
Eurolakes

Integrated water resource management for important deep European lakes and their catchment areas



European Research Project

Client

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The aim of Eurolakes

The aim of the European project Eurolakes (Integrated Water Resource Management for Important Deep European Lakes and their Catchment Areas) is to use an integrated approach to identify and compile the information needed to define a strategy for managing deep European lakes and their catchment areas that will solve conflicts between various types of water resource use. Eurolakes is not limited to the production of scientific results; it is acting as a forum for exchanges between

the scientific community and the managers of Europe's major lake systems.

Key features of the project

- ◆ A multi-disciplinary team with fifteen members from all over Europe (industrial firms, universities, basin managers and water authorities),
- ◆ 8 European countries (Germany, France, United Kingdom, Poland, Spain, Switzerland, Finland and Austria),
- ◆ Implementation over a 40-month period: July 2000 to October 2003

- ◆ Five study sites: Lac du Bourget (France), Lake Geneva (France - Switzerland), Lake Constance (Germany-Switzerland-Austria), Loch Lomond (Scotland, United Kingdom), and Lake Längelmävesi-Roine (Finland)
- ◆ A French partnership closely tuned to local concerns, consisting of Sogreah, an independent design office, and a university research body, Carrel (joint research unit consisting of the INRA in Thonon-les-Bains and the University of Savoie),

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- ◆ An overall budget of 4 830 105 euros (of which 2 888 047 euros contributed by the European Union),
- ◆ One driving principle: the development of integrated water resources management for deep lakes and their catchment areas, with work focusing on:
 - Proposing priorities for environmental master plans,
 - Improving management and monitoring strategies with a view to sustainable development,
 - Drawing up a list of recommendations to underpin European legislation, and especially European water directives.

How does Eurolakes fit in with regional pilot projects?

Understanding the hydrological, hydrodynamic and biological functioning of the Lac du Bourget and its catchment area:

- Study of surface and groundwater flows in the Leysse basin,
- Study of internal seasonal dynamics in the lake, its thermal behaviour and the effects of waves on bank stability,
- Study of the relationship between nutrients and the production of the first links in the food chain.

Improving the quality of water resources in the lake and its catchment area:

- Analysis of the fate of potential pollutants: occasional (such as those resulting from road accidents, illegal discharges, etc.), and chronic and diffuse (such as soil contamination by nitrates or pesticides). Study of the movements and dispersion of these pollutants in the Leysse basin, and then the intrusion of plumes into the lake,
- Establishment of environmental indicators and integrated deterministic mathematical models with the aim of predicting the fate of these substances in the catchment area and the lake and the general variation of lake water quality.

Preserving, developing and enhancing the aquatic environment:

- Ecological measures to sustain biodiversity and productivity (plankton and fish) in the aquatic systems,
- Study of bank erosion phenomena,
- Studies to protect and enhance outstanding sites such as reed beds.

Developing resources to promote the sustainable development of the site and issue recommendations for improving individual behaviour and defining European laws:

- Integration of catchment area and lake management resources (hydrodynamics, water quality and ecological value indicators) into a joint set of resources for water management right across the site (Lac du Bourget and its catchment area),
- Proposal of recommendations to underpin European laws, and particularly European water directives.