



WORKING TOGETHER TO SECURE
THE FRESHWATER ECOSYSTEMS
THAT PROVIDE WATER TO
MEDITERRANEAN COMMUNITIES



FACTSHEET

2012

Livanjsko Polje

Bosnia and Herzegovina



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Karst springs, Livanjsko Polje marshland, Bosnia and Herzegovina.

Europe's unique karst ecosystem

Livanjsko Polje (Livno karst field) in southwest Bosnia and Herzegovina is one of the largest periodically flooded karst fields in the world. At an altitude of 700m the site is around 65km long with an average width of 5km, and is almost completely surrounded by mountains reaching a height of 2,000m. Livanjsko Polje has no surface water outflow and all its water drains through numerous sinks and a network of underground karst cavities towards the Cetina River, influencing water availability in neighbouring Croatia. Together with the surrounding mountains, Livanjsko Polje forms a unique geo-morphological and ecological entity with an impressive network of surface and subsurface water bodies including rivers, springs, lakes and oxbowes. The site has seasonally flooded agricultural land and alluvial forest, seasonal marshes and pools and the largest peatland in the Balkans.

The varied habitats of Livanjsko Polje provide breeding grounds for globally threatened or endangered birds such as the corncrake, Montague's Harrier, the lesser-spotted eagle, redshank, snipe and Great Bittern. There is an impressive wealth of fish, invertebrates and mammals and varied flora with a mix of Mediterranean, central European, and Balkan plant species.

Although the area had over 40,000 inhabitants in 1991, the last war changed the population structure and density. Today the greater area of Livanjsko Polje (including the town of Livno) has around 35,000 inhabitants. Many of the villages that were destroyed during the war have only been partially reconstructed. The refugees that returned to their homes after the end of war are generally considered the poorest and most socially vulnerable segment of the population.

WWF Mediterranean has been working in the area since 2008 and has identified Livanjsko Polje as a priority focal area.

LIVANJSKO POLJE

ONE OF THE MOST IMPORTANT WINTERING, MIGRATION AND BREEDING SITES FOR WATER BIRDS AND RAPTORS IN BOSNIA AND HERZEGOVINA; A KEY SITE OF THE CENTRAL EUROPEAN FLYWAY AND A WETLAND OF INTERNATIONAL IMPORTANCE ACCORDING TO THE RAMSAR CONVENTION.

A complex and vulnerable ecosystem

WWF Mediterranean has identified four major threats to the hydrological balance of Livanjsko Polje:

- **Disrupted surface and underground water.** A major change to the area's hydrology came with the construction of the first phase of the Orlovac hydropower facility in 1974. Phase II of the project, which foresees draining the remaining polje, has been "pending" for more than three decades and is still part of the development plans of several hydropower companies and municipalities. The drying up of sink areas, the creation of reservoirs and the transfer of water through canals or tunnels would destroy most springs in the northwest part of the area and would have a disastrous impact on all the species and habitats dependent on the water table.
- **Coal and peat extraction.** Open cast coal mining in Livanjsko Polje is currently very limited but the federal government is considering a significant increase. Excavated pits tend to fill with water generally lowering the water table and disrupting the fragile hydro-geological balance between the surface of the polje and the underground limestone layer.
- **Fire.** Fire is a big threat for forests, bogs, fens and open grassland. Fire changes the composition of grassland soil and the vegetation it supports. Although occasional natural fires are beneficial, uncontrolled man-made fires are changing the composition of vegetation leading to desertification in some areas.
- **A decline in livestock farming.** Traditional extensive agriculture was always compatible with the natural balance of the polje, and livestock grazing helped maintain grassland ecosystems. Since the 1970s, and especially during the conflict of the 1990s, livestock farming has been declining and valuable grassland areas are swallowed up by encroaching forest. Attempts to restrain this process with fire are only making things worse by changing the delicate chemistry of the soil, facilitating wind and water erosion and causing desertification.

WWF's work in the area

WWF Mediterranean has supported the implementation of pilot field projects while developing partnerships with and building the capacity of local actors such as the NGO Youth Centre Livno (YCL). The commitment of WWF and its partners was instrumental in the designation of Livanjsko Polje as a Ramsar Site in 2008. More recently WWF and YCL have focused on water management and basin-level hydrology, in cooperation with other NGOs, planners, farmers and hydrologists. In 2011 WWF Mediterranean launched the Dinaric Arc Sustainable Hydropower Initiative (the DASHI project) to address the impact of existing and planned hydropower plants in the Dinaric Arc. This developed from a previous project – Sharing Waters – that identified hydropower as the main threat to the region. The goal of the DASHI project is to mitigate the impact of hydropower development and advocate for the recognition of sustainable hydropower as a feasible practice in the region, while protecting and preserving the most important habitats in the priority basins. The project is being implemented in three priority sites of the Dinaric Arc region, including Livanjsko Polje and Hutovo Blato in Bosnia and Herzegovina and Lake Skadar between Montenegro and Albania.



Photos, from top:

Drainage canal in Livanjsko Polje, going to Bazen Lipa lake, Bosnia and Herzegovina.

Landscape after peat extraction. Livanjsko Polje, Bosnia and Herzegovina.

Shepherd with goats and sheep, Livno, Bosnia and Herzegovina.

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The way forward

WWF Mediterranean is committed to ensuring that the natural heritage and key habitats of Livanjsko Polje are both preserved and provide opportunities for sustainable development and the improvement of local livelihoods. WWF is currently engaged in the assessment of viable opportunities for streamlining conservation and development in Livanjsko Polje, based on studies and research work undertaken in recent years by WWF together with other concerned organizations including Euronatur, UNDP, FAO and BirdLife.

Non-Timber Forest Products

Non-Timber Forest Products have been identified as one of the most interesting options for local development. The establishment of new value chains for certified, sustainable, organic and fair trade products, in collaboration with experienced companies from other European countries, would bring benefits to the weakest sectors of the local community (the unemployed, youth and women). It would create opportunities for employment and increased income generation and would also address the current trend of biodiversity depletion and ecosystem degradation caused by the unregulated collection of specimens and products in the wild. In the framework of the DASHI project a team of international experts will visit Livanjsko Polje during spring 2012 to identify, in collaboration with local stakeholders, concrete opportunities for setting up an operational programme revolving around the development of value chains for Non-Timber Forest Products. They will concentrate on medicinal and aromatic plants, berries and honey, sustainable forestry and support for agrotourism initiatives. WWF Mediterranean is now seeking financial resources and partners to trigger an initiative that will support new local enterprises, build their capacity, supply equipment, means, and know-how and provide technical expertise and assistance. Meanwhile WWF is working to connect local producers and the international market, through the involvement of foreign companies already active in the business of the export of Non-Timber Forest Products from Bosnia and Herzegovina and by seeking new potential partners in this sector.

Tourism

Tourism has also been identified as a potentially powerful tool to improve local livelihoods while supporting biodiversity conservation. WWF Mediterranean is seeking technical and financial partners to initiate a new tourism-focused project which will carefully select only those initiatives that are best suited to the specificities of the local environment, such as birdwatching, geo-tourism, horse riding and agrotourism. As experts have previously pointed out, the potential for tourism development in Livanjsko Polje is greatly enhanced by the favourable geographic location of the area, close to the internationally famous and popular Croatian coast. Moreover, the strengthening of tourism business will create synergies with other sectors of the rural economy, expanding the market and demand for local food products – such as the famous Livno cheese – handicrafts and the valorisation of the area's lively cultural heritage.



The completion of this programme will contribute to the following long-term goals for Livanjsko Polje:

- the creation of an effective model of a credible and attractive alternative to other development options that can lead to environmental degradation and the depletion of natural resources
- the empowerment of local communities to improve their livelihoods and the conservation of the natural and cultural heritage of the area
- the recognition of Livanjsko Polje as an example of best practices for neighbouring karstic areas in Bosnia and Herzegovina, in the Dinaric Arc region and throughout southeast Europe.

A CALL TO ACTION

The fulfilment of this ambitious programme requires:

- a broad coalition of actors who share a vision of biodiversity conservation, sustainable development and improved livelihoods for the inhabitants of Livanjsko Polje
- financial resources.

WWF Mediterranean calls for expressions of interest in establishing an operational alliance of partners including local and national decision and policy makers, civil society, the private sector, international conservation and development institutions and representatives of the donor community.

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Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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