

# Management of water and aquatic environment resources



*Water is an asset shared by humanity and its natural cycle calls for the balanced management of its various uses.*



Integrated and balanced management of water resources is translated operationally through European framework directives on water and master plans for the development and the management of water (SDAGE or SAGE in France). Think global, act local: this approach is essential for all natural environments. GINGER Environnement & Infrastructures provides concerned players with its technical and scientific expertise for the definition and evaluation of public policies and the implementation of campaigns or programmes for the balanced, sustainable management of ecosystems and natural resources.

## KNOW-HOW

- Scientific expertise in the large number of concerned fields: hydrogeology, hydrology, ecohydrology, hydromorphology, hydrobiology, ecology of species specific to aquatic environments, and physical chemistry,
  - Perfect understanding of institutional bodies and of legal and statutory frameworks concerning water and its uses,
  - Technical operational expertise for the implementation of management tools and for carrying out development works which respect or restore the natural environment.
- These skills are also translated by affiliations and accreditations in various fields:

- Experts to the World Bank, UNESCO and the European Union,
- Members of the “Association Française des Ingénieurs Ecologues”, the International Society for Mangrove Ecosystems, the “Groupe Français de Géomorphologie”.



## OUR MISSIONS

### • Integrated management of water and aquatic environments

- Global studies and management plans on the scale of catchment areas, particularly within the scope of management procedures: SAGE (master plans for the development and management of water in France), river contracts, development programmes,
- Management plans for the maintenance and reforestation of rivers and wet zones.

### • Quantitative management of water resources

- Study of the requirements-resources balance on the scale of catchment areas,
- Definition studies of reference minimum flow rates,
- Resources management master plans on a local or regional scale,
- Resources management optimisation studies.

### • Assistance in the implementation and monitoring of public water management policies

- Contribution to the implementation of the outline water directive,
- Design of public policy monitoring and evaluation management reports,
- Local aquatic environment master plans,
- Technical audits of statutory procedures.

### • Hydrobiology, water quality and aquatic environment expertise

- Quality monitoring of waterways: physical chemistry, hydrobiology, fish inventories (within the scope of national monitoring programmes and local networks),
- Diagnostic of water reaches,
- Studies of hydroelectric installations.

## • Hydrodynamics and Sediment Transport

Geomorphic approach or mathematical modelling:

- Study and definition of the free flow of waterways,
- Analysis of solid transport and sizing of sediment traps,
- Design of bank protection systems (vegetation and mineral techniques).

## • Ecohydraulics

- Design and sizing of fish passes,

- Calculation of the minimum biological flow rate (micro-habitat, Estimhab, etc. methods),
- Restoring fish habitats.

## • Regulatory procedures

- Incidence reports within the scope of the water act and concerning river installations, constructions and works,
- Statement of general interest for waterway restoration-maintenance works programmes.



## REFERENCES

### Integrated water and aquatic environment management

Preparation of the preliminary candidature dossier for the river Cèze contract, Syndicat Mixte AB Cèze.

Client assistance for the preparation of the final report for the second river Orb contract, Syndicat Mixte de la Vallée de l'Orb.

Technical assistance assignment for the preparation of the Calavon SAGE for the "Commission Local de l'Eau du Parc Naturel Régional du Luberon".

### Quantitative water resources management

Definition study of reference low water levels for the introduction of quantitative management of the water resource in the river Hérault basin, Conseil Général 34.

Study for the implementation of an action plan to control drinking water consumption in the Hérault Department, CG 34.

Diagnostic of the quantitative management of the water resource in the PACA region, DIREN PACA.

### Assistance in the implementation and monitoring of public water management policies

Identification of strategic areas for the existing and future drinking water supplies in the Adour-Garonne basin, within the scope of the revised SDAGE (master plan for the development and management of water), Agence de l'Eau Adour-Garonne.

Preparation of the report for the 2004 inventory for 14 French districts, in application of the European outline directive on water, for the Ministry of Ecology and Sustainable Development.

Assessment of the protection perimeters installed for AEP (drinking water distribution) catchments in karstic environments, for the RMC and AG water agencies.

### Hydrobiology, water quality and expertise of aquatic environments

Study of the causes of contamination of bathing areas on the river Orb d'Avène on the confluence with the rivers Jaur and Gravezon, DDASS 34.

Analysis of bathing water on the Etang de Berre beaches, GIPREB.

Evaluation of pollution loads in rivers flowing down to the Mediterranean, excluding the river Rhone, RMC water agency.

IBGN-RCS evaluation within the scope of the monitoring control programme - two sections - 60 stations - DIREN Midi-Pyrénées.

### Hydrodynamics and the transport of sediments

Geomorphological study of the Gardons in Alès, Anduze and others - SMAGE des Gardons.

Hydraulic and geomorphological study of the reduced Salignac threshold on the river Durance - EDF.

Geomorphological study of the lower reaches of the river Dourbie and rehabilitation of the hydraulic function of the confluence with the river Tarn by the reopening of an old arm of the Dourbie - Communauté de Communes Millau Grands Causses.

### Ecohydraulics

Preliminary study of the decompartmentalisation of the Apron housing in the Vallée de la Durance from the river Saulce to Cadarache - Conservatoire

Rhône-Alpes des Espaces Naturels.

Sizing of the fish pass works for dams in the lower Seine, Suresne, Bougival, Méricourt, Notre Dame de la Garenne, Poses - Voies Navigable de France.

