

# Information Sheet on Ramsar Wetlands (RIS)

*Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties*

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Note: It is important that you read the accompanying Explanatory Note and Guidelines document before completing this form.

1. Date this sheet was completed/updated: 28<sup>th</sup> March 2002

2. Country: Slovakia

3. Name of wetland: Morava River Floodplains

4. Geographical coordinates: 48° 25' N, 016° 54' E \*

\*newly approximated centre of the site

5. Elevation: (average and/or maximum and minimum) 145 m (134 – 156 m)

6. Area: (in hectares) 5 380 ha\*\*

\*\*The Ramsar Site has been enlarged from the previous 4 971 ha to actual 5 380 ha. This enlargement resulted from the GEF project executed in 1994 – 1998, bringing better knowledge of the area.

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

The site includes the Slovak section of the Morava river between Brodské and its confluence with the Danube as well as the most valuable part of the floodplain area near the Czech and Austrian borders, with a well preserved and developed complex of diverse wetlands – streams, canals, river branches, swamps, seasonal pools, wet grasslands, forests etc. Most of the site is included in the Záhorie Protected Landscape Area. Parts of the site have been designated as nature reserves.

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8. Wetland Type: (please circle the applicable codes for wetland types as listed in Annex I of the Explanatory Note and Guidelines document)

marine-coastal: A B C D E F G H I J K Zk(a)

inland: L M N O P Q R Sp Ss Tp Ts

U Va Vt W Xf Xp Y Zg Zk(b)

human-made: 1 2 3 4 5 6 7 8 9 Zk(c)

Please now rank these wetland types by listing them from the most to the least dominant: M, O, P, Tp, Ts, Xf, U, W, 4, 7, 9

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9. **Ramsar Criteria:** (please circle the applicable criteria; see point 12 below)

**1      2      3      4      5      6      7      8**

**Please specify the most significant criterion applicable to this site: 2**

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10. **Map of site included?** Please tick YES --or-- **NO**

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits.)

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11. **Name and address of the compiler of this form:**

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***Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):***

12. **Justification of the criteria selected under point 9, on previous page.** (Please refer to Annex II in the *Explanatory Note and Guidelines* document).

1 – the site is a good and representative example of the natural and near-natural types of wetlands related to a riverine ecosystems in the Central Europe, considered rare and unusual in this area nowadays.

2 - the site is inhabited by 18 fauna species considered threatened at global level (3 VU, 8 LR & 7 DD species), e.g. *Crex crex*, *Castor fiber*, *Microtus oeconomus*, *Triturus cristatus*, *Numenius arquata* etc. and by plant species considered threatened at the national level (4 CR, 10 EN, 18 VU & 6 LR species), but many of them also threatened from the international point of view, too, e.g. *Achillea asplenifolia*, *Lathyrus pannonicus*, *Plantago altissima*, *Lindernia procumbens*, *Bolboschoenus maritimus*, *Allium angulosum*, *Gentiana pneumonanthe*, *Gratiola officinalis*, *Ophioglossum vulgatum* etc. There are also communities *Cnidion venosi*, *Alopecurion pratensis*; *Molinion coerulae*; *Hydrocharition*, *Magnopotamion*, *Bidention tripartiti*, *Salicion albae*, *Ulmenion minoris* preserved, those are considered rare and threatened in both national and international scopes.

3 – the site is the centre of biodiversity, its typical feature is the high number of species: around 600 species of cyanophytes and algae, 800 species of vascular plants, 100 species of molluscs, 200 of spider species, 25 species of dragonflies, more than 300 species of beetles, 50 species of fish, 14 of amphibia species, 256 species of birds, 43 species of mammals, which is considered to be unique and rare in the Pannonian region. The site is occupied by subendemic and/or typical species of the biogeographical region, e.g. *Lathyrus pannonicus*, *Fraxinus angustifolia* subsp. *danubialis* etc.

4 – site is an important habitat of migratory bird species and wintering ground of a waterfowl.

**7, 8** – within the site there are significant numbers of native species of fish (50 species) and their populations. Most important are *Gymnocephalus schraetzer*, *Zingel zingel*, *Cyprinus carpio*, *Gobio kessleri*, etc. The site is also important spawning ground and nursery for many of these fish species, reproduction of 28 species has been recorded here, e.g *Cyprinus carpio*, *Eudontomyzon mariae* etc.

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**13. General location:** (include the nearest large town and its administrative region)

county: Bratislava, Trnava

districts: Bratislava IV, Malacky, Senica, Skalica;

villages (cadasters): Bratislava (Devín, Devínska Nová Ves), Brodské, Gajary, Kúty, Malé Leváre, Moravský Svätý Ján, Sekule, Suchohrad, Veľké Leváre, Vysoká pri Morave, Záhorská Ves, Závod, Zohor;

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**14. Physical features:** (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate)

Origin: natural, partly atrificial. Geological features: Bedrock of the site is formed by low-permeable to unpermeable sediments. In the parts where the clayish sediments reach the top the stagnation of floods and groundwater or the soil saturation occurs. These sediments are covered by 10 - 15 m deep permeable layer of sandy-clay sediments. On the top of these layers various, lower-permeable Holocene alluvial sediments are deposited. Geomorphological features: Fluvial plain on alluvial sediments, fluvo-eolic hilly plain and dune hilly plain on sediments of fluvial terraces and blown sands. Within the slovak section, the Morava river has a character of a lowland river with very low downslope (average of 0.18 %), that is slicing into the quaternary sediments of eolic and fluvial origin and creates meandering river channel with dense network of branches and meanders. Soils: Predominating soil types are eutric and dystic fluvisols and mollic fluvisols. Eutric and Dystic fluvisols are distributed in 1 - 1.5 km wide belt along the river bed. On the sites farer off the river the mollic fluvisols have been created on the older sediments. In the southern part, there are prevailing more dystic soils (slightly dystic to dystic), in the northern section more basic (neutral to slightly alkaline). Soils within the interdike area are generally more acidic. Hydrological features: The site is a part of the Danube river catchment. Mean annual discharge of the Morava river is  $111 \text{ m}^3 \cdot \text{s}^{-1}$ . Mean flow rate is approximately  $0.7\text{-}0.8 \text{ m} \cdot \text{s}^{-1}$ . Catchment of the Morava river is  $26\ 580 \text{ km}^2$  large and lies mostly on the silicate rocks of the Czech Massive. Adjacent land of the Morava river has altered hydrological regime, it is not drained by the natural streams but by the network of ditches. There are also remains of old river branches of the Morava without direct connection with main river bed. Low discharges occur during the late summer and early autumn (IX.-X.), fewer during the winter (I.). Water quality: Morava river is according to indicators of surface water quality classified as polluted stream. The worst results has the analyse of basic chemical composition and biological and microbiological indicators (V. class of pureness – increased content of  $\text{N-NO}_2$ , bacteria), according to oxygen regime and complementarily chemical indicators it comes under III.-IV. class of pureness. By content of heavy metals Morava river comes under II.-III. class of pureness (increased content of Zn). Climate: Site's climate is classified as warm, mild dry, with mild winters. Mean year temperature varies between  $9.0\text{-}9.6^\circ\text{C}$ . Mean temperature in January is -2 to  $-2.5^\circ\text{C}$ , in July  $19.6\text{ to }20.1^\circ\text{C}$ . Annual precipitation in the area is between 550 to 650 mm. The richest for rainfall are summer months (V.-VIII.), second maximum of rainfall is in autumn (X.-XI.); minimal precipitation is in winter and early spring (I.-III.).

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**15. Hydrological values:** (groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.)

Site is important for groundwater recharge, water quality control, but also for flood control and sediment trapping.

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#### 16. Ecological features: (main habitats and vegetation types)

According to phytogeographical division of Slovakia site belongs to region of Pannonian flora, district of Záhorská lowland. Most spread are grassland communities of *Cnidion venosi* a *Magnocaricion elatae* unions (2 773 ha) and forests of *Salici-Populetum* and *Fraxino pannonicae-Ulmetum* (1 637 ha) associations. Non-native poplar plantations are distributed on 187 ha. Various types of wetlands and water habitats are presented (about 285 ha, excluding the main channel of the river), including abandoned gravel and sand pits (90 ha). There are also 5 ha of sand dunes, about 200 ha of pasture land and 500 ha of arable land. Expansion of neophytes deliberately or not deliberately dragged into the site has been recorded. Apart from euro-american hybrids of poplars these are e.g. *Negundo acerooides*, *Fraxinus americana*, *F. pennsylvanica*, *Aster novi-belgii*, *Helianthus tuberosus*, *H. annuus*, *Fallopia japonica*, *Solidago gigantea*, *Echinocystis lobata*, *Impatiens glandulifera*, *I. parviflora*, *Parthenocissus quinquefolia*. Some non native species of fish has been introduced into the river: *Pseudorasbora parva*, *Carassius auratus gibelio*, *Ctenopharyngodon idella*, *Aristichthys nobilis*, *Ictalurus nebulosus*, *Lepomis gibbosus*.

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#### 17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc.)

About 530 species of vascular plants has been determined, following ones are considered threatened according to national Red List, hereto divided in relevant communities:

Floodplain forests and communities of *Salici-Populetum* and *Fraxino pannonicae-Ulmetum*: VU: *Leucojum aestivum*, *Scilla vindobonensis*; *Galanthus nivalis* (LR:nt), *Anemone ranunculoides*, *Ficaria bulbifera*, *Fraxinus angustifolia* subsp. *danubialis* (subendemic species of Pannonian region);

Grasslands of union *Cnidion venosi* - largest complex of wet meadows in Slovakia: CR: *Achillea asplenifolia*, *Lathyrus pannonicus*, *Plantago altissima*; EN: *Allium angulosum*, *Gentiana pneumonanthe*, *Gratiola officinalis*, *Ophioglossum vulgatum*; VU: *Allium carinatum*, *Clematis integrifolia*, *Cnidium dubium*, *Dactylorhiza majalis*, *Iris sibirica*, *Myosotis caespitosa*, *Thalictrum flavum*; other important species: *Achillea millefolium*, *Lythrum virgatum*, *Pseudolysimachion longifolium*, *Selinum carvifolia*, *Succisa pratensis*, *Taraxacum sect. Palustria*, *Valeriana officinalis*;

Water habitats: EN: *Callitricha platycarpa*, *Nymphoides peltata*, *Stratiotes aloides*; VU: *Batrachium aquatile*, *Hottonia palustris*, *Nuphar lutea*, *Nymphaea alba*, *Trapa natans*, *Utricularia vulgaris*, *Wolffia arrhiza*; LR:nt: *Callitricha palustris*, *Potamogeton nodosus*, *P. perfoliatus*; other significant species: *Alisma lanceolatum*, *Batrachium trichophyllum*, *B. circinatum*, *Persicaria amphibia*, *Phragmites australis*, *Rorippa amphibia*, *Sagittaria sagittifolia*, *Sparganium erectum*, *Zannichellia palustris*;

Water margins, wet sands: CR: *Lindernia procumbens*; EN: *Bolboschoenus maritimus*, *Eragrostis pilosa*, *Limosella aquatica*; VU: *Dichodon viscidum*; LR:nt: *Barbarea stricta*, *Pulicaria vulgaris*; other noteworthy species: *Carex elata*, *Cyperus fuscus*.

Overview of mapped habitats considered rare or endangered at the national or international level (communities those names are underlined are included in the annexes of the Habitats Directive Nr. 92/43/EEC): vegetation of alluvial meadows: *Cnidion venosi*, *Alopecurion pratensis*; *Molinion coerulae*; vegetation of standing and slow-running waters: *Lemnion minoris*, *Hydrocharition*, *Utricularion vulgaris*, *Magnopotamion*, *Parvopotamion*, *Nymphaeion albae*, order *Callitricho-Batrachietalia* (union *Ranunculion aquatilis*), *Phragmition communis*, *Magnocaricion elatae*, sub-union *Caricenion gracilis*, *Oenanthon aquatica*; Bankside shrub habitats: willow shrub (*Salicion triandrae*); tall herb habitats on running water banks: *Bidention tripartiti*; forest habitats: *Salicion albae*; ash-oak-elm floodplain forests of sub-union *Ulmenion minoris*.

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**18. Noteworthy fauna:** (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

Fauna of the site is relatively well-known and rich of species. Conservation status according to 1996 IUCN Red List is given in the brackets.

**Cyclostomata:** *Eudontomyzon mariae* (DD); **Osteichthyes:** In the site several red list species have been recorded: VU: *Gymnocephalus schraetzeri*, *Zingel zingel*; DD: *Cyprinus carpio*, *Gobio kessleri*, *Gymnocephalus baloni*, *Gymnocephalus acerina*, *Pelecus cultratus*, *Stizostedion volgensis*; LR:nt: *Carassius carassius*, *Misgurnus fossilis*; other noteworthy species: *Proterorhinus marmoratus*; **Amphibia:** *Triturus vulgaris*, *T. cristatus* (LR:cd), *Bombina bombina* (LR:cd), *Bufo viridis*, *Pelobates fuscus*, *Rana arvalis*, *R. dalmatina*, *R. ridibunda*, *R. lessonae*; **Reptilia:** noteworthy are *Emys orbicularis* (LR:nt), *Natrix tessellata*, *Coronella austriaca*, *Elaphe longissima*; **Aves:** breeding species, e.g. *Alcedo atthis*, *Anas querquedula*, *Anser anser*, *Ardea cinerea*, *Botaurus stellaris*, *Ciconia ciconia*, *C. nigra*, *Circus pygargus*, *C. aeruginosus*, *Crex crex* (VU), *Cygnus olor*, *Emberiza schoeniclus*, *Gallinula chloropus*, *Luscinia megarhynchos*, *Milvus migrans*, *Motacilla flava*, *M. cinerea*, *M. alba*, *Numenius arquata*, *Pernis apivorus*, *Podiceps cristatus*, *Remiz pendulinus*, *Riparia riparia*, *Vanellus vanellus*; noteworthy non-breeding species – *Anas acuta*, *A. clypeata*, *A. crecca*, *A. penelope*, *A. strepera*, *Anser fabalis*, *A. albifrons*, *Ardea purpurea*, *Aythya ferina*, *A. fuligula*, *Bucephala clangula*, *Egretta alba*, *Gallinago gallinago*, *Grus grus*, *Haliaeetus albicilla* (LR:nt), *Mergus albellus*, *Milvus milvus*, *Pandion haliaetus*, *Platalea leucorodia*, *Podiceps nigricollis*, *Tachybaptus ruficollis*; **Mammalia:** *Myotis daubentonii*, *Castor fiber* (LR:nt), *Microtus oeconomus* (LR:nt), *Lutra lutra*.

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**19. Social and cultural values:** (e.g., fisheries production, forestry, religious importance, archaeological site, etc.)

The site had been used already from the prehistorical times. It had provided timber, fish, game and have been agriculturally utilized. Also at the present time it is used for production of timber, high-quality hay (1-8 t/ha), lesser for pasture of livestock and crop production. Hunting of roe deer, red deer and wild boar is common. After 1990, when the strict protection of borders with Austria has been canceled, angling became to spread. Important is also use for tourism and recreation as well as scientific research and education, because the site is situated nearby the capital of Bratislava occupied by several schools, universities and scientific institutions.

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**20. Land tenure/ownership of:** (a) site (b) surrounding area

**a)** Land ownership of the forests within the site according to last review done in 1998 is as follows: 773 ha state ownership, 94 ha community ownership, 5 ha private ownership, 7 ha village office Gajary, 758 ha other ownership.

Agricultural land is predominantly used by agricultural cooperatives and private companies. Private farmers are using only small areas. Property restitution is not finished yet. Water bodies are in the state ownership.

**b)** Most of the land in the Ramsar Site surrounding is in private ownership, only some parts are own by the state or belong to community ownership. Comprehensive overview is not available.

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**21. Current land use:** (a) site (b) surroundings/catchment

a) There is no residential settlement within the site. It is used for timber production, hay-making, angling, hunting and short-time recreation. In smaller extent the site is used for agricultural crop production and

gravel extraction, but the last is in the conflict with the interests of nature conservation and sustainable use of the site.

b) Prevailing type of use is agricultural production, forestry, recreation and gravel extraction. There are situated villages, transportation routes (highway, railway) and small industry (machinery, cannery, extraction of oil and natural gas).

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**22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:** (a) at the site (b) around the site

a) Largest ecological changes in the river bed and the river Morava itself enacted during the second half of the 19<sup>th</sup> century, had been intensified in the first half of 20<sup>th</sup> century and culminated in the 60ies of 20<sup>th</sup> century. Water pollution of the Morava river reached the highest point in the 1959, when the massive fish poisoning occurred. Remarkable is mainly organic but also chemical pollution and increased content of non-dissolved substances. Flow of floated particles caused by erosion increases the accumulation processes in the river bed. Other important causes of the Morava river system destruction were the unsuitable river bed regulations (from 30ies to 60ies of the 20<sup>th</sup> century). The disconnection of the meanders and branches took place and the straighten river bed sank below the level of the original river bed, and that is causing the increased drainage of the river alluvium and water table decrease in the surroundings. The decrease of habitat and species diversity of the river, production and productivity, self-treatment and retention capacity was caused by this process. Former river branches and meanders are overgrowing. Deficit of funds in the agriculture caused that some of the species-rich wet grasslands in the river alluvium have been abandoned. The catastrophe for the grassland ecosystems in the Morava alluvium occurred in 70ies and 80ies of the 20<sup>th</sup> century, when the 343 ha of unique meadows was ploughed up. The site is affected also by concentration of number of livestock of the small area of pastures (erosion, land surface trampling). In the forests is visible the unsuitable management used in the previous decades, when the allochthonous wood species were planted (euro-american hybrids of poplars, acacia, oaks). The invasive neophytes are also problematic, they are spreading along the streams and causing changes in the plant communities. In the valuable part of the site there is a large-scale gravel pit nearby the National Nature Reserve Dolný les. The transport threatens the site only near the border-cross Moravský Svätý Ján - Hohenau and on the northern margin of the site (highway). The pressure of anglers and illegal fishing threatens the site.

b) Due to development of industry and agriculture pollution of the river have permanently increased (especially due to paper- and wood pulp-making industry, sugar refinery, vegetal production, livestock breeding, municipal waste, soil erosion) and also at the present time the sources of pollution are situated mainly outside the territory of Slovakia. Active producers of pollution are located mainly nearby the tributaries of the river, in the vicinity there is a number of waste dumps. More than 90 % of the Morava river was regulated (flood protection, energetics, shipping) and adjacent land were drained in the large scale. Important event was the beginning of the work of the retention reservoirs Nové Mlyny in the Czech Republic in 1989. The site may be seriously affected and destroyed by two planned projects – water dam Wolfstahl – Bratislava on the Danube river (increased water level and dikes should impact 30 km long section of the Morava alluvium) and shipping channel Danube – Odder – Elbe. Development of building, mining (gravel, fossil fuel), tourism and recreation is expected. Site is located near the area with heavy water pollution.

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**23. Conservation measures taken:** (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented)

Predominant part of the site (from 10<sup>th</sup> to 72<sup>nd</sup> river kilometer) is protected within the Protected Landscape Area Záhorie (from 1988 – 27 522 ha). In the Supra-regional Territorial System of Ecological Stability of Slovakia (TSES), approved by the Slovak Government in 1992, the site is registered as biological corridor of supra-regional importance. It is registered also in the regional TSES and other documents of spatial planning. Site has been designated as Important Bird Area 01 Morava River Floodplain (KAŇUCH, 2000). It has been included into project "Ecological bricks for our common European house" (since 1990, as transboundary site in the alluvium of the Dyje and Morava rivers), further into the National Ecological Network proposed by IUCN in 1995. Site was included into activities of the Global Environment Facility (GEF), that supported from 1993 project on conservation of biodiversity in the floodplain area of the Morava river (partial restoration of the Morava river). Restoration and management of floodplain meadows were funded through several projects of GEF, PHARE PEC, PHARE CBC. Spanning the migration barriers for fish was partially addressed by the project of PHARE PEC. Its outputs were restoration of hydrological conditions and fish habitats along the Slovak section of the river and construction of fish duct in the neighbouring Alluvium of the Rudava River Ramsar Site. In 1997 also project from Ramsar SGF was funded.

In terms of nature conservation the site is managed mainly by Administration of Protected Landscape Area Záhorie located in Malacky, in close cooperation with Daphne - Institute of Applied Ecology from Bratislava. Management activities and transboundary issues are coordinated with NGOs WWF Austria, WWF International and Distelverein from Austria, NGO Veronica, Administration of PLA Pálava and Lesy Židlochovice from the Czech Republic.

From the initiative of 4 NGOs mentioned above (Daphne, Veronica, WWF, Distelverein) the common "Memorandum of Understanding between The Federal Ministry of Agriculture, Forestry, Environment and Water Management of the Republic of Austria, The Ministry of Environment of the Czech Republic and The Ministry of Environment of the Slovak Republic" (called also Trilateral Ramsar Platform of the Morava – Dyje floodplains) was signed by the representatives of 3 countries (Austria, Slovakia, Czech Republic) in Židlochovice on August 30<sup>th</sup>, 2001. Strategy of sustainable development of the area was developed in cooperation of these organizations. Management plan for floodplain meadows of the RS was developed by the Daphne. For the forested area of PLA Záhorie, including forests of the RS, the study was produced, proposing consecutive introduction and maintenance of near-natural forest management. Further measures contain re-designation of 1 290 ha of forests in PLA Záhorie from the category of commercial forests into the category of forests of special purpose (according to national law), where more sensitive management is being implemented. Restoration of 130 hectares of floodplain meadows on the tracts of arable land was done under the scientific and organizational steering of Daphne. The study on re-establishment of population of the turtle (*Emys orbicularis*) and European mudminnow (*Umbra krameri*) was developed.

Designated protected sites according to national legislation are National Nature Reserves Horný les (543 ha), Dolný les (186 ha) – since 1980, Protected Range Devínske aluvium Moravy (253 ha) since 1999.

For more efficient management of the site information systems consisting from relation databases and GIS are established at the Administration of PLA Záhorie and Daphne – Institute of Applied Ecology.

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**24. Conservation measures proposed but not yet implemented:** (e.g. management plan in preparation; officially proposed as a protected area, etc.)

Resulting from the Memorandum of Understanding mentioned above the designation of trilateral Ramsar Site is being prepared as well as other activities enhancing conservation , wise use and ecologically oriented development of this borderline area. Protection of another identified sites is being prepared: Borová – sand dunes, Devínske jazero – app. 1 050 ha of unique complex of inundated

meadows and network of 16 holocene meanders of Morava. The new management plan for the alluvial meadows of the Ramsar site is going to be developed.

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**25. Current scientific research and facilities:** (e.g., details of current projects; existence of field station, etc.)

Since 1990 after the nullification of the iron curtain there was implemented a number of research projects, several studies, strategies and reports with scientific research background were developed. Some of the most important are:

- Ecological potential of the Morava floodplain,
- Vegetation of the alluvium of the Morava river in the section Kúty-Bratislava,
- Ecology of epigean fauna of alluvial ecosystems of the Danube and Morava river,
- Structure and functions of animal communities in protected sites,
- Zoobentos of stream waters of Slovakia and its importance for biological indication,
- Zoo-cenoses of characteristic habitats along the Danube and Morava rivers,
- Ichtyological studies,
- Ecotones of the Danube and Morava rivers,
- Ecological carrying capacity of the landscape,
- Introductory solution to the restoration of the Morava river,
- Biological research and monitoring of re-opened river branches,
- Biotope mapping,
- Grassland mapping,
- Management and restoration of forests,
- Conservation of *Umbra krameri* ex situ,
- Conservation of *Lindernia procumbens* ex situ,
- with assistance of GEF grant was produced study on alternative use of meadows and conversion of arable land to meadows (Daphne Bratislava),
- Study of socio-economic reasons of biodiversity decrease – case study oriented on wetland ecosystems in the Danube river watershed (Daphne - WWF International),
- Research of the quality of water and sediments from the perspective of Morava river restoration,
- Specification of the terms for adjustment of Morava river channel implementing rehabilitative water managing – ecological measures,
- Water quality in the Danube watershed in the territory of Slovakia,
- Impact of dumps of the solid waste located along the river on the water quality of the Danube and lower Morava rivers,
- Possibilities of use of the Morava river for navigation,
- Conception of sustainable development of recreation and tourism for the region of the lower Morava (1996 - ALLPLAN GmbH),
- Regular annual reports on the water quality of the Morava river and its tributaries made by the river administrator.

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**26. Current conservation education:** (e.g., visitors centre, hides, information booklet, facilities for school visits, etc.)

The site has a large potential for conservation education. The interpretative trail long 23 km "Through Morava Alluvium" was built and it is used for hiking and bicycle trips. Brochure – text guide to this trail was developed in three languages. In cooperation with NGOs several other brochures as well as video films, documents for the television and education programme for schools were developed. Visitors and conservation education centre for the Morava River Alluvium was established in 1999 in Devín by Daphne. The EcoCentrum Daphne organises educational courses, lectures, trainings for guides and rangers and other activities.

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**27. Current recreation and tourism:** (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

Recreation is located mainly on the margin of the site. One-day hiking and biking prevails, during summer months it is also weekend rafting using engineless boats. Consecutive increase of accommodational capacity and boarding opportunities is taking place and increase of visitors is expected. It will be necessary to steer this development as well as to regulate the number of anglers those are trying to build their weekend houses and cottages and to regulate the utilization of existing roads by the vehicles.

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**28. Jurisdiction:** (territorial, e.g., state/region and functional, e.g., Dept. of Agriculture/Dept. of Environment etc.)

Decision making bodies:

District Hall, Malacky Odbor ŽP, Záhoracká 2942/116 901 26 Malacky

County Hall,- KU Bratislava Staromestská 6, Bratislava

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**29. Management authority:** (name and address of local body directly responsible for managing the wetland)

State Nature Conservancy of the Slovak Republic, Administration of Protected Landscape Area Záhorie, Vajanského 19, 901 01 Malacky

Slovak Water Management Company, Danube River Catchment Administration, SVP – Povodie Dunaja, závod Malacky, Pri Maline 2389/1, 901 01 Malacky

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**30. Bibliographical references:** (scientific/technical only)

AMBROS, M., 1984: Fauna roztočov (Acari: Mesostigmata) drobných cicavcov Záhorskej nížiny a Malých Karpát. Acta Rer. Natur 30, Mus. Nat. Slov., Bratislava: 87-102 p.

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