

“Ecohydrology for Implementation of the European Water Framework Directive”

Proceedings of the International Symposium on Ecohydrology, Vienna, October 23–25, 2005.

Devoted to the 65th Anniversary of Professor Fritz Schiemer

Contents

Fritz Schiemer – a positive driving force in the development of Ecohydrology

Maciej Zalewski..... 3-4

Ecohydrology for the EU Water Framework Directive implementation

1. Hydrological control of system characteristics of floodplain lakes

Fritz Schiemer, Thomas Hein, Peter Peduzzi..... 7-18

2. Ecohydrological control of macrophytes in floodplain lakes

Georg A. Janauer..... 19-24

3. Optimised management strategies for the Biosphere reserve Lobau, Austria - based on a multi criteria decision support system.

Thomas Hein, Alfred P. Blaschke, Gertrud Haidvogel, Severin Hohensinner, Verena Kucera-Hirzinger, Stefan Preiner, Karl Reiter, Bernd Schuh, Gabriele Weigelhofer, Istvan Zsuffa..... 25-36

4. Alternative stable states in floodplain ecosystems

Martin T. Dokulil, Karl Donabaum, Karin Pall..... 37-42

5. Restoration of a river landscape: Biotopes as a basis for quantification of species diversity and evaluation of landscape quality

Jarmila Měkotová, Bořivoj Šarapatka, Otakar Štěrba, David Harper..... 43-51

6. Diurnal variations in carbon isotope composition of dissolved inorganic carbon (DIC) in a freshwater dam reservoir.

Mariusz Orion, Jędrysek, Marta Kurasiewicz, Adriana Trojanowska, Dominika Lewicka, Agata Omilanowska, Adam Kałużny, Katarzyna Izydorczyk, Wojciech Drzewicki, Maciej Zalewski..... 53-59

7. The state and water quality of small rivers in Belarus: the case study of the Dnieper river basin

Vitaly Semenchenko, Natallia Rybianets..... 61-67

8. The relationship between autotrophic picoplankton (APP) – the smallest autotrophic component of food web and the trophic status and the depth of lakes

Iwona Jasser..... 69-77

9. Interrelationships between macrophytes (including charophytes) and phytoplankton and the ecological state of lakes.

Mariusz Pelechaty, Aleksandra Pelechata, Andrzej Pukacz, Lubomira Burchardt..... 79-88

10. Evolution of ecohydrological approach during 60 years of hydrobiological activity at Nicholas Copernicus University, Toruń

Andrzej Giziński, Andrzej Kentzer, Paweł Napiórkowski..... 89-96

11. Effects of land use changes on surface runoff

Renata Chmelová, Bořivoj Šarapatka, Přemysl Pavka..... 97-103

12. Impact of water sampling frequency on estimating water quality status in the Ondava River

Pavla Pekárová, Ján Pekár, Pavol Miklánek..... 105-113

13. The role of natural systems in urban water management in the City of the Future - A 3-step strategic approach
Huub J. Gijzen..... 115-122
14. Valuing and paying for ecosystem services: a pre-condition for sustainability
Dr. Branko Bošnjaković..... 123-134

Soil as an element of hydrological and ecological system of the catchment

15. Water and soil - the bases of our life
Othmar Nestroy..... 137-141
16. Risk reduction of extreme hydrological events with sustainable land use and soil management
György Várallyay..... 143-151
17. Sediment tracing using environmental radionuclides; the distribution and behaviour of ¹³⁷Cs and natural radioisotopes in a small loess agricultural watershed
Grzegorz J. Poręba, Andrew Murray..... 153-161
18. Bioaugmentation as a method of biodegradation enhancement in oil hydrocarbons contaminated soil
Iwona Zawierucha, Grzegorz Malina..... 163-169
19. Soil sealing in Austria and its consequences
Othmar Nestroy..... 171-173
20. Occurrence of amylolytic microorganisms in soil depending on the type of cultivation
Barbara Breza-Boruta, Zbigniew Paluszak 175-180
21. The effect of organic amendments on the phytoavailability of heavy metals in polluted soil
Jolanta Kwiatkowska..... 181-186

Technology for sustainable use of water and land

22. Integration of waste-water treatment and sludge handling on small scale, for the conservation and restoration of water and land quality
Jan Suschka 189-195
23. Closing the nutrient loop between urban and rural area - wastewater and sludge utilization in Ner River Valley.
Józef Mosiej, Agnieszka Karczmarczyk..... 197-203
24. Sludge composting validation for minimizing environmental hazards. A new indirect method of sanitation effectiveness assessment.
Justyna Bauza Kaszewska, Zbigniew Paluszak, Teresa Dziedzic..... 205-210

Risk assessment in water management

25. The initial risk assessment and emission control from contaminated sediments
Grzegorz Malina, Martijn P.J Smit, Tim J.C. Grotenhuis..... 213-222
26. Geophysical investigation in contamination hazard studies
Danuta Kaczor, Marek Sołtysiak..... 223-232
27. Endocrine disruptor contaminants in water and their adverse effects in humans
Józefa Węsierska-Gądek..... 233-242