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LIFE TRivers: developing operational tools for the management of temporary rivers in support of the sound implementation of the European Water Framework Directive

Narcís Prat (1), Francesc Gallart (2), Núria Cid (1), Pilar Llorens (2), Jérôme Latron (2), Núria Bonada (2), Sara-María Jiménez-Argudo (3), Rosa-María Vega (3), Carolina Solà (4), Maria Soria (2), Mònica Bardina (4), Dolors Vinyoles (5), Iraima Verkaik (1), Elisenda Sánchez-Costa (1), Alba Ballester (1), Aránzazu Fidalgo (3), Teodoro Estrela (3), and Antoni Munné (4)

(1) FEM, Universitat de Barcelona, Barcelona, Spain (nprat@ub.edu, (2) IDAEA, CSIC, Barcelona, Spain (francesc.gallart@idaea.csic.es), (3) Jucar River Basin Authority, Valencia, Spain (Teodoro.Estrela@chj.es), (4) Catalan Water Agency, Barcelona, Spain (anmunne@gencat.cat), (5) Fac. Biology, Universitat de Barcelona, Barcelona, Spain (d.vinyoles@ub.edu)

Although temporary rivers are very common in many regions of the world, there has been a general failure to understand, protect and manage this type of freshwater ecosystems. In Europe, the implementation of the Water Framework Directive has been unable to provide a solution to determine the ecological status of temporary water bodies. The first reason for this failure is the lack of attention to and knowledge of the hydrological regime of these rivers that includes diverse phases relevant to aquatic life such as flow, stagnant pools and dry stream bed. The second reason is that quality assessment tools using biological quality indicators have been developed primarily for perennial rivers and therefore are inadequate for rivers with hydrological regimes as complex as temporary rivers undergo.

In order to tackle these challenges, the LIFE+ TRivers project (LIFE13 ENV/ES/000341) has addressed the following targets:
- Development and implementation of operational methods for obtaining information on the temporal patterns of the diverse states and phases that characterize the hydrological regime of temporary rivers.
- Classification of temporary river regimes on the basis of updated concepts beyond flow measurements, critical for the development of aquatic life.
- Categorization of the diverse regime features that help to assess the degree of hydrological alteration of the natural regimes and obtain an hydrological status.
- Design of calendars and protocols for monitoring the characteristics of bio indicators according to the diverse aquatic phases of the river regime.
- Test and improvement of biological quality indicators for their application to temporary rivers.
- Development of the TREHS software tool that includes all the former features. TREHS has been tested for hydrology in over 100 test water bodies and for all the developments in 25 pilot river sites.
- Public participation and proposal of measures for improving both the hydrological and biological status of an example set of temporary water bodies.

In collaboration with the SMIRES COST action, an open TRivers Final Conference will be held in Barcelona on the 3-4th May 2018. Visit http://www.lifetrivers.eu/