



# INHABIT Project

## Local hydro-morphology, habitat and RBMPs: new measures to improve ecological quality in South European rivers and lakes



LIFE+ Programme 2008 - Environment Policy and Governance - Project INHABIT LIFE08 ENV/IT/000413

INHABIT is a EU co-funded LIFE+ project aiming at integrating habitat information into practical measures to improve the reliability of implementation of WFD River Basin Management Plans (RBMPs) in rivers and lakes in South Europe.

The project ran from 1<sup>st</sup> April 2010 to 31<sup>th</sup> March 2013

Involved authorities:

- ◆ CNR-IRSA (Brugherio office) Coordinator Beneficiary
- ◆ CNR-ISE (Verbania-Pallanza office)
- ◆ ARPA Piemonte (Asti office - Water Quality Unit)
- ◆ RAS - Regione Autonoma della Sardegna (Cagliari)

### Planned actions and results

- ◆ Review of approaches and methods used in the preparation of selected RBMPs.
- ◆ Simultaneous application of field protocols and quality indices according to WFD compliant classification tools. Ecological status classification according to different ecosystem elements.
- ◆ Simultaneous collection of habitat, chemico-physical and biological data in about 40 river sites in Sardinia, 18 river sites in Piedmont in different seasons, 7 lake sites in Piedmont and 6 lake sites in Sardinia.
- ◆ Validation of 15 river reference sites (Piedmont and Sardinia).
- ◆ Biological validation or river types in the study areas.
- ◆ Validation of biological classification methods for lakes and verification of their potential use in artificial basins.
- ◆ Potential effects of habitat variability on classification uncertainty have been detected and measures for RBMP reliability implementation have been suggested.
- ◆ Quantification of nutrients retention metrics (e.g. uptake length) and identification of main hydromorphological and habitat features influencing self depuration capacity in rivers.
- ◆ Estimation of relative importance of nutrients (phosphorous and nitrogen) on vegetal biocoenoses in lakes.
- ◆ The key role of the lentic-lotic character on benthic community composition and on ecological classification has been emphasized in rivers.



### Project objectives

INHABIT considers the information derived from habitat characteristics in South European rivers and lakes for the improvement of River Basin Management Plans (RBMPs), aiming at enhancing reliability of WFD implementation and evaluation of ecological status. The project is focused on relations between biota (macroinvertebrates, aquatic flora, fishes) and habitat features and nutrients removal/uptake. INHABIT is both a demonstration and innovation project, disclosing methods and approaches recently tested and not commonly used in Italy. It also put into practice new scientific concepts recently developed from recent research activities.

### Study areas

River and lakes in two Italian regions, covering a wide range of environmental and habitat features:

- ◆ Piedmont: alpine rivers and Po plain rivers; natural lakes and artificial basins.
- ◆ Sardinia: perennial and temporary rivers; mainly artificial basins.

