



UNESCO & UNEP

PILICA DEMONSTRATION SITE

APPLICATION OF ECOHYDROLOGY AND PHYTO TECHNOLOGY FOR WATER RESOURCES MANAGEMENT AND SUSTAINABLE DEVELOPMENT PROPOSED LT SER PLATFORM



European Regional Centre for
ECOHYDROLOGY
under the auspices of
UNESCO
POLISH ACADEMY OF SCIENCES
 ERCE



SCIENCE

OBJECTIVES

The project is designed to implement, demonstrate and disseminate the use of ecohydrology and phytotechnology in integrated watershed management through:

- creation of an opportunity for integrated cooperative, long-term research on aquatic and terrestrial systems, dissemination and exchange of scientific knowledge;
- creation of a platform for the exchange of technical and policy relevant information;
- generation of scientific and technical information for environmental education;
- elaboration of problem solving approaches and operational procedures to be implemented at the regional scale in support of sustainable development;
- disseminate the results of the case study for reference and/or replication in other basins



CONSULTING



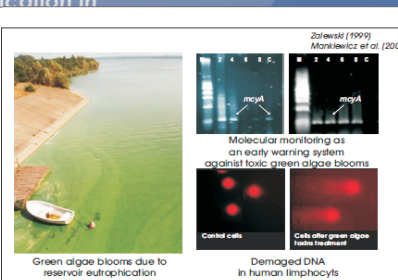
EDUCATION



CO-OPERATION WITH STAKEHOLDERS & DECISION MAKERS, ADVANCED COURSES

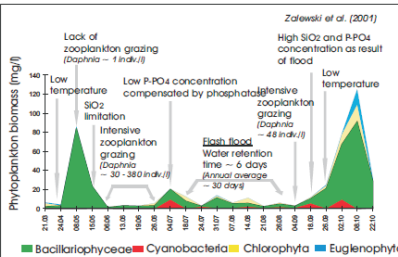
MONITORING OF THREATS

ASSESSMENT OF GENETIC DIVERSITY (ALGAE & FISH)
APPLICATION OF MOLECULAR METHODS FOR RISK ASSESSMENT AND EARLY WARNING SYSTEM



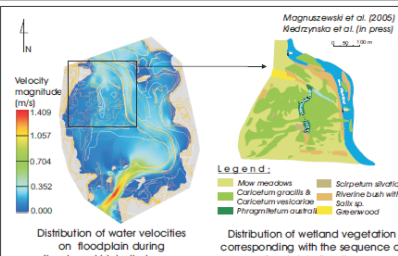
CAUSE - EFFECT RELATIONSHIP ANALYSIS

ASSESSMENT OF COMMUNITY DIVERSITY & POPULATION DYNAMICS (PHYTO-, ZOOPLANKTON, FISH)
IDENTIFICATION OF HIERARCHY OF FACTORS INDUCING TOXIC ALGAL BLOOMS IN THE SULEJOW



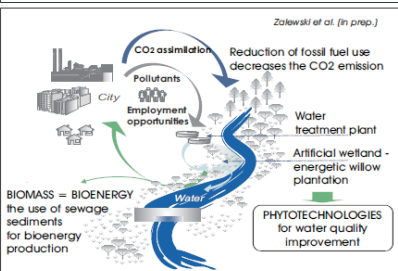
METHODS ELABORATION

LANDSCAPE STRUCTURE & CHANGE OPTIMISATION OF BIOLOGICAL STRUCTURE OF THE PILICA RIVER FLOODPLAIN FOR SELF-PURIFICATION ENHANCEMENT



SYSTEM SOLUTIONS SUSTAINABLE DEVELOPMENT AND GOOD ECOLOGICAL STATUS

RESTORATION OF URBAN WATER ECOSYSTEMS, RESERVOIRS, AND LANDSCAPE FOR BIODIVERSITY, WATER QUALITY IMPROVEMENT, HUMAN HEALTH, AND QUALITY OF LIFE.



CONTEXT

The Pilica Demonstration Site was the first one of 10 demosite projects related with Ecohydrology, launched in a frame of International Hydrological Programme IHP, UNESCO.



DATA

- Historical and contemporary topographic maps (1839, 1914, till present);
- Aerial photographs (Przedbórz - Sulejów);
- Hydrological data (1973 - present);
- Digital model of experimental area (floodplain);
- Physical, chemical and biological parameters of rivers and the reservoir (long-term monitoring) - diversity of phytoplankton, zooplankton, fish, plants (aquatic and terrestrial)
- Meteorological data (1973-present)
- Floodplain soil composition, groundwater composition, sedimentation processes, vegetation cover and biological assimilation of phosphorus, rate of biomass growth

AVAILABLE IN-SITE

- Maps of geology, morphology of the area
- Satellite images and information (e.g. vegetation change, evapotranspiration, biomass production, etc.).
- Additional hydrological information about freshwaters in the area,
- Area specific biodiversity information if needed
- Socio - economic data: demographic, employment, income, land use, sectoral information, investments, spatial planning, environmental protection
- Historical data on land use
- Sociological information - conflicts, areas of

AVAILABLE OUT-SITE

- Province Office in Lodz
- Marshal's Office in Lodz
- President of Piotrków Trybunalski;
- Municipal and Commune Office in Przedbórz;
- Municipal and Commune Office in Sulejów;
- Municipal and Commune Office in Wolbórz
- Elected Chair of the Kurnedz Village,
- "Kraina Kugla" NGO

INFO FROM PARTNERS

Institutions involved in ecohydrological research

- International Centre for Ecology of the Polish Academy of Science (ICE PAS)
- Department of Applied Ecology; University of Lodz (DAE UL)
- Co-operating national institutes

Stations of national monitoring in the region

National networks of environmental (WIOS), Methodological (IMGW) and hydrological (ODGW) monitoring; Landscape Park of Pilica Valley

Education, training facilities

Field station of University of Lodz, laboratories, offices - UL, ERCE



ERCE FACILITIES

FIELD STATION

UL TRAINING FACILITIES