Integrated Water Resource Management for Deep European Lakes and their Catchment Areas







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Co-ordinator: Dr. Kurt Duwe, HYDROMOD Scientific Consulting, Germany

Project home page: http://www.hydromod.de/Eurolakes

Introduction

EUROLAKES (Integrated Water Resource Management for Deep European Lakes and their Catchment Areas) focuses on the current state of deep European lakes used for drinking water supply. It aims to improve current strategies for their long-term management, short-term pollution control, and integrated monitoring. Project activities will lead to recommendations to European legislation and the EU Water Framework Directive concerning an integrated water management approach.



Lac du Bourget (Bourget Lake)

The project (duration: 2000 - 2003) is concentrated on four European lakes:

Lac du Bourget (Bourget Lake) in France, Lac Léman (Lake Geneva) in Switzerland and France, Bodensee (Lake Constance) in Germany, Austria and Switzerland and Loch Lomond in Scotland. These lakes are very important for water abstraction and have already been the subject of intensive, but individual, scientific and management activities.



Lac Léman (Lake Geneva)

All of the target lakes and their respective catchment areas will be investigated in close co-operation with stake-holders and existing water management bodies and authorities.



Loch Lomond

Each lake has its own individual profile as well as a range of comparable characteristics:

Bourget Lake is the largest natural lake situated totally within France. It is a very popular recreational site and an important source of drinking water.

Lake Geneva is of glacial origin created by a moraine dam at the western end. There are several industrial developments and hydroelectronic power plants within the catchment. The lake is also used as a recreational area and for drinking water supply.



Lakeview of Bodensee (Lake Constance)

Loch Lomond is probably the best known of all Scottish lakes. It is used for public water supply and hydro-electricity generation and is of considerable economic, recreational and scientific value.

Lake Constance is glacial in origin. The Alpine Rhine river, which is the main inflow, drains over half of the catchment area. Lake Constance is a complex aquatic ecosystem and any changes are extremely difficult to evaluate due to a general lack of knowledge and understanding of lake systems.

Scientific Objectives

Large deep lakes play a very important role in the water supply of several regions in Europe. In contrast to the very detailed water management strategies developed for many small rivers and lakes and their catchments, these "small oceans" have not been subject to such a detailed integrated and inter-disciplinary approach.



In this context, the **Eurolakes** project has the following main objectives:

- Improving strategies concerning long-term management, short-term pollution control, and integrated monitoring of deep European lakes and their catchment areas.
- 2. Describing the seasonal and intra-annual dynamics and quantifying the key processes and parameters in deep European lakes.



- 3. Establishing additional ecological criteria to substantiate water and ecosystem quality.
- 4. Generalising a combined water quality lake/ catchment management approach.
- Making recommendations to support European legislation, especially the Water Framework Directive.



Lake Längelmävesi

For specific tasks, relevant experience will be drawn also from work concerning the following sites which are used as water resources for the cities of Tampere (Finland) and Warsaw (Poland), respectively: the Lake Längelmävesi (Längelmävesi Roine) and the Zegrzynski Reservoir.



Zegrzynski Reservoir

The Eurolakes consortium consists of 15 institutions representing seven European countries: Germany, France, United Kingdom, Switzerland, Finland, Poland, Austria and an European Commission Joint Research Centre.

The Eurolakes Consortium



HYDROMOD Scientific Consulting, Germany (Co-ordinator)

SOGREAH Consulting Branch, France

University of Glasgow, Scotland, UK

Ecole Polytechnique Fédérale Lausanne, Switzerland

> Institut für Seenforschung, Germany

Pirkanmaa Regional Environment Centre, Finland

Ylec Consultants, France

Warsaw University of Technology, Poland

Centre for Ecology and Hydrology, Scotland, UK

Fehr & Niemann-Hollatz Umweltconsult GmbH, Germany

Université de Savoie, **CARRTEL**, France

European Commission, **Directorate General Joint Research Centre/ IPTS**,

Spain

Finnish Environment Institute, Finland

METCON Umweltmeteorologische Beratung, Germany

Posch & Partners Consulting Engineers, Austria