



INHABIT workshop – Vienna (Austria)



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

## 2<sup>nd</sup> International Workshop on Rivers

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

15<sup>th</sup> February 2013

Meeting venue: Lebensministerium, Marxergasse 2, Vienna Austria

Room Nr. 108, Hochparterre – Mezzanine – 1. Stock

The INHABIT project ([www.life-inhabit.it](http://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 South 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 **South 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 iii) 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 will be 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 mean 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 a small number of participants including mainly representatives from Environmental Agencies and Ministry, 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) and potential nutrient retention. The main aims of the workshop are:

- to disseminate INHABIT project approaches and methodologies and first results obtained;
- present results gained in the INHABIT project in relation to nutrient retention and habitat parameters;
- to discuss about the needs for integrating habitat information when setting assessment systems for the evaluation of ecological status;
- to discuss the importance of linking hydromorphological/habitat and hydrology to biological communities (BQEs) when characterizing the ecological status *sensu* WFD. In particular, to discuss on the possible measures, linked with hydromorphology and habitat, to be applied for the implementation of RBMPs;
- to finally focus on the possibility of using habitat information when classifying ecological status – data and examples from aquatic invertebrates.

### Program

10.00 – 11.30            INHABIT session ‘Habitat, nutrients and benthic invertebrates’

- The INHABIT project: brief overview, habitat information and methods (S. Erba, CNR-IRSA)
- Nutrient retention and hydro-morphological river features (INHABIT) (R. Balestrini, CNR-IRSA)
- Habitat control on Ecological Status: some example results from the INHABIT project (S. Erba, CNR-IRSA)

11.30 – 12.30            Session on ‘Habitat, hydro-morphology, nutrient, biological communities and measures to improve RBMPs’

- Austrian strategy for RBMPs (G. Ofenböck, Lebensministerium)
- Brief hints to the HMWB topic in Austrian RBMPs (G. Ofenböck, Lebensministerium)

12.30 – 14.00            Lunch



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14.00 – 15.00 Continuation of the Session on ‘Habitat, hydro-morphology, nutrient, biological communities and measures to improve RBMPs’

- Habitat/Hydromorphological approaches and methods to assess ecological quality in Austria (W. Graf, BOKU)
- The experience in nutrient retention topic in Austria and possible links with RBMPs (G. Weigelhofer, BOKU)

15.00-17.00 General discussion and workshop conclusions

The expected duration of each presentation (broad indication) is 15 minutes + 15 extra minutes for discussion.

#### **Guide for the general discussion (15.00-17.00)**

We list some possible items to be considered during discussion with the idea of trying to compare/match what is presently done or expected in Austria and Italy (with attention to the broader scale). Other issues may be proposed during the workshop or can be directly discussed after each presentation.

1. Is habitat information collected on the Regional/National scale? If yes, which one (general) and to do what?
  - a. Which habitat scale is used?
  - b. Micro (e.g. invertebrate sample unit size)
  - c. Meso (e.g. pool/riffle, sampling site, reach)
  - d. Macro (e.g. segment, catchment, geographical area)
  - e. Various scales (specify)
2. Which kind of habitat information is used e.g.
  - a. Habitat diversity & richness
  - b. Presence of individual, notable habitats (general, e.g. Habitat Dir.)
  - c. Presence of individual, notable habitats (for selected species)
  - d. Habitat along a gradient
  - e. Habitat alteration (e.g. presence of artificial habitats, HMS-like info)
3. Habitat in terms of (reach scale/indices)):
  - a. HMS-like
  - b. HQA-like
  - c. LUI-like
  - d. LRD-like
  - e. Geo-morphology (processes)
4. Habitat in terms of (individual variables/detail):
  - a. Substrate
  - b. Flow/Discharge



- c. Organic detritus
  - d. Temperature
  - e. Other (specify)
5. Is habitat information presently used in Ecological Status classification (If yes, what for?)
- a. In hydro-morphological evaluations (qualitative)
  - b. In hydro-morphological classification (quantitative)
  - c. As a separate component from hydro-morphology (like in Italy)
  - d. To introduce correction factors to biological classification
6. If info used, how the following was solved?
- a. Habitat indices → usually difficult to infer on small scale causality
  - b. Individual habitat feature → problematic to derive 'useful' (i.e. applicable for management) information
7. Any simple models to relate water quality and quantity?
8. Methods to assess the impact of water abstraction (detail) and hydrological alteration (general)?
9. Is habitat considered in river typology? If yes, how?
10. Is habitat information considered equally for all BQEs?
11. Is habitat information considered when developing nutrient strategies (e.g. for Nitrates Dir.)?
12. Is habitat information considered in present RBMPs?
13. Any actual action in measures related directly to habitats?
14. How to deal with habitat information in HMWBs?
15. Links to Habitats Directive?