NATIONAL REPORT ON IHP RELATED ACTIVITIES

Report Format

1. ACTIVITIES UNDERTAKEN IN THE PERIOD JUNE 2012 – MAY 2014

1.1 Meetings of the IHP National Committee

1.1.1 Decisions regarding the composition of the IHP National Committee
Maciej Zalewski
Iwona Wagner
Iwona Jasser

1.1.2 Status of IHP-VII activities (including IHP-VIII activities if applicable)
UNESCO IHP
- Maciej Zalewski – member of the Special Task Force for IHP-VIII
Other International Programmes:
- UNEP GEMS Water Programme
- InterAcademy Water Programme (IAP) – coordination IAP in Europe, Maciej Zalewski

1.2 Activities at national level in the framework of the IHP

1.2.1 National/local scientific and technical meetings

1.2.2 Participation in IHP Steering Committees/Working Groups

- 1st Meeting of the Implementation Working Group UNESCO International Hydrological Programme (IHP), Koblenz, December 10th - 12th 2012
- UNESCO Strategic and High-Level Meeting on Water Security and Cooperation Nairobi, Kenya September 11th - 13th 2013
- UNESCO International Year of Water Cooperation – Closing Event
- Working Group – Preparing Recipes for Water Cooperation
- Mexico City, Mexico, December 5th – 6th 2013
- The Twenty-third IHP Training Course: Ecohydrology for River Basin Management under Climate Change, Keynote Speaker “Ecohydrology: process oriented thinking towards sustainable enhancement, water resources, biodiversity, ecosystem services and resilience to climate changr; Kyoto, Japan,
  - December 2nd – 13th 2013
- UNESCO IHP VIII Ecohydrology Steering Committee and Workshop
  - 20-21.05.2014

1.2.3 Research/applied projects supported or sponsored

1.2.4 Collaboration with other national and international organizations and/or programmes

- EU Life+ ENVEUROPE: Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring. LIFE08 ENV/IT/000399.
- EU FP7 EXPEER: Distributed Infrastructure for EXPERimentation in Ecosystem Research. FP7-INFRASTRUCTURES-2010-1.
- ALTER-Net: A Long-Term Biodiversity, Ecosystem and Awareness Research Network. (Network of Excellence, 6th FP EU)
- EU Life+ EKOROB: Ecotones for reducing diffusion pollution. LIFE08 ENV/PL/000519.
- EU Life+ EH-REK: Ecohydrologic rehabilitation of Arturowek recreational reservoirs (in Lodz) as a model approach to rehabilitation of urban reservoirs. LIFE08 ENV/PL/000517.
- "Analysis of point sources pollution of nutrients, dioxins and dioxinlike compounds in the Pilica River catchment and draw up of reclamation methods". N305 365738. Project financed by the Ministry of Sciences.
- N305 3657 58 „Analysis of point sources pollution of nutrients, dioxins and dioxin-like compounds in the Pilica River catchment and draw up of reclamation methods”
- UMO-2012/07/B/NZ8/03991 Application of reporter cell biosensors in ecotoxicology of cyanobacteria: new targets for bioactivity,
- UMO-2012/07/N/NZ8/00599. Assessment of the interaction between hepatotoxic cyanobacterium Microcystis aeruginosa and pathogenic bacteria of the genus Aeromonas,
- UMO-2012/05/B/NZ9/00980 Do fish adapt to cyanobacterial blooms?,

1.2.4 Collaboration with other national and international organizations and/or programmes

- ALTER Net (A Long Term Biodiversity, Ecosystem and Awareness Research Network) Network of Excellence, 6th FP EU
- AlterNet2 Consortium on Biodiversity and Ecosystem Services
- LTER Europe (A Long Term Ecological Research Network)
- ILTER (International Long Term Ecological Research)
- Water, Ecosystem Services and Society - establishing the Collaboration between European Academies of Science under the IAP Water Programme and European Long-Term Ecosystem Research Network. IAP Water Programme.
- Hydroacoustic estimation of fish abundance in shallow lakes using horizontal beaming. Within Agreement between Polish Academy of Sciences and Hungarian Academy of Sciences.
- ENVEUROPE: Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring.
- EKOROB: Ecotones for reducing diffusion pollution.
- EXPEER: Distributed Infrastructure for EXPERimentation in Ecosystem Research.
- Towards Engineering Harmony Between Water, Ecosystem and Society. Strengthening the Collaboration between European Academies of Sciences in the IAP Water Programme”.
- Mechanisms and Early Warning Techniques of Algal Blooms including Cyanobacteria in the Tributaries of the Three Gorges Reservoir in China.
- EH-REK: Ecohydrologic rehabilitation of Arturowek recreational reservoirs (in Lodz) as a model approach to rehabilitation of urban reservoirs.
- Ecohydrology - a transdisciplinary science for integrated water resources and sustainable development in Ethiopia. Project financed by the Ministry for Foreign Affairs Republic of Poland.
- FORMAN - Forest Management and the Water Cycle.
- SIL - International Society of Limnology
- ESFRI – European Strategy Forum on Research Infrastructures - Maciej Zalewski

1.2.5 Other initiatives

1.3 Educational and training courses

1.3.1 Contribution to IHP courses
- The Twenty-third IHP Training Course: Ecohydrology for River Basin Management under Climate Change, Keynote Speaker “Ecohydrology: process oriented thinking towards sustainable enhancement, water resources, biodiversity, ecosystem services and resilience to climate change; Kyoto, Japan, December 2nd – 13th 2013
- International Seminar on Ecohydrology, Biotechnology and Engineering: Towards the Harmony between Biogeoosphere and Society on basis of Long Term Ecosystem Research, Invited lecture; Brno, Olomuniec; Czechy; kwiecień 2013

1.3.2 Organization of specific courses
Researchers from European Regional Center for Ecohydrology run lectures for the University of Lodz students on the basis of Cooperation Agreement between ERCE and University of Lodz in a field of Ecohydrology. Lectures on:
- Ecohydrology
- Urban Ecohydrology
- Applied Ecology
- Ecology Basis
1.3.3 Participation in IHP courses
ERCE run also classes and provides supervisors and facilities for master theses within the international Master Course on Ecohydrology:
ECOHYD
ERASMUS MUNDUS Master Course on Ecohydrology (ECOHYD) with ICCE UNESCO/Algarve University, UNESCO-IHE Delft, Lodz University & Kiel University.

1.4 Cooperation with the UNESCO-IHE Institute for Water Education and/or international/regional water centres under the auspices of UNESCO
Members of the Governing Board: Iwona Wagner

1.5 Publications
2012


Zalewski M., Chcharo L. 2012. The recent progress in Ecohydrology evelopment and implementation in UNESCO Ecohydrology Centers. SIL News 60: 8-9

2013


Urbaniak M, Kiedrzyńska E., Kiedrzyński M., Mendra M., Grochowalski A. The impact of point sources of pollution on the transport of micropollutants along the river continuum. Hydrology Research. 2013. DOI:10.2166/nh.2013.242


- Sklodowski M., Kiedrzyńska E., Kiedrzyński M., Urbaniak M., Zielińska K.M., Kurowski, J.K., Zalewski M., The role of riparian willow communities in phosphorus accumulation and dioxin control for water quality improvement in a lowland river. Ecological Engineering
- Godlewska M., Doroszczyk L., Długoszewski B., Kanigowska E. Long-term decrease of the vendace population in Lake Pluszne (Poland) – result of global warming, eutrophication or both? Ecohydrology & Hydrobiology
- Wyrwicka A., Steffani S., Urbaniak M., The effect of PCB-contaminated sewage sludge and sediment on metabolism of cucumber plants (Cucumis sativus L.). Ecohydrology & Hydrobiology 14,75–82,
- Bednarek A., Zalewski M., Mankiewicz-Boczek J. Denitrification ditches as a bioremediation tool for the removal of the nitrogen pollution and protection of groundwater in rural area. In: Skowronek J. [ed.] Innovative solutions for revitalisation of degraded areas (pol. Innowacyjne rozwiązania rewitalizacji terenów zdegradowanych) - accepted for print

1.6 Participation in international scientific meetings

1.6.1 Meetings hosted by the country
- International Symposium: Ecohydrology, Biotechnology and Engineering: Towards Harmony between the Biogeosphere and Society on the basis of Long Term Ecological Research, Lodz, September 2013,
- Co-organisation of III Krajowe Warsztaty Ekotoksykologiczne "Praktyczne wykorzystanie systemów bioindykacyjnych do oceny toksyczności środowiska i substancji chemicznych" (11-12 kwietnia 2013, Łódź)
- Innovative and system solutions for reducing diffuse pollution in Europe: demonstration catchments. 2-4 June 2014, Bronisławów
1.6.2 Participation in meetings abroad

- UNESCO International Year of Water Cooperation – Closing Event Working Group – Preparing Recipes for Water Cooperation, *Mexico City, Mexico, December 5th – 6th 2013*

- The Twenty-third IHP Training Course: Ecohydrology for River Basin Management under Climate Change, “Ecohydrology: process oriented thinking towards sustainable enhancement, water resources, biodiversity, ecosystem services and resilience to climate change; *Kyoto, Japan, December 2nd – 13th 2013*

- World Water Summit; Water and Sanitation in the Global Sustainable Development, *Budapest, Hungary October 8th – 11th 2013*

- UNESCO Strategic and High-Level Meeting on Water Security and Cooperation *Nairobi, Kenya September 11th – 13th 2013*

- 6th International Conference on Water Resources and Environment Research; *Koblenz, Germany June 3rd – 7th 2013*

- International Seminar on Ecohydrology, Biotechnology and Engineering: Towards the Harmony between Biogeosphere and Society on basis of Long Term Ecosystem Research, *Brno, Olomuniec; Czech Republic; April 8-10th 2013*

- UN International Year of Water Cooperation 2013, *Paris, February 11th 2013*

- 1st Meeting of the Implementation Working Group UNESCO International Hydrological Programme (IHP), *Koblenz, December 10th – 12th 2012*

- *EcoSummit 2012, Columbus, Ohio, USA, 30 September – 5 October 2012*

- *International Seminar on Ecohydrology and Global Water Issues, Faro, Portugal, September 2012*

- *CIWEM Riwers & Coastal Group Conference on Flood Plain Management: Implementing International Experience in the UK, Birmingham, UK, May 2012*

- *Planet under Pressure International Conference, London, UK, March 2012*

- *Euroscience Open Forum 2012, Dublin, Ireland, June 2012*

- *ALTER-Net Conference: Science underpinning the EU 2020 Biodiversity Strategy. Ghent, Belgium, April 2013*

1.7 Other activities at regional level

1.7.1 Institutional relations/cooperation

- Ministry for Foreign Affairs Republic of Poland
- Polish Academy of Sciences
- Ministry of Science and Higher Education

1.7.2 Completed and ongoing scientific projects


- EU Life+ ENVEUROPE: Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring. LIFE08 ENV/IT/000399.
- EU FP7 EXPEER: Distributed Infrastructure for EXPERimentation in Ecosystem Research. FP7-INFRASTRUCTURES-2010-1.
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- UMO-2012/07/N/NZ8/00599. Assessment of the interaction between hepatotoxic cyanobacterium Microcystis aeruginosa and pathogenic bacteria of the genus Aeromonas,
- UMO-2012/05/B/NZ9/00980 Do fish adapt to cyanobacterial blooms?,
- PBS1/A8/0/2012 Microbial activators in denitrification deposits used for the treatment of nitrate pollution for the implementation of the Water Framework Directive and the Nitrates Directive Explanation of cause-effect relationships between the occurrence of toxicogenic cyanobacterial blooms, and abiotic and biotic factors with particular emphasis on the role of viruses and bacteria

2. Future Activities

2.1 Activities planned until December 2014
- Conference: ALL Scientist Meeting of Global LTER Network 2014.Interface with IHP: Coupling long term information about ecological processes with socio-economic dynamics, forecasting trends with respect to global change and ecosystem performance
- The Pilica River Global Reference Site for UNESCO IHP Ecohydrology “Development and implementation of the Ecohydrology concept for reduction cyanobacterial blooms in a man-made reservoir (Pilica River Catchment, Poland)”

2.2 Activities foreseen for 2015-2016
- PROJECT: 2013 – 2016 Application of reporter cell biosensors in ecotoxicology of cyanobacteria: new targets for bioactivity,
submitted as a national project to NCN - National Science Centre of the Republic of Poland

- NATIONAL RESEARCH PROJECT: 2013 – 2016 Do fish adapt to cyanobacterial blooms?, UMO-2012/05/B/NZ9/00980, national project funded by the NCN - National Science Centre of the Republic of Poland

- NATIONAL RESEARCH PROJECT: 2012 – 2015 Microbial activators in denitrification deposits used for the treatment of nitrate pollution for the implementation of the Water Framework Directive and the Nitrates Directive PBS1/A8/0/2012, national project funded by the National Research and Development Centre (the Republic of Poland)

2.3 Activities envisaged in the long term

- Cooperation with Africa: “Elaboration of the basis for the establishment of the Ethiopian Centre for Ecohydrology”, Partner of the Project: Ministry of Water and Energy of Ethiopia