Zalta**, Faculty of Arts, University of Ljubljana, Slovenia
25. **Dr. Vera Grebenc**, Faculty of Social Work, University of Ljubljana, Slovenia
26. **Dr. Daša Zabrc**, Fisheries Research Institute of Slovenia, Slovenia
27. **emer. Prof. Dr. Miha Janc**, Veterinary Faculty, University of Ljubljana, Slovenia
28. **Dr. Gregor Božič**, Slovenian Forestry Institute, Slovenia
29. **Mateja Grašič**, Biotechnical Faculty, University of Ljubljana, Slovenia
30. **Dr. Marjan Smrke**, Faculty for Social Sciences, Ljubljana, Slovenia
31. **emer. Prof. Dr. Maca Jogan**, Faculty of Social Sciences, University of Ljubljana, Slovenia
32. **Prof. Dr. Majda Pahor**, Faculty of Health Sciences, Faculty of Social Sciences, University of Ljubljana, Slovenia
33. **Assoc. Prof. Dr. Anton Prosen**, Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia
34. **Ass. Dr. Sonja Bezjak**, Faculty of Social Work, University of Ljubljana, Slovenia
35. **Assoc. Prof. Dr. Steven Weiss**, Institute of Biology, Karl-Franzens University Graz, Austria
36. **Univ. Prof. Dr. Thomas Hein**, Department Water-Atmosphere-Environment, Institute of Hydrobiology and Aquatic Ecosystem Management, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
37. **Assoc. Prof. Dr. Susanne Muhar**, Department Water-Atmosphere-Environment, Institute of Hydrobiology and Aquatic Ecosystem Management, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
38. **Assoc. Prof. Dr. Wolfram Graf**, Department Water-Atmosphere-Environment, Institute of Hydrobiology and Aquatic Ecosystem Management, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
39. **Dr. Günter Unfer**, Department Water-Atmosphere-Environment, Institute of Hydrobiology and Aquatic Ecosystem Management, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
40. **emer.o. Univ. Prof. Dr. M. Jungwirth**, Department Water-Atmosphere-Environment, Institute of Hydrobiology and Aquatic Ecosystem Management, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
41. **emer.o. Univ. Prof. Dipl.-Ing Hermann Schacht**, Institute of Landscape Development, Recreation and Conservation Planning (ILEN), BOKU - University of Natural Resources and Life Sciences, Vienna, Austria

42. **Dr. Matthias Kropf**, Institute for Integrative Nature Conservation Research, BOKU - University of Natural Resources and Life Sciences, Vienna, Austria
43. **emer.o. Univ. Prof. Dr. Friedrich Schiemer**, Department of Limnology and Oceanography, University of Vienna, Austria
44. **Univ. Prof. Mag. Dr. Thomas Frank**, Institute of Zoology, Department of Integrative Biology and Biodiversity Research (DIB), BOKU - University of Natural Resources and Life Sciences Vienna, Austria
45. **Assoc. Prof. Dr. Johann G. Zaller**, Institute of Zoology, Department of Integrative Biology and Biodiversity Research (DIB), BOKU - University of Natural Resources and Life Sciences Vienna, Austria
46. **Univ.-Prof. Dipl.-Ing. Dr. Ernst Peter Kauch**, Institute of Urban Water Management and Landscape Water Engineering, Graz University of Technology, Austria
47. **Assoc. Prof. Dr. Franz Essl**, Department of Botany and Biodiversity Research, Faculty of Life Sciences, University of Vienna, Austria
48. **Univ.-Prof. Dr. Stefan Dullinger**, Department of Botany and Biodiversity Research, Faculty of Life Sciences, University of Vienna, Austria
49. **Mag. Dr. Ingrid Kleinbauer**, Department of Botany and Biodiversity Research, Faculty of Life Sciences, University of Vienna, Austria
50. **Gernot Kunz**, Institute of Zoology, Karl-Franzens University Graz, Austria
51. **Assoc. Prof. Dr. Werner E Holzinger**, Institute for Biology, Karl-Franzens University Graz, Austria
52. **Prof. Univ.-Doz. Dr. Johannes Gepp**, Institut für Naturschutz und Landschaftsökologie Graz, Austria
53. **Mag. Dr. Phil. Melitta Fuchs**, Institut für Naturschutz und Landschaftsökologie Graz, Austria
54. **Dr. Christian Berg**, Institute for Biology -Botanical Garden-, Karl-Franzens University Graz, Austria
55. **Dr. Herbert Zettel**, 2nd Zoological Department, Natural History Museum Vienna, Austria
56. **Mag. Dr. Anton Drescher**, Institute for Biology, University of Graz, Austria
57. **Univ. Doz. Dr. Peter Weish**, „Forum Science & Environment“, Vienna, Austria
58. **Univ. Prof. Mag. Dr. Klaus Oegg**, Department of Botany, University of Innsbruck, Austria
59. **emer.o. Univ.-Prof. Dr. Roland Psenner**, Department of Ecology, University of Innsbruck, Austria
60. **Assoc. Prof. Dr. Božo Frajman**, Department of Botany, University of Innsbruck, Austria
61. **Prof. Mag. Dr. Peter Schönswetter**, Department of Botany, University of Innsbruck, Austria
62. **Dr. Walter Postl**, Natural History Study Center - Mineralogy Universalmuseum Joanneum, Graz, Austria

63. **Mag. Wolfgang Paill**, Natural History Museum Graz, Austria
64. **Dr. Ernst Albegger**, Club300 Austria, Austria
65. **Philipp Kolleritsch**, Club300 Austria, Austria
66. **Dr. Werner Lazowski**, TB Ecology, Austria
67. **Assoc. Prof. Dr. Gregory Egger**, Institute of Geography and Geoecology, Department of wetland ecology (former WWF-Auen-Institut), Karlsruhe Institute for Technology (KIT), Germany
68. **emer.o. Prof. Dr. Emil Dister**, former director of: Institute of Geography and Geoecology, Department of wetland ecology (former WWF-Auen-Institut), Karlsruhe Institute for Technology (KIT), Germany
69. **Dr. Jörg Freyhof**, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, IGB, Berlin, Germany
70. **Dr. Gabriel Singer**, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany
71. **Dr. Andrea Montserrat Burfeid Castellanos**, Alfred-Wegener Institute, Germany
72. **Dr. Berthold M. Kappus**, Publicly certified and sworn expert for freshwater ecology, Chamber of Industry and Commerce Heilbronn-Franken, Germany
73. **Prof. Dr. Dr. h.c. Albert Reif**, Faculty of Environment and Natural Resources Albert-Ludwigs-University, Freiburg, Germany
74. **Prof. Dr. Norbert Müller**, Department Landscape Management & Restoration Ecology University of Applied Sciences Erfurt, Germany
75. **Dr. Peter Biedermann**, Department of Animal Ecology and Tropical Biology, University of Würzburg, Germany
76. **Prof. Dr. Johannes Kollmann**, Department Ecology and Ecosystem Management, Technical University of Munich, Germany
77. **Dr. Emma Ladouceur**, The German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Germany
78. **Prof. Dr. Florian Altermatt**, Department of Evolutionary Biology and Environmental Studies, University of Zurich, Switzerland
79. **Assoc. Prof. Núria Bonada**, Department of Evolutionary Biology, Ecology and Environmental Sciences, FEHM-Lab (Freshwater Ecology, Hydrology and Management), University of Barcelona, Catalonia, Spain
80. **Prof. Narcís Prat**, Department of Evolutionary Biology, Ecology and Environmental Sciences, FEHM-Lab (Freshwater Ecology, Hydrology and Management), University of Barcelona, Catalonia, Spain
81. **Dr. Miguel Cañedo-Argüelles**, Department of Evolutionary Biology, Ecology and Environmental Sciences, FEHM-Lab (Freshwater Ecology, Hydrology and Management), University of Barcelona, Catalonia, Spain

82. **Prof. Emili García-Berthou**, Institut d'Ecologia Aquatica & Dept. Environmental Sciences, University of Girona, Catalonia, Spain
83. **Prof. Diego García de Jalón Lastra**, Department of Systems and Natural Resources/ Departamento Sistemas y Recursos Naturales, Polytechnical University of Madrid, Spain
84. **Giulia Gionchetta**, PhD student, University of Girona, Spain
85. **Antonio G Valdecasas**, Senior Researcher, Museo Nacional de Ciencias Naturales, CSIC Madrid, Spain
86. **Dr. Virgilio Hermoso López**, Forest Science Centre of Catalonia, Spain
87. **Prof. Dr. Elvira Perona**, Department of Biology, Sciences Faculty, Autonomous University of Madrid, Spain
88. **Dr. José Ramón Díez**, Faculty of Education of Bilbao, University of the Basque Country, Spain
89. **Prof. Dolors Vinyoles Cartanyà**, Department of Evolutionary Biology, Ecology and Environmental Sciences, University of Barcelona, Catalonia, Spain
90. **Prof. Alexandra Aragão**, Faculty of Law, University of Coimbra, Portugal
91. **Prof. Dr. József Lanszki**, Carnivore Ecology Research Group, Kaposvár University, Hungary
92. **Ass. Prof. Dr. Béla Munkácsy**, ELTE University, Budapest, Hungary
93. **Dr. Juhász Magdolna**, Somogy County Museum, Kaposvár, Hungary
94. **Prof. Dr. Predrag Simonović**, Faculty of Biology, Institute for Biological Research "Siniša Stanković", University of Belgrade, Serbia
95. **Dr. Zoran Marčić**, Division of Zoology, Department of Biology, Faculty of Science, University of Zagreb, Croatia
96. **Ass. Prof. Dr. Marko Čaleta**, Division of Zoology, Department of Biology, Faculty of Sciences, University of Zagreb, Croatia
97. **Ass. Prof. Dr. Ivana Buj**, Division of Zoology, Department of Biology, Faculty of Sciences, University of Zagreb, Croatia
98. **Mag. Lucija Raguž**, Division of Zoology, Department of Biology, Faculty of Sciences, University of Zagreb, Croatia
99. **Mag. Lucia Ivić**, Division of Zoology, Department of Biology, Faculty of Sciences, University of Zagreb, Croatia
100. **Assoc. Prof. Dr. Perica Mustafić**, Faculty of Science, University of Zagreb, Croatia