



AT THE 9TH LIVING LAKES
CONFERENCE IN BRITISH
COLUMBIA, CANADA, LAKE
BALATON WAS ACCEPTED
AS A FULL LIVING LAKES
MEMBER!

ABOUT LBDCA

The Lake Balaton Development Council founded the Lake Balaton Development Coordination Agency (LBDCA) on January 1, 2000. The main tasks of the LBDCA are to:

- take part in the development and implementation of the Strategic Development Programme and its subprogram and the long-term and medium-term regional development plans;
- coordinate and manage the projects which contribute to the development of the region;
- take part in the coordination of research projects on Lake Balaton, especially those on water-quality, the protection of the environment and socioeconomic conditions
- support and coordinate the local and micro regional initiatives in connection with development;
- prepare (environmental, economic) grant applications for submission to various national and international funding agencies while controlling and managing the use of these funds;
- assume responsibility for the continuous cooperation with the three counties, the three regional development councils, the municipalities, entrepreneurs, professional and civil organisations;
- create a unified data processing and information service system, which contains data not only on water quality, environmental protection but also on tourism, education and the different kinds of national and international applications.

Association of Civil Organizations of Balaton

The mission of this association is to stop and avert the deterioration of Lake Balaton, and to protect the natural shores and fauna of the lake and its vicinity. Its goals include effective representation of the conservational efforts, urging the population for effective protective actions, saving cultural and historical traditions and the education of emerging generations to protect the environment. The association represents the interests of civil groups that are active in the Balaton region. It was established in 2001 by 24 civil groups and through its member organizations the associations activities are supported by 10,000 volunteers.

The Vision for the Future

The Lake Balaton Region wants to become a European-level model region of environment, tourism and an information society where foreign and domestic tourists spend their leisure time in all seasons of the year in a preserved natural environment and a restored, carefully developed constructed milieu. Quality of life and level of education of the population improves and its regional identity strengthens.



LAKE BALATON REGION

HUNGARY 2005.



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HUNGARY, LAKE BALATON

Lake Balaton is the largest lake in Central Europe. With a surface area of 593 km², 78 km in length, 7.6 km width and an average depth of 3.2 m, it is one of the shallowest large lakes in the world. In recognition of its abundant biodiversity, Lake Balaton has been designated a seasonal Ramsar site between October 1 and April 30 each year, while the adjoining Kis-Balaton, a reconstructed wetland and water pollution control structure in the westernmost end of the lake received year-round designation and protection.



LAKE BALATON RESORT AREA (LBRA)

Located in the Transdanubian region of Western Hungary, the Lake Balaton catchment area, including the lake itself is 5775 km². The Lake Balaton Resort Area is an area of 3780 km² that lies almost entirely in the watershed of the lake and comprises 164 municipalities. The area has a permanent population of 250,000 however, the summer peak population in July and August swells to 1 to 2 million, exerting substantial stress on the environment and infrastructure.

Institutional Context

Lake Balaton proper is shared by three counties and its entire watershed by four, which are second level administrative units in Hungary. Regional resource allocation is complicated by the LBRA falling into three different Development Planning Regions, and the division of governance responsibilities currently shared by three Environment and Water Management Directorates, three Environmental Inspectorates, and three Water Inspectorates - whose areas of operation do not overlap with those of the counties or regions - and three Public Health Authorities. Following recent restructuring, nature conservation in the LBRA became the sole responsibility of the Balaton Uplands National Park.

Land Use

The Lake Balaton catchment area is predominantly agricultural land. Elevation of the mildly rolling hilly landscape varies between 100 and 400 meters above sea level. The catchment can be divided into three characteristic regions.

The northern catchment follows the shoreline of the lake in a wide band and represents about one-fifth of the total area. The streams (both permanent and seasonal) draining this area are relatively short and with steep gradients. Due to the topography and to the soil conditions this area is least suitable for plough land (row crops) and the forest land fraction is the highest here. The ratio of low value grass land is also high here. Wine-grape plantations form the dominant agricultural use and they have a special importance to the water quality of the lake.

The area of the southern catchment is 1450 km², about 1.5 times larger than the northern catchment. Streams flow perpendicularly to the shoreline and drain this area. There are marshes with groves along the near-lake area, where grass land and forestry are the dominant land uses. Forest soil underlain by loess form the area of the Marcali table, land prone to erosion, along with the indented area of Külső-Somogy.

The western catchment area is nearly as large as the above two combined. The river Zala drains this catchment and carries about half of the total inflow and total sediment load of the lake. These loads impact directly on the Keszthely Basin, which represents hardly one-twentieth of the total volume of the lake. The area is hilly with the exception of the Kis-Balaton and the surrounding marshy area. Soils of the area are prone to erosion, a characteristic accentuated because this area receives the highest precipitation.



Major Threats to the Lake

Concerning the ecological and socio-economic integrity of Lake Balaton and its watershed, long-standing and recently emerging issues can be identified as shown in the table below. Note that while some long-standing issues, such as eutrophication have partially or temporarily been resolved, the risk that they re-emerge again may increase as a combined result of multiple stressors.

CATEGORY OF ISSUE	HISTORIC	NEWLY EMERGING
ENVIRONMENTAL	<ul style="list-style-type: none"> Vulnerable water quality (WQ), eutrophication Landscape degradation Overbuilding Intensive use of agrochemicals 	<ul style="list-style-type: none"> Negative water balance Declining fish catch Reed degradation Appearance of invasive species Aging vineyards
SOCIO-ECONOMIC	<ul style="list-style-type: none"> Slow pace of WQ control measures Sub-standard waste management Conflicts of conservation vs. development Aging and other demographic issues Complex governance framework, weak policy coordination Excessive reliance on tourism for livelihoods Grey economy and tax evasion 	<ul style="list-style-type: none"> Deficiencies in WQ monitoring system Water conveyance conflicts Declining number of tourists and tourism income Fragmented land ownership

Although not widely studied and understood apart from water quality aspects, these problems and the lake's sensitivity and exposure to stress are culminating in substantial increases in ecological and socio-economic vulnerability and loss of resilience. For example, low lake levels can damage the ecological and socio-economic subsystems of the lake and its catchment in a multitude of ways: loss of wildlife habitat, loss of fish catch, increased benthic primary productivity, changing water chemistry, difficulty for commercial or recreational watercraft operation, aesthetic concerns, loss of tourism related income, and so on. As a consequence, the lake's decreasing capacity to provide habitat for wildlife and environmental services to key sectors such as tourism or agriculture could induce societal vulnerability.

Research and Action

Hungary and the Lake Balaton region have a long tradition and a well established infrastructure for scientific research. The first large-scale research program (1891-1918) resulted in a series of monographs on the geology, geography, meteorology, hydrology, zoology and botany of Lake Balaton and its surroundings. In 1927 the Balaton Limmological Research Institute of the Hungarian Academy of Sciences was established to study the ecology of the lake.

During the last decades, tourism research as well as tourism development measures have focused mainly on the preservation of the environmental resources of the lake, with special emphasis on water quality. The measures to protect the quality of the natural environment and the water are essential elements of the tourist draw to the region. Thus, measures to protect the environment indirectly served social purposes as well, since they laid the foundations for tourism and contributed to the improvement of the residents' quality of life.

Recent cross-sectoral research and adaptation efforts are attempting to reconcile the traditional paradox between economic development and environmental protection. For example, through LBDC and other partners, Lake Balaton has been included in the international CLIME project that tries to understand the impact of climate change on the ecology of a number of lakes in Europe. Work on adaptation in Hungary has also started through the VAHAVA project lead by the Hungarian Academy of Sciences (HAS) and the Ministry of Environment and Water that is looking at adaptation issues with primary emphasis on agriculture at the national level.

Economic Activities

The area's economy is driven predominantly by highly seasonal tourism with visitors arriving from within Hungary, Germany, and other neighbouring countries attracted to its warm, shallow water and sandy beaches. The peak season for tourism is short, comprising only eight weeks corresponding to the vacation period for schools in the sending countries and to the period when the Lake is warm and amenable to swimming. Tourism is very dependent on water quality and quantity. If the beaches are not attractive enough, tourists turn elsewhere and less demand means less income both at the individual and community level.

Seasonality also affects the construction industry and agriculture. Annual average unemployment is about 9%, reduced to around 5% in summer months. The relative weight of tourism, industry and agriculture in the economy of the region is about 12:4:1. According to official statistics, tourism related income in the region is about US \$1.5 billion/year, but the actual figure may be up to two to three times higher, since many of the tourism businesses are registered and pay taxes outside of the region in Budapest or other large cities and because of unregistered private accommodations and employment.

Special Event – 2005! Carlos Pena to Swim Lake Balaton

By recommendation from Living Lakes partner, Lake Chapala, Mexico
Description: Spanish athlete Carlos Pena will swim the length of Lake Balaton over four days to raise the environmental profile of the region. In addition to swimming the Lake, Senor Pena will be speaking to children in local schools about his motivations and previous adventures swimming in many of the world's great lakes, rivers and oceans. The event is being organized by the LBDC with help from local NGO, The Women of Lake Balaton Alliance, and will run from May 13 until May 16, 2005.

