

Information Sheet on Ramsar Wetlands

1. Country: Czech Republic
2. Date: 10 September 1993
3. Ref: 3CZ008
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5. Name of wetlands: Litovelské Pomoraví
6. Date of Ramsar designation: 1 October 1993
7. Geographical coordinates: 49°48'-49°36'N 16°55'-17°14'E
8. General location: Olomouc, Litovel (Central Moravia)
9. Area: 5122 ha (4125 ha of wetlands, 997 ha surrounding area)
10. Wetland type:
Aquatic and wetland biotopes associated with a watercourse and conditioned, to a great extent, by the flood regime, wet meadows, floodplain forests, ox-bows etc.
11. Altitude: 220-250m above sea level
12. Overview:
Riverine wetland in the Morava river floodplain, creating a 0.2 to 4.2km wide strip on both river banks between the towns of Olomouc, Litovel and Mohelnice (in central Moravia). This is the inundation area of the natural course of the Morava River, the latter preserving some of its activity and creating an inland delta in a complex of floodplain forests. The area is predominantly occupied by riverine wetlands with numerous permanent and occasional pools, oxbows, river tributaries, with wetland, fen and meadow biotopes, floodplain forests, with numerous variously sized water bodies, sand pits, fish ponds and river backwaters.
13. Physical features:
The average annual temperature of the area is 8.5°C, the average temperature during the vegetation season (April-September) is 15°C. As for its geomorphology, the area includes part of Hornomoravský Úval (Stredomoravská niva) and of Mohelnická brázda, separated from the former by Tresínský práh. The river floodplain is filled with Neogene and Quaternary sediments (gravels, sands and clays), the part of Tresínský práh is formed by Devonian limestone covered with fine flood sediments. The forests have mainly nutrient-rich semi-gley soils with favourable humification, the fens have fen soils. Mesophytic meadow communities have degraded fen soils, gleyed alluvial soils and gleys. Gleys are formed on impermeable layers in land depressions. The whole area was formed by descended rocks of Český masív (the Bohemian Massif) in front of the fold crown of Karpatský oblouk (the Carpathian Bow).
14. Ecological features:
There are various biotopes typical of riverine wetlands mostly depend on the water regime. Considerable are occasional pools with many invertebrates which connect with their cycles - some of them on the northwest edge of their range of occurrence. There are only partial changes in the banks of the naturally meandering river. The forest communities have a natural composition of woodland species, which usually include a rich shrub layer and the typical seasonal aspects of plant communities. Prevailing associations include Ficario-Ulmetum campestris, Fraxino-Populetum, Pado-

Alnetum. Originally rich wet meadow communities only partly remain, and were replaced by semicultural and cultural meadows. The following alliances indicate meadows and wetland communities: *Phragmition communis*, *Phalaridion arundinaceae*, *Caricion gracilis*, *C. fuscae*, *Molinion*, *Alopecurion pratensis*, *Arrhenatherion* (many of these are partly transformed into semicultural meadows). The bank vegetation and communities of flowing water are not sufficiently known. Standing waters are host to communities of the alliances *Lemnion minoris* and rarely *Nymphaeion* and *Eu-Potamion*.

15. Land tenure/ownership of:

Currently undergoing considerable changes. The forests are predominantly state-owned, as is the watercourse. Both community and individual property is found in the area.

16. Conservation measures taken:

The whole site is situated in the Protected Landscape Area called "Litovelské Pomoraví"; the most valuable parts are protected as national nature reserves or as nature reserves. The Protected Landscape Area covers 5097 ha.

17. Conservation measures proposed but not yet implemented:

The management plan for the whole Protected Landscape Area is being elaborated.

18. Current land use:

Intensive agriculture, forestry, recreation (tourism, hunting)

19. Disturbances/threats, including changes in land use and major development projects:

Main changes will be related with the change of land tenure and with forthcoming privatisation. Impact of pollution arising from both chemical and mechanical processes, at the river Morava, not only within the area but mainly upstream and on tributaries. Decrease of minimal discharge influences the habitats connected with a watercourse. There are negative microclimatic changes in the forest communities due to the unsuitable form of forestry, including changes for the intensive breeding of pheasants. The ground water level has dropped due to the drinking water being exploited. The discussed construction of the "Dunaj-Odra-Labe" canal (connecting the Danube, the Odra and the Elbe) would severely endanger the ecosystems. Further negative changes are not envisaged.

20. Hydrological and physical values:

The average annual rainfall is 578mm. The evapotranspiration of the floodplain forest 673mm. The water deficit of the area is balanced by regular spring floods (exceptionally in other times of year) and by replenishment from ground water reserves during the rest of the year. The Quaternary sediments hold plentiful reserves of drinking water. The average flow of the Morava River in Olomouc is 15m³/s. The area has 240km of active water-courses (occupying 250 ha), 100km of periodically flushed backwaters (till mid-May), flooded forest (3,500ha), about 2,000 pools (of which 200 are permanent), springs (karst and eluvial gravel outflows, 300 ha of stagnant waters, in total about 4,125 ha of wetland biotopes. The area considerably increases the humidity of the surrounding drained land, decreases dust pollution and wind erosion. Conspicuous phenomena include sedimentation in pools both in the river bed and in the inundation area, formation of bar gravels and of slip-off slopes.

21. Social and cultural values:

The area is used for intensive agriculture and forestry. Numerous sights are part of cultural heritage (Lichtenštejn estate, the town of Litovel on six backwaters of the Morava River, village architecture, water works).

22. Noteworthy fauna:

Among invertebrates the area is host to typical Crustacean spring species (*Lynceus brychyurus*, *Lepidurus apus*, *Siphonophanes grubii*), and endemic Crustacean species *Parastenocaris moravica*.

Amphibians: Important area for reproduction of amphibians - *Pelobates fuscus*, *Bufo viridis*, *Hyla arborea*, *Triturus vulgaris*.

Birds: Typical bird communities of mature floodplain forests. Further nesting species: *Rallus aquaticus*, *Ixobrychus minutus*, *Charadrius dubius*, *Remiz pendulinus*, *Acrocephalus arundinaceus*, *Alcedo atthis*, *Riparia riparia*, probably also *Porzana porzana* and *P. parva*.

Mammals: *Lutra lutra* (exceptional occurrence). Reintroduction of *Castor fiber* (in 1991/92).

23. Noteworthy flora:

Mature floodplain forests with predominantly natural composition of trees and shrubs. Plant species include: *Populus nigra*, *Ulmus laevis*, *U. minor*, *Leucojum vernalis*, *Galanthus nivalis*, *Epipactis albensis*, *Trollius europaeus*, *Iris pseudacorus*, *Iris sibirica*, *Equisetum variegatum*, *Menyanthes trifoliata*, *Lemna trisulca*, *Sparganium minimum*, *Naumburgia thyrsiflora*, *Ranunculus lingua*, *Utricularia australis*, *Ceratophyllum submersum*, *Cnidium venosum*, *Carex cespitosa*.

24. Current scientific research and facilities:

Intensive research is carried out by Palacký University in Olomouc, by the Administration of the Protected Landscape Area "Litovelské Pomoraví" by the Regional Museum in Olomouc and by experts from the independent Association for Protection and development of "Litovelské Pomoraví".

25. Current conservation education:

Work on its conception is currently under way. Public awareness is increased using press, meetings and lectures; a leaflet and photographs are being prepared for publication. The activities are organised by the Administration of the Protected Landscape Area and by members of the Association for the Protection and Development of Litovelské Pomoraví.

26. Current recreation and tourism:

Practised activities include: hiking along marked trails, canoeing down the Morava River, angling, water sports in sand pits (yachting etc.). A cycling and a canoeing nature trails are under preparation, two walking nature trails have been put into operation. The area is used mainly by inhabitants of surrounding communities including the centre of the region, Olomouc.

27. Management authority: Protected Landscape Area Administration, Olomouc

28. Jurisdiction: Ministry of the Environment, Praha

29. Bibliographical references:

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Holzer M., Bucharová, M. Živocichové tuní u Střene. Inv. průzkum. Správa CHKO LP (msc.) 10pp. (1978).

Šimek, P. Údolní niva, lužní lesy a návrh CHKO Litovelské Pomoraví (Proc. of Conf.). Olomouc. (1987).

Velíšek, V. Slatinná společenstva třídy Phragmitetea Tx. et Preissing 1942 v Hornomoravském úvalu. Acta UPOL 28: 43-59 (1968).

30. Reasons for inclusion:

The naturally meandering Morava river, with all manifestations of recent activity, forms a unique inland delta in a complex of floodplain forests with meadow enclaves. The inundation area includes numerous permanent and periodic water bodies and wetlands (mainly fens). The area has great diversity of landscape elements, which is a pre-requisite for the occurrence of numerous rare species and communities of plants and animals. The area meets Criteria 1c, 2b.

Zoning of the Ramsar site:

There are 6 "Core" sites identified inside the LitovelskéPomeraví Ramsar site:

Number	Name	Area	Lat	Long
RC1.01	Hejtmanka	160 ha	4943	1703
RC1.02	Sterkovna Chomoutov	72.7 ha	4940	1714
RC1.03	Kaceni louka	4,5 ha	4945	1700
RC1.04	Sterkovna Mohelnice	220 ha	-	-
RC1.05	Ramena reky Moravy	130 ha	4940	1713
RC1.06	Plané loucky	0.6 ha	4937	1713