Information Sheet on Ramsar Wetlands (RIS) – 2006 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.

2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.

3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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DD MM YY

Designation date | Site Reference Number

2. Date this sheet was completed/updated:
20 June 2007

3. Country:
Slovak Republic

4. Name of the Ramsar site:
The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Turiec Wetlands (Mokrade Turca)

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only)**:**
a) Designation of a new Ramsar site ☐; or
b) Updated information on an existing Ramsar site ☑

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ❑

or
If the site boundary has changed:
i) the boundary has been delineated more accurately ☑; or
i) the boundary has been extended ☑; or
iii) the boundary has been restricted** ❑

and/or

If the site area has changed:
i) the area has been measured more accurately ❑; or
ii) the area has been extended ☑; or
iii) the area has been reduced** ❑

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:
Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:
i**) a hard copy** (required for inclusion of site in the Ramsar List): ❑;

ii**) an electronic format** (e.g. a JPEG or ArcView image) ☑;

iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** ✓;

b) Describe briefly the type of boundary delineation applied:
e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary follows the new delineation (extension) of the National Nature Reserve Turiec and its buffer zone according to the new Decree of the Regional Office for the Environment in Zilina No. 1/2006 of 10 April 2006, and boundaries of other legally protected sites and areas proposed for protection.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):
Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

48° 45' 50" – 49° 02' 41" N, 18° 47' 18" – 18° 55' 44" E (S42),

centre of the whole site was generated as a arithmetical average of the outer boundary coordinates:

48° 54' 17" N, 18° 51' 22" E

Approximate centres of subsites:

Turiec River National Nature Reserve – 48° 30' 16" N, 18° 50' 46" E
Blatnicianka brook – 48° 58' 06" N, 18° 54' 42" E
Klastorske luky National Nature Reserve – 48° 58' 06" N, 18° 54' 42" E
Jazernicke jazierko Protected Site – 48° 55' 25" N, 18° 49' 43" E
Ivancinske mociare Protected Site – 48° 54' 45" N, 18° 48' 37" E
Zarnovica brook Protected Site – 48° 50' 36" N, 18° 52' 25" E

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Central Slovakia, Zilina region, Martin and Turcianske Teplice districts, approximately 0.2 km W – 31 km S from district centre Martin (population 59 469, district population 97 813) and 3.2 km W, 0.2 – 10 km S and 3.2 – 17.5 km N from district centre Turcianske Teplice (population 7 031, district population 16 866).

10. Elevation: (in metres: average and/or maximum & minimum)

402 – 654 m

11. Area: (in hectares)

750 ha

Subsites: Turiec River National Nature Reserve (extended in 2006) – 632 ha
Blatnicianka Brook – 26 ha
Klastorske luky National Nature Reserve – 86 ha
Jazernicke jazierko Protected Site – 1 ha
Ivancinske mociare Protected Site – 3 ha
Zarnovica Brook Protected Site – 2 ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The Turiec River is an important central-Slovakian left-side tributary of the Vah River. Its winding course with the nearly natural physical channel conditions, hydric regime and vegetation is over 66 km long, drains the area of 934 km^2 and flows in NW – N direction across the submontane Turcianska Kotlina Basin which provides the physical setting for most of the Turiec wetlands. The Turiec river ecosystem and adjacent wetlands (floodplain forests and shrubs, wet meadows, fens, marshes, ponds) are internationally important for benthic organisms, fish, wetland biotic communities, biodiversity and biodisparity, ecosystem, biogeographic, scenic and cultural values and are partly managed by the state & regional nature conservation/environment bodies.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8	9
☑	☑	☑	☑	☐	☐	☑	☑	☐

14. Justification for the application of each Criterion listed in 13 above:
Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1 – the site contains representative and/or unique examples of several natural and near-natural wetland types within the biogeographic region (Western Carpathians), particularly submontane river with its riparian forests & shrubs, fens, marshes and wet meadows [representativeness/uniqueness and naturalness vary between the level of phytogeographic district and phytogeographic province];
Habitat types of Annex I of the Habitat Directive identified within the site (* - priority habitats): 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* – type vegetation; 3220 Alpine rivers and the herbaceous vegetation along their banks; 3240 Alpine rivers and their ligneous vegetation with *Salix eleagnos*; 3260 Water courses of plain to montane levels with the *Ranunculion fluitans* and *Callitricho-Batrachion* vegetation; 3270 Muddy river banks with *Chenopodion rubri* p. p. and *Bidention* p. p. vegetation; 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites); 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*); 6430 Hydrophilous tall-herb fringe communities of plains and of the montane to alpine levels; 6510 Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*); 7220* Petrifying springs with tufa formation (*Cratoneurion*); 7230 Alkaline fens; 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*);

Criterion 2 – the site supports vulnerable, endangered and critically endangered species:
[Conservation status according to IUCN categories (from national Red Lists – BALÁŽ, MARHOLD, URBAN eds. 2001), inclusion of species to annexes of international treaties, EU Bird Directive and Habitat Directive or bird species of European concern are given after the name of the species or in brackets (AEWA – Agreement on the Conservation of African-Eurasian Migratory Waterbirds, BD1 – Directive on the Conservation of Wild Birds 79/409/EEC – Annex I, HD2, 4 – Directive on the Conservation of Natural Habitats of Wild Fauna and Flora 92/43/EEC – Annex II and IV, Bern2 – Bern Convention – Appendix II, Bonn2 – Bonn Convention – Appendix II), SPEC – bird species of European conservation concern with category 1-4, from BIRDLIFE INTERNATIONAL/EUROPEAN BIRD CENSUS COUNCIL (2000))].
PLANTS: *Chara vulgaris* – EN (Algae); Vascular plants: *Allium carinatum* – VU, *Avenula pratensis* – VU, *Batrachium aquatile* – VU, *Berula erecta* – VU, *Carex appropinquata* – VU, *C. buekii* - EN, *C. cespitosa* - VU, *C. davalliana* - VU, *C. diandra* - EN, *C. hordeistichos* – EN, *C. hostiana* – VU, *C. lasiocarpa* – VU, *C. paniculata* - VU, *Catabrosa aquatica* - VU, *Centaurium pulchellum* - VU, *Comarum palustre* - VU, *Crepis praemorsa* – VU, *Dactylorhiza incarnata* subsp. *incarnata* - EN, , *Dactylorhiza incarnata* subsp. *haematodes* – CR, *D. majalis* - VU, *D. sambucina* - VU, *Eleocharis quinqueflora* – VU, *E. uniglumis* – VU, *Epipactis albensis* - EN, *E. palustris* - VU, *Gladiolus imbricatus* - VU, *Gymnadenia conopsea* – VU, *Iris sibirica* - VU, *Leerzia oryzoides* – VU, *Limosella aquatica* - EN, *Listera ovalis* – VU, *Menyanthes trifoliata* - EN, *Molinia caerulea* – VU, *Myriophyllum verticilatum* – VU, *Orchis mascula* subsp. *signifera* - VU, *O. militaris* – VU, *Pedicularis palustris* - EN, *Pinguicula vulgaris* - EN, *Platanthera bifolia* – VU, *Primula farinosa* - EN, *Salix rosmarinifolia* - VU, *Scorzonera humilis* - EN, *Senecio sarracenicus* - VU, *Sesleria caerulea* - CR (last refugia in Slovakia), *Tetragonolobus maritimus* - VU, *Thalictrum lucidum* - EN, *Thlaspi caerulescens* subsp. *tatrense* – VU,*Traunsteinera globosa* - VU, *Triglochin palustre* - VU, *Trollius altissimus* - VU, *Utricularia vulgaris* – VU;
ANIMALS Invvertebrates : *Ameletus inopinatus* - VU, *Baetis liebenaue* - VU, *Ecdyonurus insignis* – EN, *Ephemerella notata* – EN, *Oligoneuriella rhenana* – EN, *Rhitrogena tatrica* – VU, *Siphlonurus alternatus* – EN **(Ephemeroptera)**; *Aeshna caerulea* – EN, *Aeschna isosceles* – VU, *Anax parthenope* –

VU, *Coenagrion hastulatum* – VU, *Cordulegaster bidentata* – VU, *Ophiogomphus cecilia* (EN, Bern2, HD2, HD4) **(Odonata)**; *Amphinemura borealis* – VU, *Brachyptera monilicornis* - EN, *Chloroperla tripunctata* - VU, *Perla bipunctata* - EN, *Perlodes dispar* – VU, *Taeniopteryx nebulosa* – VU, *T. schoenemundi* – EN **(Plecoptera)**; *Aphelocheirus aestivalis* – VU **(Heteroptera)**; *Deronectes platynotus* – VU, *Helophorus arvenicus* – VU, *Scarodytes halensis* – VU **(Coleoptera)**; *Brenthis ino* - VU, *Lycaena dispar* (VU, Bern2, HD2, HD4), *Maculinea nausithous* (CR, Bern2, HD2, HD4), *Maculinea teleius* (EN, Bern2, HD2, HD4), *Melitaea diamina* - VU **(Lepidoptera)**; *Atherix ibis* - VU, *Liponeura brevirostris* - VU, *Oedalea austroholmgreni* – VU, *Oxycera pardalina* – EN **(Diptera)**; *Hirudo medicinalis* - VU, *Trichodrilus tatrensis* – EN **(Annelida),** *Unio crassus* (VU, HD2, HD4) **(Mollusca)**
Vertebrates: Petromyzontiformes: *Eudontomyzon mariae* (CR, HD2); **Actinopterygii:** *Hucho hucho* (LR :cd, HD2), *Phoxinus phoxinus* (EN), *Zingel streber* (CR, HD2), *Cobitis taenia* (Bern2, HD2), *Cottus gobio* (HD2); **Amphibia:** *Triturus montandoni* (VU, Bern2), *T. alpestris* (VU), *T. vulgaris* (VU), *Bombina variegata* (Bern2, HD2, HD4), *Hyla arborea* (Bern2, HD4), *Bufo viridis* (Bern2, HD4); **Reptilia:** *Lacerta agilis* (Bern2, HD4) and *Lacerta vivipara* (HD4), *Vipera berus* (VU, HD4); **Aves:** *Ciconia ciconia* (Bern2, Bonn2, AEWA, BD1, SPEC2, V in Europe), *C. nigra* (Bern2, Bonn2, AEWA, BD1, SPEC3, R in Europe), *Anas querquedula* (Bonn2, AEWA, SPEC3, V in Europe), *Accipiter nisus* (Bern2, Bonn2), *Circus aeruginosus* (Bern2, Bonn2, BD1), *Falco subbuteo* (Bern2, Bonn2), *Coturnix coturnix* (Bonn2, SPEC3, V in Europe), *Porzana porzana* (Bern2, Bonn2, AEWA, BD1, SPEC4), *Crex crex* (Bern2, Bonn2, BD1, SPEC1, V in Europe), *Vanellus vanellus* (Bonn2, AEWA), *Gallinago gallinago* (VU, Bonn2, AEWA), *Tringa totanus* (VU, Bonn2, AEWA, SPEC2), *Actitis hypoleucos* (Bern2, Bonn2), *Alcedo atthis* (Bern2, BD1, SPEC3), *Motacilla flava flava* x *cinereocapilla* (Bern2), *Motacilla citreola* (Bern2), *Phoenicurus phoenicurus* (Bern2, Bonn2, SPEC2, V in Europe), *Saxicola rubetra* (Bern2, Bonn2, SPEC4), *Locustella luscinioides* (Bern2, Bonn2, SPEC4); **Mammalia:** *Rhinolophus hipposideros* (Bern2, Bonn2, HD2, HD4), *Myotis daubentoni* (Bern2, Bonn2, HD4), *M. emarginatus* (VU, Bern2, Bonn2, HD2, HD4), *M. myotis* (Bern2, Bonn2, HD2, HD4), *M. mystacinus* (VU, Bern2, Bonn2, HD4), *M. nattereri* (Bern2, Bonn2, HD4), *Vespertilio murinus* (Bern2, Bonn2, HD4), *Plecotus auritus* (Bern2, Bonn2, HD4), *Sicista betulina* (VU, Bern2, HD4), *Lutra lutra* (VU, Bern2, HD2, HD4), *Sorex alpinus* (VU), *Canis lupus* (HD2).

Criterion 3 – the site supports important populations of threatened plants (e.g., *Sesleria caerulea*), benthic invertebrates, amphibians, birds (e.g., *Motacilla flava* ssp.) and mammals (e.g. Eurasian otter *Lutra lutra*) within the biogeographic region;

Criterion 4 – sub-sites of the Ramsar Site support amphibian species during reproduction stage of their life cycle (*Triturus montandoni, T. alpestris, T. vulgaris, Bombina variegata*, *Hyla arborea*, *Rana* kl. *esculenta*) and bird species during migration (corridor and stopover sites, e. g. *Pandion haliaetus, Grus grus, Gallinago media,* also *Phalacrocorax carbo, Plegadis falcinellus, Botaurus stellaris, Ixobrychus minutus, Nycticorax nycticorax, Ardea purpurea, Egretta alba, Anas acuta, Aythya nyroca, Hieraaetus pennatus, Milvus migrans, Circus pygargus, Falco vespertinus, Pluvialis squatarola, Calidris temminckii, C. ferruginea, Tringa erythropus, Limosa limosa, Numenius arquata, Chlidonias nigra, Coracias garrulus* and *Acrocephalus paludicola*). The Turiec river ecosystem is an important refugium of bird species diversity and a segment of migration corridor of provincial importance;
More than 170 **bird** species were found here, among them 78 breeding species. Many of them are important. Groups of migrants is relatively species-rich, but they generally do not occur in large numbers.

Criterion 7 – the Turiec River and its tributaries support important populations of indigenous lamprey (*Eudontomyzon mariae*) and fish species (e.g. *Hucho hucho* - one of the most important refugia, *Thymallus thymallus, Cobitis taenia, Alburnoides bipunctatus*, *Chondrostoma nasus*, *Leuciscus*

leuciscus, Lota lota, Phoxinus phoxinus, *Cottus gobio, Cottus poecilopus, Zingel streber*, etc.), showing healthy ecological interactions which are of considerable conservation value;

Criterion 8 – wetlands within the Ramsar Site provide important source of food, spawning ground and nursery for fish (28 species). (see also section 22)

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15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):
Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:
According to biogeographic regionalisation suggested for European Union (Natura 2000 concept) the area belongs to **Alpine biogeographic region** (Carpathian), in more detail phytogeographic district Inner Carpathian Basins (Intracarpaticum), phytogeographic province Western Carpathians (Carpaticum occidentale)

b) biogeographic regionalisation scheme (include reference citation):

phytogeographic regionalisation proposed by FUTÁK (1966) was used; the site is a part of the Alpine biogeographic region - EU Council Directive (92/43/EEC)

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16. Physical features of the site:
Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geology: mostly coarse and fine grained alluvial deposits consisting either of andesites in the uppermost part or of limestones & dolomites and crystalline rocks in the middle and lower reaches. **Geomorphology:** Turiec River alluvial floodplain fills the central part of the hilly Turcianska Kotlina Basin. Largely undisturbed river channel, smooth long profile of the river, pool and riffle pattern and pronounced lateral excursion with meanders, point bars, scrolls, bluffs, meander scars and infrequent oxbow lakes are the basic geomorphic features of the whole Turiec River ecosystem. **Soil types:** [according to ISSS & ISRIC & FAO (1998) classification] mostly calcaric Mollic Fluvisols, Eutric Fluvisols and both Mollic and Fluvic Gleysols, marginally Luvisols and Eutric Cambisols, patches of Histosols (fen); nearly all types are mesobasic. **Origin:** natural and man-made. **Hydrology:** mean annual discharge of 10.28 $m^3.s^{-1}$ (3.66 $m^3.s^{-1}$ in the central reach of Turiec river - year 2002), peak discharges in March - April, minimum discharges in September, occurrence of regular overbank flow stages and temporary water bodies are the basic hydric features. **Water quality:** oligosaprobic to alpha-mesosaprobic; seasonally rather strong water turbidity linked with high content of insoluble matter, even higher since the Turcek water reservoir construction (concomitantly, lower amplitudes of water temperature occur). **Water depth:** (0.1) 0.5 – 1.5 (2) m, seasonal fluctuations up to 2 m. **Climate** (outside the mountains): temperate, mild (average air temperature in January from -4 to -6 °C, in July from 16 to 17 °C), humid (annual rainfall from 780 to 1000 mm) with cold winters.

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17. Physical features of the catchment area:
Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Catchment area: 934 km^2. **Geology:** alluvial deposits and Tertiary (mostly Neogene) sediments in the basin, Triassic limestones and dolomites, Neocomian marls and marly limestones, crystalline rocks (mostly granites and granodiorites), Tertiary andesites and volcanoclastic rocks in mountains. **Geomorphology:** alluvial floodplain & fans and hilland in the basin, both fluvial and karstic relief with nappe structures in surrounding high mountains Lúcanská Malá Fatra Mts, Velká Fatra Mts, Kremnické vrchy Mts and Žiar Mts (up to 1,024.4 - 1,592 m a. s. l.). **Soil types:** ([according to ISSS & ISRIC & FAO (1998) classification] Eutric Fluvisols, calcaric Mollic Fluvisols, Mollic & Fluvic Gleysols, Luvisols and Stagnosols in the basin, Rendzic Leptosols, Eutric & Dystric Cambisols, Cambic & Haplic Podzols and

Skeletic Leptosols in the mountains. **General land use:** mostly agriculture, small urban and rural areas in the basin, forestry, nature conservation, recreation and grazing in the mountains. **Climate:** temperate, mild (annual mean from 6 to 8 °C), humid (annual rainfall from 780 to 900 mm) with cold winters in the basin, cool (annual mean from 2 to 6 °C) and very humid (annual rainfall from 900 to 1600 mm) in the mountains.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Highly positive role in maintaining the regional hydrological balance (particularly the groundwater recharge), flood control and nutrient cycling by sediment trapping & nutrient retention; high ecological productivity of the river ecosystem; maintenance of water quality and soil fertility; supporting the complex food webs; riverbank stabilization by the riparian vegetation; mesoclimate amelioration.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

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)

Deleted:

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

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

M, Tp, Ts, W, U, Xf, 4, N, Xp, 7, Y, 8

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

A well-developed continuum of lotic habitats from crenal through epirhithral and metarhithral to hyporhithral. Lentic habitats include patchily distributed oxbow lakes & marshes (either permanent or seasonal), springs, fens, sedge marshes, seasonally inundated grassland, shrub- and tree-dominated wetlands and peat pits. Principal vegetation types comprise following vegetation units (according to classification of Zurich-Montpellier school): *Epilobietalia fleischeri, Lemnetea, Potametalia, Callitricho-Batrachietalia, Isoeto-Nanojuncetea, Phragmiti-Magnocaricetea, Montio-Cardaminetea, Scheuchzerio-Caricetea fuscae, Molinio-Arrhenathheretea, Salicetea purpureae, Alnetea glutinosae, Alnenion glutinoso-incanae, Bidentetea tripartiti, Convolvuletalia sepium, Petasito-Chaerophylletalia* and *Agrostietalia stoloniferae.*

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Importance of the site for algae (set of characteristic species include *Ceratinis arcus*, *Navicula radiosa*, *Cymbella prostrata*, *Meridion circulare*, *Coleochaete glomerata*, rare species *Chara fragilis*), fungi and bryophytes (e.g., *Fontinalis antipyretica*) is high.

Diverse wetland plant communities (see section 20.) contain a large number of rare, endangered and/or phytogeographically important vascular plant populations (importance at district, provincial or even

higher phytogeographic levels – see also section 14.), e.g., *Adoxa moschatellina, Batrachium trichophyllum, Bidens cernua, Bistorta major, Carex elongata*, *Carex xfrankii and C. xviandrina – first records in Slovakia, Eriophorum angustifolium*, *E. latifolium*, *Geranium palustre, Phellandrium aquaticum*, *Potamogeton pectinatus*, *Serratula tinctoria, Valeriana dioica*, *Zanichellia palustris* subsp. *palustris*, several in a category LR:nt – *Aquilegia vulgaris, Barbarea stricta, Callitriche palustris*, *C. lepidocarpa*, *Epipactis helleborine, Equisetum pratense, Linum austriacum, Parnassia palustris, Peucedanum palustre*, *P. perfoliatus, Scabiosa canescens, Scrophularia umbrosa*, *Veronica scutellata* , *Viola palustris* , *V. rupestris,* etc.

As most important plant communities of the Turiec river ecosystem may be considered particularly the phytocoenoses from the orders *Callitricho-Batrachietalia, Cyperetalia fusci, Caricetalia fuscae, Magnocaricetalia* and *Molinietalia.*

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

More than 1,000 species of benthic organisms (including 450 benthic macroinvertebrate species) were recorded in the Turiec River catchment, among them 54 species not found anywhere else in Slovakia (many of them are endangered, vulnerable or rare – see also section 14.), e. g. *Enchelyodon nodosa*, *Litonotus triqueter*, *Uroleptus mobilis* **(Ciliophora)**. Biogeographically important are especially genera such as *Acentrella* **(Ephemeroptera)**, *Rhabdiopteryx* **(Plecoptera)** and following species: *Baetis pentaphlebodes, B. subalpinus, Cenis pseudorivulorum, Rhithrogena circumtatrica, R. lobata, R. podhalensis, R. reatina* **(Ephemeroptera),** *Arcynopteryx compacta, Brachyptera starmachi* - LR, *Capnia bifrons, C. vidua, Ecdyonurus macani, Leuctra pusilla, Nemoura avicularis, N. dubitans, P. grandis, Protonemura nimborum, Siphonoperla taurica* **(Plecoptera),** *Allogamus starmachi, Drusus monticola, D. biguttatus, Hydatophylax infumatus* **(Trichoptera)**, *Liponeura decipiens, L. vimmeri; Chaetocladius dentiforceps, Cladotanytarsus atridorsum, C. lepidocalcar, Diamesa incallida, D. permacra, Harnischia fuscimana, Paracladopelma nigritula, Procladius (P.) rufovittatus, Rheotanytarsus curtistylus, Sympotthastia zavreli* **(Diptera)**. Biogeographically important molluscan species are: *Radix ampla* and *Trichia villosula*. Three dragonfly **(Odonata)** species (*Agrion splendens, A. virgo, Platycnemis pennipes*) are of bioindication importance, other are noteworthy (*Aeshna grandis* – LR:nt, *Anax imperator, Sympetrum danae* – LR:lc, *S. pedemontanum, Sympecma fusca*). Rare species of **Lepidoptera** are: *Eumedonia eumedon, Acleris laterana, Anticollix sparsata, Bactra robustana, Biselachista albidella, Coleophora alnifoliae, C. siccifoliella, Deltote uncula, Glyphipterix thrasonella, Lampronia luzella, L. praelatella, Phalonidia manniana, Phlyctaenia perlucidalis* and *Stathmopoda pedella*. Rare hymenopterans include *Megabombus distinguendus* and *M. veteranus*; rare species of **Diptera,** *Orthorrhapha* are: *Argyra diaphana, Laphria vulpina, Oedalea hybotina*.

Vertebrate fauna comprises 1threatened **lamprey** (*Eudontomyzon mariae*) and 26 **fish** species, among them several rare ones, e. g. *Hucho hucho* (LR:cd), *Cobitis taenia* (LR:nt), *Alburnoides bipunctatus* (LR:nt), *Chondrostoma nasus* (LR:cd), *Leuciscus leuciscus* (LR:nt) and *Lota lota* (LR:nt). Noteworthy **amphibian** and **reptile** species are: *Bombina variegata* (LR:cd), *Hyla arborea* (LR:nt), *Rana* kl. *esculenta* (LR:nt), *Anguis fragilis* (LR:nt), *Natrix natrix* (LR:lc) and *Lacerta vivipara* (LR:nt). More than 170 **bird** species were found here, among them 78 breeding species. Many of them are important (estimated numbers of breeding pairs are in brackets), e. g. *Ciconia nigra* (LR:nt), *C. ciconia* (LR:lc), *Anas querquedula* (LR:cd), *Falco subbuteo* (0-2 p.; LR:nt), *Perdix perdix* (LR:nt), *Coturnix coturnix* (10-20 p.,LR:nt), *Rallus aquaticus* (AEWA), *Porzana porzana* (LR:lc), *Crex crex* (10-25 p., LR:cd), *Vanellus vanellus* (LR:lc), *Gallinago gallinago* (1-5 p.), *Actitis hypoleucos* (3-6 p., LR:lc), *Alcedo atthis* (3-5 p., LR:nt), *Jynx torquilla, Cinclus cinclus* (LR:lc, Bern2), *Motacilla flava flava* x *cinereocapilla*? (3-10 p., LR:lc), *Motacilla citreola* (0-1 p. - first breeding recorded in Slovakia), *Phoenicurus phoenicurus* (LR:nt), *Saxicola rubetra* (30-40 p., LR:lc), *S. torquata, Muscicapa striata* (30-40 p.), *Lanius collurio* (10-30 p.), some are rare, e. g. *Locustella luscinioides* (3-5 p., LR:lc) and *Carpodacus erythrinus* (Bern2), and some indeterminate,

e. g. *Circus aeruginosus* (LR:lc), *Dendrocopos syriacus, Riparia riparia* (SPEC3), *Sylvia nisoria* and *Remiz pendulinus* (4-8 p.). A group of migrants (see also section 14) is relatively species-rich, but they generally do not occur in large numbers. Noteworthy **mammal** species include *Neomys anomalus* (LR:nt), *N. fodiens* (LR:nt), *Micromys minutus* (LR:lc), *Mustela putorius* and *Meles meles* (VU). The site provides also important refugia for game species (*Anas platyrhynchos, Lepus europaeus, Sus scrofa, Cervus elaphus, Capreolus capreolus*).

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

The site is important for scientific research, nature conservation, angling, recreation & tourism, hunting, education and pastoral agriculture. It also represents the core area of historical landscape of the Turiec Region.

If Yes, tick the box ❑ and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

Slovak state – 17 % (Váh River Catchment Administration at Piešťany, Land Resource Administration at Bratislava),

private owners - 39 %, co-operative farms and other agricultural companies – 1 %, municipal/community ownership – 1 %, unknown owners – 42 %.

b) in the surrounding area:

similar structure of ownership

25. Current land (including water) use:

a) within the Ramsar site:

Nature conservation (see sections 27 and 28); 12 small (tens of inhabitants) to medium size (hundreds of inhabitants) rural settlements and villages adjoining the Turiec river ecosystem (mostly of agricultural functional type); agricultural activities (cattle & sheep pastures, mowed meadows, locally arable land and geese pastures; either housing or agriculture might be the second most important activity), angling,

irrigation, water supply (small-scale, from the middle and lower parts), hunting, forestry, education, cyclotourism.

b) in the surroundings/catchment:
Domestic and industrial water supply with large-scale facilities in the uppermost part of the Turiec River (the Turcek water reservoir) and in Necpalska and Blatnicka Dolina Valleys is probably the most important activity.
Turcianska Kotlina Basin: agricultural production is dominant (barley, clover & clover-grass mixtures, wheat, rape, potatoes, meadows & pastures, etc.); moderate rural urbanization, nature conservation, marginally forestry; fishing, fishponds, irrigation, hunting.
Adjacent mountains: striking dominance of forestry and hunting, lesser extent of nature conservation, water resources conservation & use, high-mountain grazing; several areas are important for both summer and winter recreation, tourism and sport.

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:
a) within the Ramsar site:
point & nonpoint sources of pollution and resulting eutrophication (mostly from agricultural fertilizers, manure pits, local sewage, waste disposal); drainage & reclamation of some land tracts adjacent to the site; illegal fishing; excessive irrigation water demands; inappropriate grazing regimes; secondary plant succession after abandoning traditional land use (mowing, grazing); allochthonous tree species (*Populus* x *canadensis*) in the riparian vegetation belt since 1950s; synanthropization (*Cisrsium arvense, Calamagrostis epigejos,* including neophytes like *Aster lanceolatus, Solidago gigantean, Tanacetum vulgare, Fallopia japonica, Impatiens parviflora, I. glandulifera*) .
b) in the surrounding area:
functioning of the Turcek aqueduct (since 15th century); water supply objects in the vicinity of the Turcek Village since the late 1970s; most importantly, construction and present function of water supply dam in the same location (uppermost part of the catchment, more than 9 millions m^3 of impounded drinking water, 0.5 $m^3 . s^{-1}$ exported outside the catchment, barrier & adverse downstream effects, etc.); large-scale land drainage & reclamation during last 50 years (in both floodplain and hilly land), consolidation of smaller land tracts, extensive use of agricultural chemicals, inappropriate grazing regimes, excessive clearcutting and forest road construction (present changes in land tenure/ownership may induce some opposite trends in the future), extensive exploitation of water resources in the catchment, urbanization, construction of barriers on the river and tributaries downstream of the site.

27. Conservation measures taken:
a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:
In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.
The site consists of following subsites (individual protected areas & categories; legal status of each protected site and its area is indicated in brackets): National Nature Reserve Turiec River (established in 10. 7. 1966 by Act of the Commission of Slovak National Council No. 6527/1966-osv./9, 71.7704 ha) with loosely conceived buffer zone of 875 km^2, currently updated and extended up to Turcek Village and change in its buffer zone within borders of the Ramsar Site by the Regional Office for the Environment in Zilina (Order No. 1/2006 of 10 April 2006, 89.2899 ha, buffer zone 543.3089 ha); National Nature Reserve Klastorske Luky Meadows (established on 27 May 1974 by Order of the Ministry of Culture No. 3625/1974-OP, 85.9915 ha), Protected Site Jazernicke jazierko pond (established on 28 March 1975 by Decree of the District National Committee at Martin No. 46, 0.1618 ha), Protected Site Ivancinske mociare Marshes (established on 3 March 2003 by Order of the Regional Office at Zilina No. 1/2003, 2.93 ha), Protected Site Zarnovica Brook (established on 20 December 1994 by Order of the District Office for the Environment at Martin No. ZP-996/94-Mu, 1.8507 ha).

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ☑;Ib ❑; II ❑; III ❑; IV ❑; V ☑; VI ❑

c) Does an officially approved management plan exist; and is it being implemented?:
The project "Management and conservation of wetland habitats in the Turiec Wetlands Ramsar Site" was implemented by the State Nature Conservancy of the Slovak Republic in 2000 – 2001, supported by the Federation of Field Sports Associations of EU and administered by Wetlands International. As a result, the draft management plan was completed. In 2005 a new Management Plan for the proposed Natura 2000 site Turiec and Blatnicianka and the Ramsar Site Turiec Wetlands was elaborated by the Administration of Velka Fatra National Park and the Administration follows its measures even if it has not been officially approved by relevant authorities. A special restoration plan will be developed under the project "Conservation, restoration and wise use of rich fens in the Slovak Republic", managed by DAPHNE-Institute of Applied Ecology, for the Klastorske luky Meadows NNR.

d) Describe any other current management practices:
Territorial System of Ecological Stability of Slovakia (Decree of the Government of the Slovak Republic No. 319/1992) designates the Turiec river ecosystem as a biocorridor of supraregional importance. Regional Territorial System of Ecological Stability of the Martin District (TOPERCER *et al.* 1993) treats NNR Klastorske Luky Meadows as a part of biocentre of supraregional importance, the sites Pod Brehmi, Kotian - Sokol - Balazovo - Borová Kaluz, Finske Domky and Ustie Dlhej Doliny as biocentres of regional importance and proposed Protected Site Blatnicianka Brook as a biocorridor of regional importance according to Decree of the Government of the Slovak Republic No. 394/1991. The Regional Territorial System of Ecological Stability is currently updated and some new important sites have been included and specified in this document. On the basis of previous projects and *ad hoc* decisions of regional conservation/environment authorities, some manipulations of plant succession and water regime in the reserves have been done. Some restoration of the riparian vegetation (particularly the tree layer) of the Turiec River was made by the River Basin management bodies and other companies (exchange of non-native poplars for indigenous tree species). The Complex Ecological Study of Turiec Region developed in 1994 (EKOPED 1994) is also used as a basic document in decision making process. The most part of the Ramsar site (Turiec River, Blatnicianka, Klastorske Lúky, Ivancinské mociare and Zarnovica) has been included in a proposal for Natura 2000 network (approved by the Government of the Slovak Republic on 17 March 2004). Some 34 % of the Ramsar site overlaps with proposed Site of Community Importance (SKUEV0147 Zarnovica, SKUEV0382 Turiec and Blatnicianka). Proposal for wetland management and environmental monitoring systems was developed in a framework of the Expert Dispatch Program of the Japan Agency for International Cooperation (FUKUSHIMA 2003). Advisory Committee for the Ramsar Site was established in 2000 with participation of stakeholders, environment and water management authorities. The Wetland Center was established at the Administration of the Nature Conservation Agency in 2004.

28. Conservation measures proposed but not yet implemented:
e.g. management plan in preparation; official proposal as a legally protected area, etc.
A new protected area was officially proposed: Protected Site Blatnicianka Brook (26.4405 ha, in 1998 by Administration of the Protected Landscape Area Velka Fatra Mts at Vrutky).

29. Current scientific research and facilities:
e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.
Current research activities include: soil & hydrogeology surveys (private researchers, scientific institutions), wetland plant population / community studies (Slovak National Museum, Andrej Kmet Museum of the Turiec Region, Comenius University, Botanical Garden), landscape-ecological survey & evaluation of stream ecosystems (private researchers), habitat mapping (various researchers), long-term limnological (Comenius University, Technical University in Zvolen & Slovak Academy of Sciences) and ichthyological (Slovak Academy of Sciences, Slovak Anglers Union) research aimed also at influences of the Turcek water reservoir, dipteran, orthopteran, dragonflies and amphibian / reptilian studies (Andrej

Kmet Museum of the Turiec Region), belt transect breeding bird censusing in the Turiec river ecosystem, wintering waterbird counts since early 1990s, circular plot monitoring of breeding & migrating birds since 2001 (Comenius University, Botanical Garden), occassional bird ringing, and mammal (particularly Otter and small mammal) surveys (Administration of the Velka Fatra National Park). A multilevel and multidisciplinary ecological assessment of the Turiec Region was finished in 1994. Inventories of conservation values that preceded special management plans for NNR Klastorske Luky Meadows and Protected Site Jazernicke jazierko were also conducted. The monitoring of groundwater level at NNR Klastorske Luky Meadows is conducted since 1995, surface water level and temperature at Ivancina (since 2001), benthic organisms, fish and birds has been conducting. Within the UNDP/GEF project "Conservation, restoration and wise use of rich fens in the Slovak Republic" inventories and research of characteristics of Klastorske Luky Meadows (eco-hydrological analyses, biodiversity data, soil, soil seed bank analyses etc.) has been conducted since 2005 as a basis for preparation of the restoration plan. Special field station still does not exist.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

The nature conservation education potential of the site is high, it used to be used by the Station of Young Naturalists at Turciansky Peter (now moved to the north to Turcianske Klacany). A network of educational cycling routes was established and promoted in cooperation with Turiec Bicycle Group JUS in Martin, information panels were erected and posters printed in 2002 in a framework of the project "Wetlands awareness and education in the Turiec Wetlands Ramsar Site" funded by the Dutch Ministry of Foreign Affairs and managed by Wetlands International. Excursions and lectures of teachers and students from local and regional elementary and secondary schools are made. Some student research projects (e.g., thesis, PhD dissertations) have been conducted. As a part of the project "Conservation, restoration and wise use of rich fens in the Slovak Republic" raising awareness about the maintenance of peatland biodiversity at local and national levels will be made by means of information leaflets, training of teachers, presentations about the natural values and history of land use of Klastorske Luky Meadows, information panels and trails and publication.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

In addition to angling, hunting there is only a small-scale everyday and/or weekend recreation of local inhabitants without any facility in the site.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

- state (Ministry of Environment, Department of Nature Conservation, Bratislava)
- regional (Regional Office of the Environment, Zilina) and district (District Office of the Environment, Martin and its branch in Turcianske Teplice)

Functional jurisdiction is divided between Ministry of Environment and Ministry of Land Use.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

State Nature Conservancy of the Slovak Republic, Lazovna 10, 974 01 Banska Bystrica; phone: +421-48-47 136 24 , fax: +421-48-415 38 66, e-mail: ivan.koubek@sopsr.sk.

Administration of Velka Fatra National Park, Cachovsky rad 7, 038 61 Vrutky; phone: +421-43-4284 503, Fax: +421-43-4284589, e-mail: jan.kadlecik@sopsr.sk,

Vah River Catchment Administration in Piestany, Branch in Ruzomberok, J. Janceka 36, 034 01 Ruzomberok; phone: +421-44-432 83 74, fax: +421-44-432 33 19, e-mail: ruzomberok@svp.sk.

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

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