The logo consists of several dark blue circles of varying sizes arranged in a vertical, slightly curved pattern.

BodenseeWeb

**A Multimedia-Based Information System
for Environmental Awareness Building**

Thomas Dombeck



Research Institute for
Applied Knowledge
Processing Ulm



A Multimedia-Based Information System for Environmental Awareness Building

Thomas Dombeck, Matthias Neidlinger, Günter Barnikel,

Michael Haase *(Research Institute for Applied Knowledge Processing)*

Renate Ebel, Burkhard Schneider *(State Institute for Environmental Protection (LfU))*

Herbert Löffler *(Institute for Lake Research)*

Ingo Schulz-Weddigen *(Lake Constance Nature Museum)*

Bruno Blattner *(Ministry for the Environment and Transport)*

INDEX

1. Project Overview
2. The Concept of BodenseeWeb
3. Presentation of the Application
 - 3.1 Multimedia Version
 - 3.2 BodenseeAtlas
 - 3.3 BodenseeWebsite
4. Status and Outlook





1. ■  Bodensee Web

Project Overview

Project Participants

BodenseeWeb is a project of the
Ministry for the Environment and Transport
of Baden-Württemberg, Germany



Design and Development:

Research Institute for Applied
Knowledge Processing (FAW) Ulm



Content providers:

State Institute for Environmental Protection (LfU)
Institute for Lake Research, Langenargen (ISF)
Lake Constance Nature Museum, Constance



The Mission of BodenseeWeb

- ☐ To serve the increasing public interest in environmental topics
- ☐ To face the reporting requirements of environmental authorities due to European law
- ☐ To integrate distributed environmental information from Germany, Austria and Switzerland related to Lake Constance in a single portal
- ☐ Implementation of modern multimedia technologies in the EIS of Baden-Württemberg
- ☐ Public Relations for the activities of international organisations such as ISF, IBK or IGKB



Significance of Lake Constance



- ☐ Fragile amphibian ecosystem including a number of endangered species
- ☐ The 2nd biggest Central European lake contains resonable reserves of fresh water
- ☐ More than 4 million people in 3 countries depend on water supply from Lake Constance (daily output > 450.000 m³)
- ☐ Lake Constance has been subject to important limnological research programs during the last decades (e.g. by the ISF)



2.



BodenseeWeb

The Concept

Presentation Concept



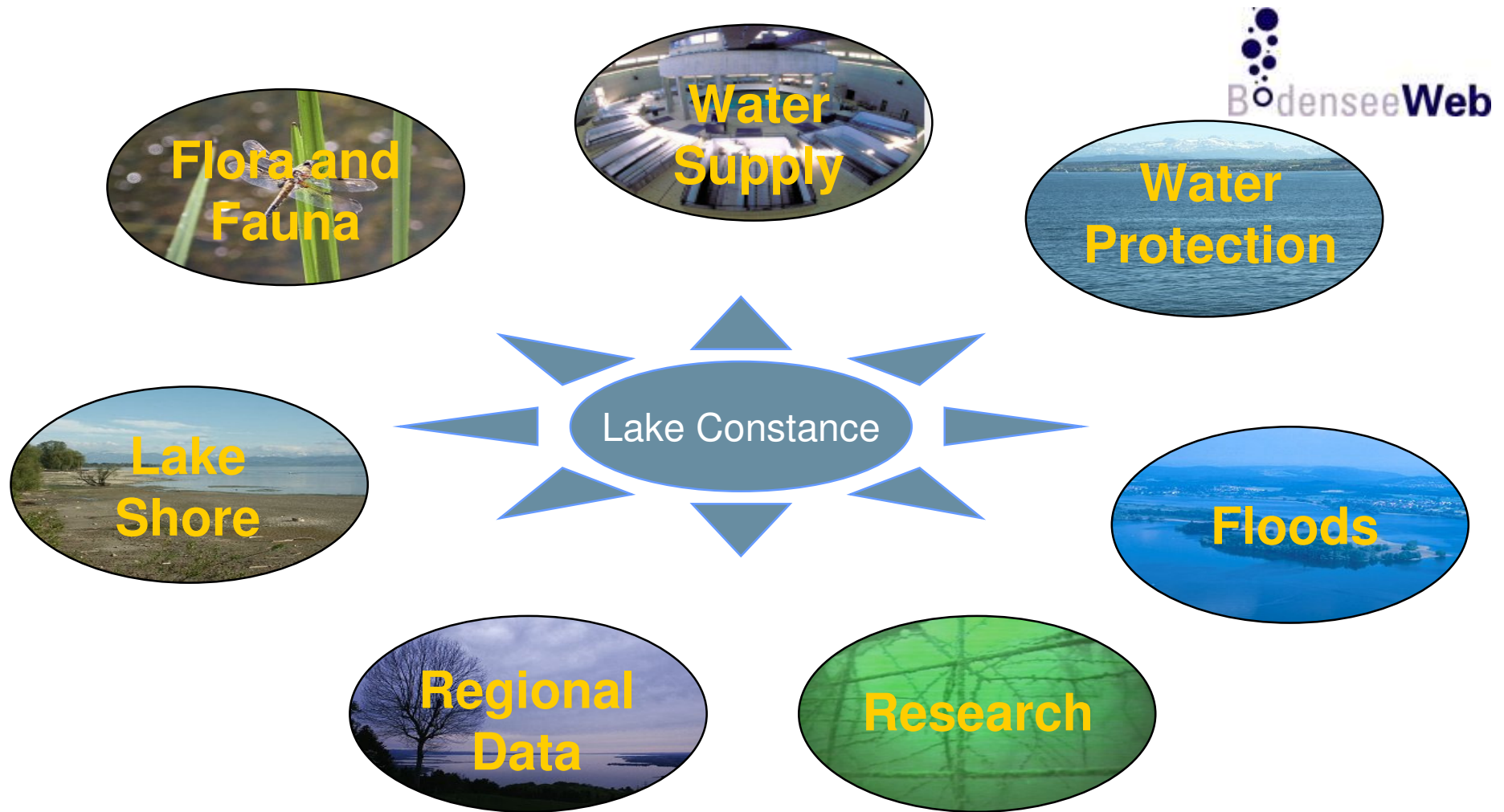
- ☐ Popular scientific presentation addresses the broad public (adults and children)
- ☐ Easy access to complex environmental topics
- ☐ Large scale photos and an appealing graphic design are used as eye-catchers
- ☐ Multimedia elements such as audio, video and animation attract the public interest
- ☐ Integration in present recreation facilities guarantees a large number of visitors

Information Design



- ☐ Several information levels for optional access to more detailed knowledge
- ☐ Multimedia trailers are used as introduction to the main topics
- ☐ Compact text units provide core information
- ☐ Modular information design allows continuous extension of the contents
- ☐ Easy navigation with graphic buttons

Topics





3.



BodenseeWeb

The Application

Multimedia Version



- ☐ Two multimedia terminals have been set up on the lake shore
- ☐ Animated presentation based on Macromedia Flash MX
- ☐ Easy handling via touch screens
- ☐ SiteKiosk software is used to minimize administrative work on the terminals
- ☐ Shockwave movies are displayed on a standard web browser (a corresponding plugin is required)

Multimedia Version

Grünalgen

BodenseeWeb

Grünalgen sind deshalb grüne Pflanzen auch große Mengen **Chlorophyll** enthalten. Das Sonnenlicht ein und wandelt Energie um. Diesen Prozess **Fotosynthese**. Die obersten Gewässerschichten mit ein sind also das "Kraftwerk" in Seebewohner leben von di

Rund ums Seewasser . Plankton . Pflanzlic

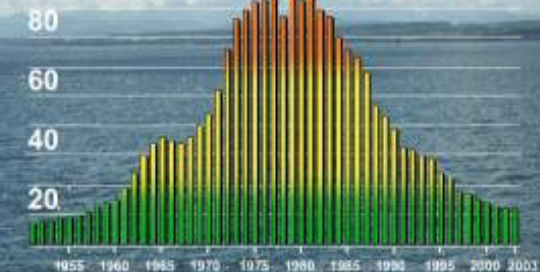
Krebstiere

Bodensee

die
Gewässer-
polizei

Rund ums Seewasser . Plankton . Tierisches Plankt

Phosphatkonzentration im Bodensee in mg/l



Zurück

Rund ums Seewasser . Abwasser . Schutzmassnahmen . Phosphatentwicklung

BodenseeWeb



Uferzone



Lake Constance Nature Museum

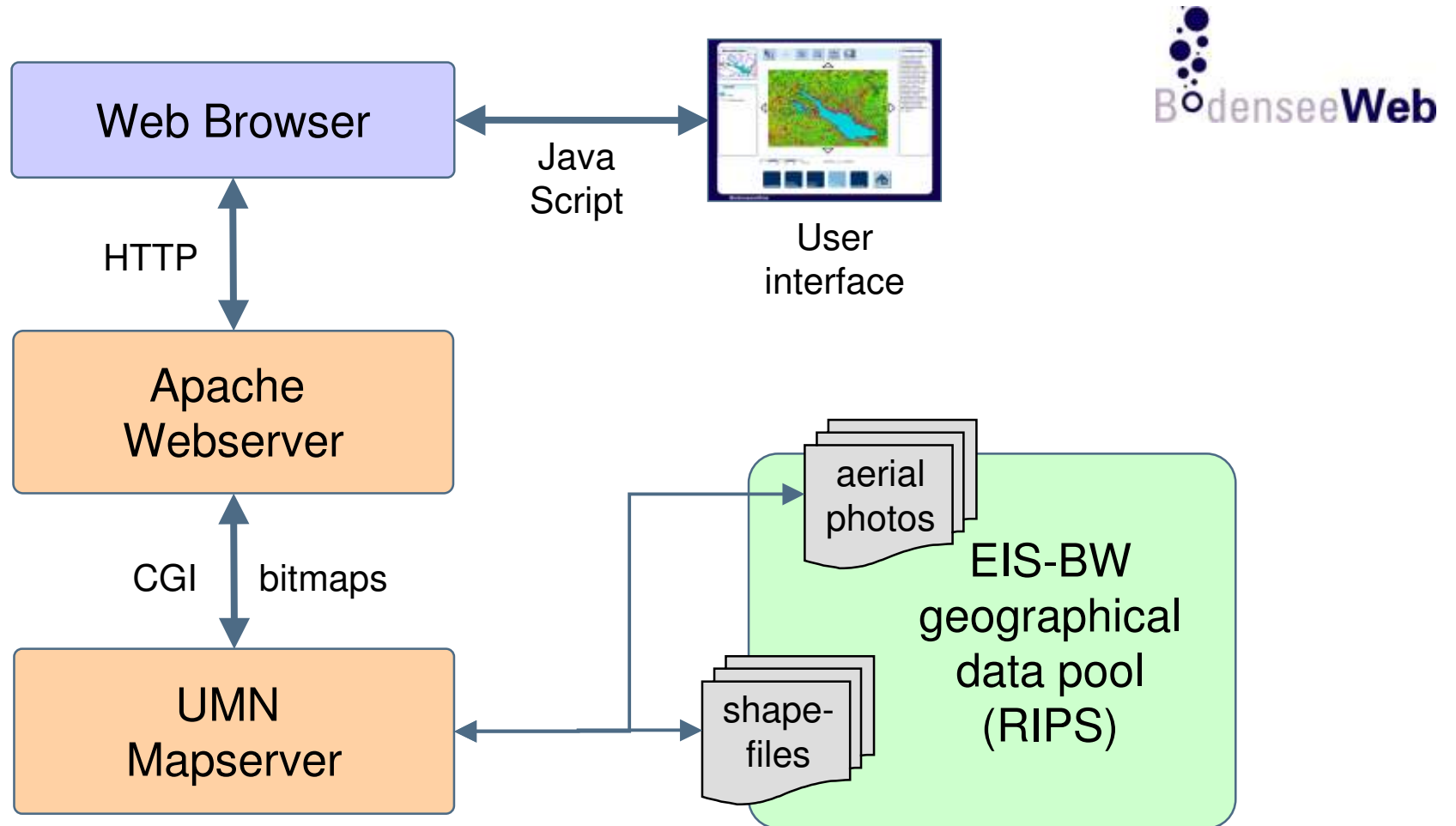


BodenseeAtlas



- ☐ GIS providing access to the LfU geographical data on Lake Constance
- ☐ Use of the Minnesota MapServer (UMN) for dynamic generation of digital maps
- ☐ Pre-defined geographical topics, (water infrastructure, protected areas etc.)
- ☐ Online access to life data from the lake via digital maps (gauges etc.)
- ☐ Integration of large scale aerial photos

System Architecture

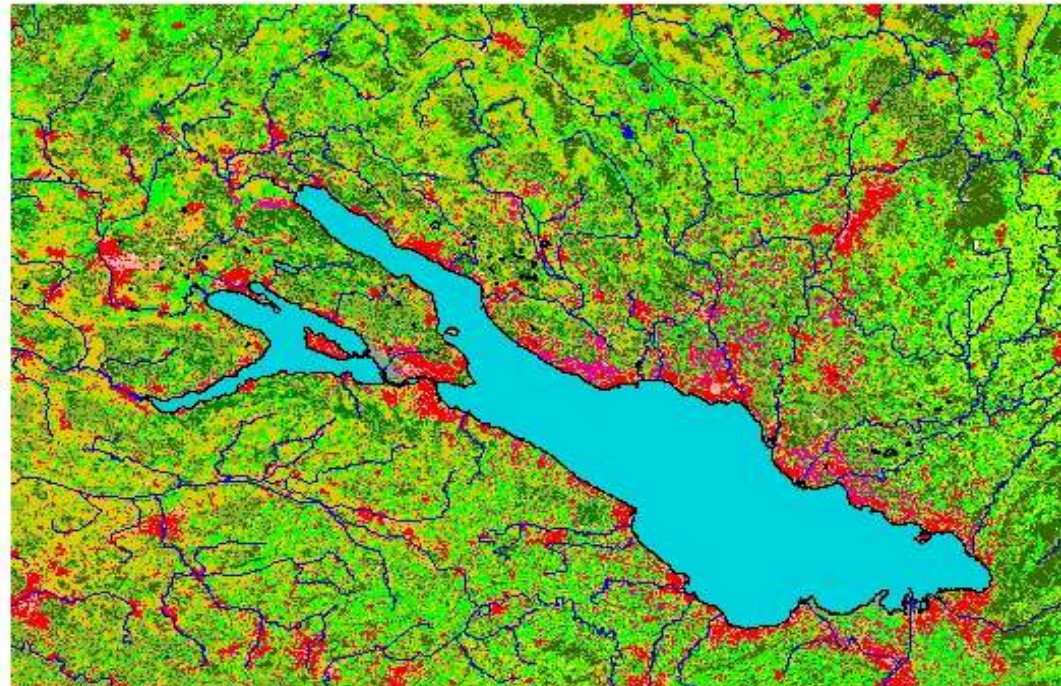


Übersichtskarte



Legende

-  Seen
-  Fließgewässer



Erläuterungen

Diese Karte zeigt die Landnutzung auf Grundlage einer nachbearbeiteten Satellitenaufnahme (Landsat 2000); sie wird nur bis zu einem Kartenmaßstab von 1:25.000 angezeigt, weil das Raster dann zu grob wird. Rote Farben zeigen Bebauung, violette dagegen Weinbau. Orange Farben bezeichnen Obstbau, bräunliche Ackerland. Hellgrüne Farben zeigen Grünland, dunkelgrüne stehen für Wald.

0 6 12 18 24 30 km

Maßstab: ca. 1:450000

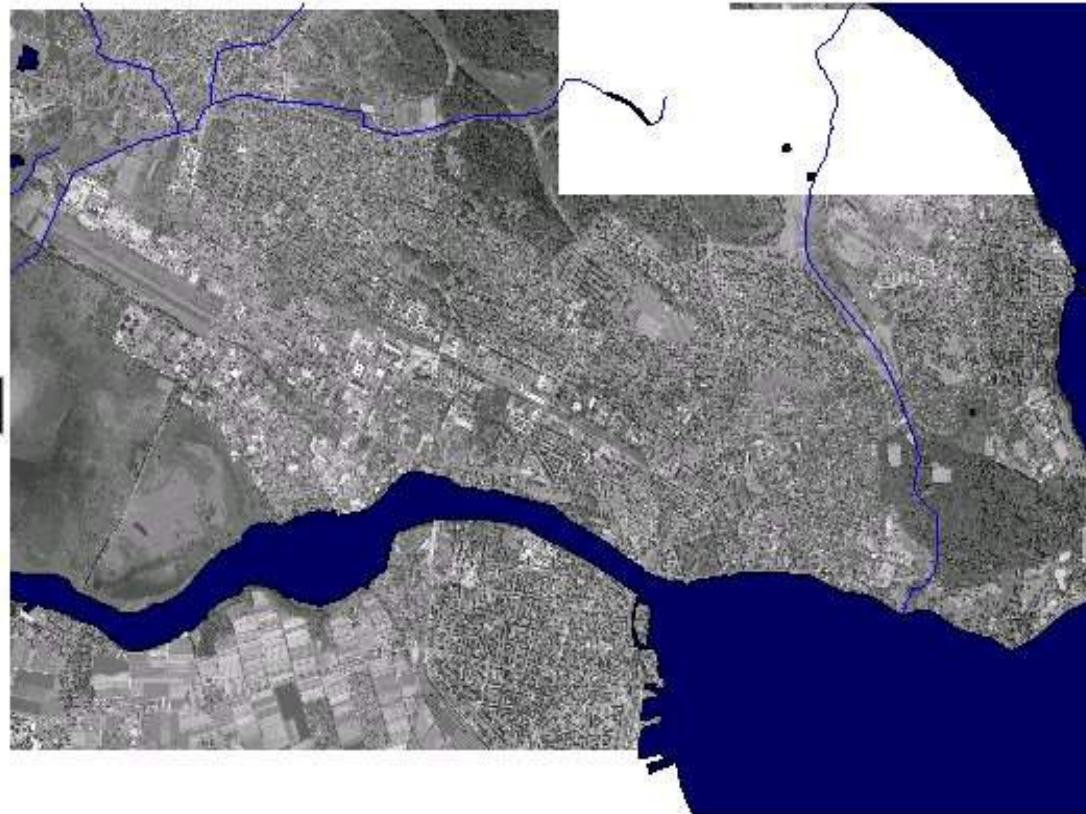


Übersichtskarte



Legende

-  Seen
-  Fließgewässer



0 0.4 0.8 1.2 1.6 2 km

Maßstab: ca. 1:34184

Erläuterungen

Diese Karte zeigt Luftbilder (Orthofotos) für ausgewählte ufernahe Bereiche; ab einem Kartenmaßstab von 1:50.000 werden diese eingeblendet. Verwenden Sie das Werkzeug zum Vergrößern (Lupe mit "+"-Symbol), um Ihr Interessengebiet auszuwählen.

Allgemein

Wasser

Schutzgebiete

Landnutzung

Luftbilder

Bodensee-Web

BodenseeWebsite



- ☐ Open access to the entire content of BodenseeWeb on the Internet
- ☐ First step towards an international information platform integrating regional activities on Lake Constance (organisations such as LfU, ISF, IBK, IGKB)
- ☐ Free accessible website according to the guidelines of the **Web Accessibility Initiative** (WAI) of the W3C (priority levels "A" and "Double-A")

- ☐ Criteria for Web Accessibility:
to make web content more available
 - to **all users** (esp. persons with disabilities) and
 - to **all user agents** (e.g. screen readers)
independent of technological environment
- ☐ Alternatives to auditory and visual content
- ☐ Use of core HTML markup and CSS technology
- ☐ Make all pages transform gracefully
- ☐ Clear and simple content / navigation

BodenseeWebsite

BodenseeWeb

Wasservögel

Haubentaucher

- Blässhuhn
- Kolbenente
- Hockerschwan
- Graureiher
- Ökologie



Der Haubentaucher

Dieser schilfbrütende Vogel gilt heute als **Symboltier für den Naturschutz** am Bodensee. Die **Bodenseestiftung** hat ihn zu ihrem Wappenvogel gemacht. Vorzugsweise ernährt er sich von kleinen Fischen. Bei der Nahrungssuche im Flachwasser kann er leicht durch Wassersportler gestört werden. Auffällig ist sein reiches Balzritual mit Putzeremonien, Scheinangriffen oder der charakteristischen "Pinguinpose".

 **Bestandsentwicklung**  **Gesang des Haubentauchers [mp3]**

Bodensee in Zahlen **Rund ums Seewasser** **Pflanzen und Tiere** **Ufer- und Flachwasserzone** **Gewässerforschung** **Hochwasser** **Bodensee-atlas** **Impressum**

Fische
Wasservogel
Plankton



4.

 BiodenseeWeb

Status and Outlook

Status Report



- ☐ First step of the application completed as a prototype in Baden-Württemberg
- ☐ Two multimedia terminals on the lake operating successfully since summer 2003
- ☐ Automatic operation of the terminals with annual service
- ☐ BodenseeWebsite online since December 2003 (www.bodenseeweb.net)
- ☐ Initial discussions with international organisations in terms of further development

Benefits



- ☐ Building public awareness for complex environmental topics
- ☐ Presentation of multimedia information to a large number of visitors of the lake (up to 5.000 hits per day at Constance)
- ☐ Up-to-date attraction at the showroom of the Lake Constance Nature Museum
- ☐ Platform for networking internationally distributed environmental information

To Do

- ☐ Addressing further partners and possible locations for the multimedia presentation for better efficiency
- ☐ Thematic extension of the contents
- ☐ Integration of geographical data from Bavaria, Austria and Switzerland into the BodenseeAtlas
- ☐ Further integration of distributed data sources
- ☐ Development of an international web portal connected to the Environmental Portal of Baden-Württemberg



Location

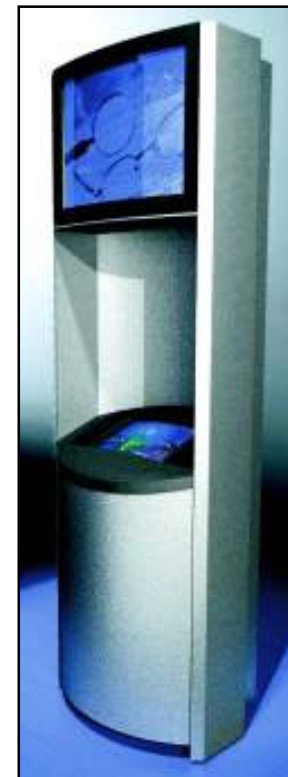
Multimedia Terminals:

Bodensee-Naturmuseum Konstanz
in the Sealife Centre, Hafenstraße 9

LfU-ISF
"Haus am Gondelhafen" Langenargen
Obere Seestraße 2




BodenseeWeb





Internet



www.BodenseeWeb.net