*LIFE+ INHABIT project (LIFE 08 ENV/IT/000413)*

# 3rd INHABIT International Workshop on Rivers

## 'THE IMPORTANCE OF HABITAT FEATURES AND LOCAL HYDRO-MORPHOLOGY FOR THE DEFINITION OF ECOLOGICAL STATUS IN MEDITERRANEAN RIVERS'

**28th February 2013**

Meeting venue: The Agricultural Research Institute (ARI)
1516 Nicosia, Cyprus

*The INHABIT project*

The project www.life-inhabit.it aims mainly at integrating information on local hydro-morphological features into practical measures to improve the reliability of implementation of WFD River Basin Management Plans (RBMPs) in Southern Europe. The new approach involved in the project is based on hydro-morphological and habitat-mediated information. The principal outcomes will contribute to reduce relevant problems in the subjects of WFD implementation and ecological status classification such as: i) the uncertainty in the assessment of ecological status due to ***habitat variability***, ii) the strong delay in ***WFD*** implementation in vast part of ***Southern Europe*** due in particular to extreme differences in environmental features among similar areas, iii) the difficulty in the implementation of other more traditional measures whose costs can limit their adoption and iiii) the risk of failing in the achievement of good ***ecological status*** by 2015. The focus is on rivers and lakes investigated in two areas in Italy covering a wide range of environmental features and water body types. More specifically the objectives of the project are:

- to quantify in a standard way the natural variability in undisturbed conditions of selected hydro-morphological, habitat and physico-chemical features known to be highly influent on biological communities. To quantify such features that can noticeably affect ecological status classification in both reference and altered sites;
- the following aspects were considered to be directly brought into management plans: a) the influence of discharge-related habitat features on the evaluation of ecological status of

rivers; c) the interaction between hydro-morphological and habitat features and nutrients concentration (and e.g. removal) as a means to improve quality of rivers;
- to evaluate how such aspects can altogether influence ecological status assessment and the overall uncertainty in classification, i.e. as deriving from natural variability, errors in measurements, failure in methodological approach, direct influence of hydro-morphology and habitat, will be assessed for the study catchments.

*Aims of the workshop*

The workshop is addressed to representatives from the Water Development Department, the Fisheries and Marine Research Department and other Cyprus Governmental Departments, to environmental NGOs and consultancies as well as to water managers and scientists.

The idea is to discuss topics related to habitat and hydromorphology assessment under the particular focus of habitat-biota relationships (INHABIT approach). Additionally, focus will be placed on presenting the results of applied research programs performed in Cyprus to support the WFD implementation, covering three Biological Quality Elements used in river monitoring: fish, macrophytes and benthic invertebrates.

The main aims of the workshop are:

- to disseminate INHABIT project approaches and methodologies, and present some of the obtained results;
- to discuss about the need for integrating habitat information when setting assessment systems for the evaluation of ecological status;
- to discuss the importance of linking hydromorphology/habitat and hydrology to biological communities (BQEs) when characterizing ecological status *sensu* WFD, with some effort on possible measures, to be applied for the implementation of RBMPs;
- to briefly discuss additional items and problems of national/international interest especially relevant for Southern European river management (flow unpredictability of Mediterranean rivers, river typology in the Mediterranean area, RBMPs *sensu* WFD, etc.);
- to provide an update of data availability and ecological status assessment approaches in Cyprus rivers for all BQEs;
- to summarize the overall biological quality of Cyprus rivers for each BQE;
- to finally focus on the possibility of using habitat information when classifying ecological status i.e. impressively increasing classification accuracy – data and examples from aquatic invertebrates.

***Program***

This will be a one-day workshop. A total of approximately 9 technical presentations are foreseen.

8.30-8.45 Welcome and general introduction (WDD)

8.45-9.15 Introductory session – "Habitat" in the context of the Water Framework Directive

- Relevance of hydro-morphology and habitat in the WFD context: linking Biological Quality Elements and management needs (G. Dörflinger, WDD, Cyprus)

9.15-10.15 INHABIT session (1) - Project presentation and results

- The INHABIT project: overall description and brief overview of main results for rivers (A. Buffagni, CNR-IRSA, Italy)
- The INHABIT use of habitat information: approaches, methods and examples from Mediterranean rivers (D.G. Armanini, Prothea & CNR-IRSA, Italy)

10.15-10.45 Coffee break

10.45-11.15 INHABIT session (2) - Project presentation and results

- Habitat control on Ecological Status: the example of the lentic-lotic character in Sardinian streams (A. Buffagni, CNR-IRSA, Italy)

11.15-13.15 BQE-Habitat session - 'Habitat, hydro-morphology, biological communities and measures to improve RBMPs – focus on Cyprus rivers'

- What fish tell us about ecological integrity in Cyprus streams? (St. Zogaris, HCMR, Greece) – ca 30'
- Macrophytes communities and the possible influence of habitat characteristics and/or species distribution on the evaluation of ecological quality in Cyprus rivers (S. Manolaki, Uni Patras, Greece/Cyprus) – ca 15'
- River macrobenthic communities: examples of open issues in Greece (K. Gritzalis, HCMR, Greece) – ca 15'
- Ecological Status and macrobenthic communities in Cyprus (a): approach, constraints, river typology and habitat assessment (D.G. Armanini, Prothea) *(including a few words on work in progress for Phytobenthos-Diatoms...)* – ca 30'
- Ecological Status and macrobenthic communities in Cyprus (b): habitat supremacy and full application of the INHABIT approach in temporary rivers (A. Buffagni, CNR-IRSA, Italy) – ca 30'

13.15-13.50 Fast snack lunch

13.50-15.10 General discussion on INHABIT and Cyprus river issues (Chair: N.Th. Skoulikidis, HCMR, Greece)

15.10-15.30 Workshop conclusions (WDD and CNR-IRSA).