



MINISTRY OF THE ENVIRONMENT OF THE SLOVAK REPUBLIC



**STATE OF THE ENVIRONMENT REPORT
SLOVAK REPUBLIC 2005**





*Everybody, while performing an activity, which could endanger, harm or destroy **plants or animals**, or their biotopes, are obliged proceed so that there is no pointless death loss or damage and destruction.*

§ 4 par. 1 of the Act No. 543/2002 Coll. on Nature and Landscape Protection as subsequently amended

• FLORA AND FAUNA

Flora

◆ Endangerment of wild-growing plant taxons

State of endangerment of the particular taxons of the plants is processed according to the current red lists (BALÁŽ, D., MARHOLD, K. & URBAN, P. EDS., 2001: **Red list of plants and animals of Slovakia**. Nature conservation n. 20 (Suppl.), 160 pp.).

State of endangerment of plant taxons in 2005

Group	Total number of taxons		Endangered (IUCN cat.)						Ed
	World (global estimation)	Slovakia	EX	CR	EN	VU	LR	DD	
Cyanophytes and Algae	50 000	3 008	-	7	80	196	-	-	-
Lower fungi	80 000	1 295	-	-	-	-	-	-	-
Higher fungi	20 000	2 469	5	7	39	49	87	90	-
Lichens	20 000	1 508	88	140	48	169	114	14	-
Bryophytes	20 000	909	26	95	104	112	85	74	2
Vascular plants	250 000	3 352	77	266	320	430	285	50	220

Source: SNC SR

Legend:

Ed – endemic species

IUCN categories of endangerment:

EX – extinct

CR – critically endangered

EN – endangered

VU – vulnerable

LR – less endangered

DD – data deficient

The basic **reason** of plants endangerment is especially **the destruction of the sites**. The most of the critically endangered flora species of the SR comes from the biotopes globally endangered in all central Europe.

Comparison of the vascular plant endangerment* in selected countries (%)

	Slovakia	Austria	Hungary	Poland	Czech Rep.
Vascular plants	26.9	39.2	19.8	12.1	43.3

Source: OECD

* Among "endangered" taxons are those taxons classified under categories: CR, EN, and VU under IUCN.

◆ **Protection of plant taxons**

Protection of plant taxons is in the presence regulated by the **Decree of MoE SR No. 24/2003 Coll.** to the *Act on Nature and Landscape Protection No. 543/2002 Coll.* Number of the **state protected taxons** is now **1 368** (vascular plants – 1 208; bryophytes – 46; higher fungi – 85; lichens – 21; algae – 8). Nowadays, there are legislatively protected even the **species of the European importance** of the *92/43/EEC Council Directive on the conservation of natural habitats and of wild fauna and flora*, which does not occur in the SR area. From the total number of 1 368 protected taxons there are **850 taxons** occurring in Slovakia (vascular plants – 713, bryophytes – 23, higher fungi – 85, lichens – 21, algae – 8).

The basic criterion of the plant taxons protection is, except endangerment, also their listing in the lists of proper **international conventions** and **the environmental law of EU**.

Wild-growing plant taxons in Slovakia protected by international conventions and EU regulations (2005)

	Cyanophytes and Algae	Fungi	Lichens	Bryophytes	Vascular plants
In attachment II of Habitats Directive	-	-	-	9	328
In attachment IV of Habitats Directive	-	-	-	-	530
In attachment I and II of CITES	-	-	-	-	110
In attachment I of Bern Convention	-	-	-	8	34

Source: SNC SR

Processed and realized rescue programmes

Rescue programmes (RP)	Vascular plants species
Processed in 2005	There were processed RP for 2 critically endangered species in 2005: <i>Carex pulicaris</i> , <i>Glaux maritima</i>
Realized in 2005	There were realized RP for the following species in 2005: <i>Spiranthes spiralis</i> , <i>Liparis loeselii</i> , <i>Herminium monorchis</i> , <i>Peucedanum arenarium</i> , <i>Artemisia austriaca</i> , <i>Groenlandia densa</i> , <i>Lathyrus transsilvanicus</i> , <i>Ferula sadleriana</i> , <i>Onosma tornense</i> , <i>Astragalus asper</i> , <i>Fritillaria meleagris</i> , <i>Alkana tinctoria</i> , <i>Colchicum arenarium</i> , <i>Dactylorhiza ochroleuca</i> , <i>Orchis coriophora</i> subsp. <i>coriophora</i> , <i>Ophrys holubyana</i> , <i>Drosera anglica</i> , <i>Rhynchosphora alba</i> , <i>Scheuchzeria palustris</i> , <i>Lycopodiella inundata</i> , <i>Pulsatilla zimmermannii</i> , <i>Pulsatilla pratensis</i> subsp. <i>flavescens</i> , <i>Orchis palustris</i> , <i>Orchis elegans</i> , <i>Anacamptis pyramidalis</i> , <i>Carex chordorhiza</i>

Source: SNC SR

Actual problem endangering the diversity of plant species in last years has been becoming **invasive species**. **Mapping** of invasive species in Slovakia in 2005 was done in 42 small-size protected areas, and in other 148 sites. The following species were recorded most frequently: *Falopia japonica*, *Impatiens parviflora*, *I. glandulifera*, *Helianthus tuberosus*, *Ailanthus altissima*, *Echinocystis lobata*, *Solidago canadensis*, and *S. gigantea*.

There was observed approximately **175 allochthonous species** of plants in Slovakia, whereof in the presence about **20** species behaves as invasive ones. **The most spread** invasive plant species in our country are *Fallopia japonica*, *Helianthus tuberosus*, *Heracleum mantegazzianum*, *Impatiens parviflora*, *Solidago canadensis*, *Fallopia sachalinensis*, *Impatiens glandulifera*, *Solidago gigantea*, *Aster novi-belgii*, *Aster lanceolatus*, *Robinia pseudoacacia*, *Ailanthus altissima*, *Rudbeckia laciniata*.

Fauna

◆ Endangerment of wild animals

State of endangerment of the particular animal taxons is processed similarly as the endangerment of the plants according to the current red lists. State of endangerment of the molluscs (ŠTEFFEK, 2005) and Orthoptera (Gavlas & Krištín, 2005) draws on the updated red lists compiled in 2005.

State of endangerment of the particular invertebrate taxons in 2005

Taxons Group	Number of taxons		Categories of endangerment (IUCN)							Endang erment total	Endang. %
	World	SR	EX	CR	EN	VU	LR	DD	NE		
Mollusca	128 000	277	2	26	22	33	45	8	135	136	49.1
Aranea	30 000	934	16	73	90	101	97	46	-	424	45.4
Ephemers	2 000	132	-	8	17	16	-	-	-	41	31.1
Odonata	5 667	75	4	-	14	11	13	5	-	47	62.7
Orthoptera	15 000	118	-	6	7	10	20	10	-	53	44.9
Heteroptera	30 000	801	-	14	7	6	4	-	-	31	3.9
Coleoptera	350 000	6 498	2	15	128	500	81	2	-	728	11.2
Hymenoptera	250 000	5 779	-	23	59	203	16	-	-	301	5.2
Lepidoptera	100 000	3 500	6	21	15	41	17	11	-	111	3.2
Diptera	150 000	5 975	-	5	10	71	19	93	-	198	3.3

Source: SNC SR

State of endangerment of the particular vertebrate taxons in 2005

Taxons Group	Number of taxons		Categories of endangerment (IUCN)							Total	%
	World ⁴⁾	SR	EX	CR	EN	VU	LR	DD	NE		
Lampreys		4	-	4	-	-	-	-	-	4	100.0
Pisces	25 000	79	6	7	8	1	22	2	-	45 ¹⁾	57.0
Amphibians	4 950	18	-	-	3	5	10	-	-	18	100.0
Reptiles	7 970	12	-	1	-	4	6	-	-	11	91.6
Birds ²⁾	9 946	219	2	7	23	19	47	4	19	121	55.3 (35.5 ³⁾)
Mammals	4 763	90	2	2	6	12	27	15	4	68	75.6

Source: SNC SR

¹⁾ taxon has two forms listed under two different categories (EX, CR)

²⁾ only nesting birds – of total number of 341 birds of Slovakia, only the all 219 species of nesting birds were assessed

³⁾ % of total number of birds 341

⁴⁾ Source: UNEP – GBO

IUCN Categories:

EX - extinct taxon

CR - critically endangered taxon

EN - endangered taxon

VU - vulnerable taxon

LR - lower risk taxon

DD - data deficient taxon

NE - non evaluated taxon

Comparison of vertebrates endangerment ¹⁾ in selected countries (%) (2002)

	Slovakia	Austria	Hungary	Poland	Czech Rep.
Invertebrates	5.2	-	> 0.9	11.7	0.4
Pisces	23.8	65.5	32.1	36.4	29.2
Amphibians	44.4	100.0	100.0	0	90.0
Reptiles	41.7	87.5	100.0	33.3	100.0
Birds	14.4	37.0	18.8	26.8	55.9
Mammals	22.2	35.4	71.1	18.1	33.3

Source: OECD

¹⁾ “endangered” taxons include species under categories: CR, EN, and VU under IUCN

Austria) only autochthonous species; endangerment of the mammals: including EX and/or extinct species; birds: only nesting species in the area of the country; pisces: only freshwater ones, invertebrates: insecta, decapoda, mysidacea and mollusca.

Czech Rep.) data refer to autochthonous species and EX including.

Hungary) Endangerment of the mammals: protected and highly protected species; pisces: freshwater species, whereof there are 2 autochthonous species; "Endangered" pisces species including undetermined species. "Endangered" reptiles and amphibians refer to the protected and highly protected species.

Poland) mammals: only autochthonous species (from 89 species); birds: only nesting species (total number of species has ever been observed in Poland: 418); pisces: freshwater autochthonous species besides lampreys (from 78 freshwater species). invertebrates: estimation.

Slovakia) Pisces: only freshwater species

◆ Protection of animal species

Protection of animal species is regulated by the **Decree of MoE SR No. 24/2003 Coll.**, which implements the *Act on nature and landscape protection No. 543/2002 Coll.* The number of **animal taxons under state protection** has increased to **792 taxons** on the level of species and subspecies and to **12 taxons** on the level of genus.

Animal wildlife in Slovakia protected by international conventions and EU regulations (2005)

	Invertebrates	Pisces	Amphibians	Reptiles	Birds	Mammals
In annex II of Habitats Directive	48	24	5	1	-	22
In annex IV of Habitats Directive	46	1	10	8	-	28
In annex I of Birds Directive	-	-	-	-	112	-
In annexes I and II of CITES	2	-	-	-	61	6
In annexes II and III of Bern Convention	26	36	11	8	120	26
In annexes II and III of Bonn Convention	-	3	-	-	54	-
In annex of AEWA*	-	-	-	-	122	-

* AEWA – African-Eurasian Migratory Water Bird Agreement

Source: SNC SR

Rescue programmes in 2005 were realized for the following taxons: *Rupicapra rupicapra tatrica*, *Marmota marmota*, *Lutra lutra*, *Aquila heliaca*, *Aquila chrysaetos*, *Aquila pomarina*, *Falco cherrug*, *Falco peregrinus*, *Otis tarda*, *Crex crex*, *Emys orbicularis* a *Paranssius apollo*.

In **breeding** and **rehabilitation stations** operated by the nature and landscape protection organizations (including ZOO Bratislava) there were **adopted** in 2005 altogether **538** injured individuals or otherwise disabled animals. Back to wild nature there were **released** altogether **281** individuals and there was spent more than 330 thous. SKK.

There was provided **the guarding** of 92 nests of 8 bird of prey species (*Aquila heliaca*, *Aquila chrysaetos*, *Aquila pomarina*, *Haliaeetus albicilla*, *Falco peregrinus*, *Falco vespertinus*, *Circus pygargus*, *Milvus milvus*) - information only for the organization organs of SNC SR. There were successfully **brought up** 108 nestlings, which is in average 1.2 brought up nestlings per nest and there were **spent** about 390 thous. SKK.

In term of in situ animal preservation in 2005 there were organized **transfers and restitutions** of protected and endangered animals into proper nature biotopes by nature and landscape protection organizations. There were these animals – *Emys orbicularis*, *Spermophilus citellus*, *Bison bonasus*, *Castor fiber*, *Amphibia* and *Pisces* and there was **spent** altogether 236 thous. SKK.

Within the **improvement of nesting and living conditions** of animals, there were realized 326 actions, while there was invested 390 thous. SKK.

In **breeding stations** operated in cooperation with the nature protection organizations there were **situated** 2 species of the protected and endangered animals (*Emys orbicularis* and *Parnassius apollo*). Into the wilderness there were **released** 17 brought up individuals with investments of altogether 35 thous. SKK.

In concern of preventing the collisions of **migrating Amphibians** with the car transport, **over 18 kilometres of barriers** in total were build in 2005, with investment of more than 130 thous. SKK.

◆ **Numbers and quotas for fishing and hunting game**

Also in 2005, monitoring of game stock and fish continued as the basis for coordination of hunting or fishing of the selected species in hunting and fishing territories.

To 31st March 2005, the **spring stock numbers** of all the ungulate game species were higher in comparison to the previous year. Hunting for the rare animal species is strictly regulated (for more information see the chapter Forestry/Hunting).

Spring stock of game and game hunting as of March 31, 2005 (pieces)

Species	2003		2004		2005	
	stock	hunting	stock	hunting	stock	hunting
Deer	38 030	13 064	38 264	13 118	39 738	14 030
Fallow deer	7 501	2 109	7 475	2 011	8 425	2 529
Roe deer	83 756	20 770	84 547	20 269	85 124	20 659
Wild boar	28 779	21 118	27 415	23 727	27 116	22 551
Brown hare	219 450	28 144	201 316	31 842	199 226	36 511
Grey partridge	22 594	1 042	18 622	832	17 293	484
Pheasant	204 856	115 598	180 105	116 050	181 374	143 373
Chamois	553	8	522	7	625	12
Bear	1 318	13	1 419	34	1 483	35
Wolf	973	112	1 158	86	1 165	74
Otter	304	0	315	0	343	0

Source: SO SR

Amount of the fish **caught** in the fish ponds, water dams and water flows for economic and sport purposes achieved **2 652 t** in 2005. The waters were **stocked** by **28 741 377 pieces of setting**.

Fishing for the economic and sport purposes in 2005 (t)

Fish species	2003		2004		2005	
	total	of this SFA*	total	of this SFA*	total	of this SFA*
Fish total	2 528	1 631	2 783	1 565	2 652	1 663
Of these:						
Carp	1 186	1 040	1 360	988	1 281	1 092
Trouts	743	50	878	52	800	49
Crucians	101	71	80	75	76	71
White amur	36	34	28	28	33	24
Bighead carps	10	4	8	5	12	6
Sheat fish	36	35	36	35	37	35
Maskalonge	59	56	66	60	74	67
Sand-eel	78	78	78	76	83	82
Grayling	12	12	9	8	13	7
Huchen	1	1	1	1	1	1
Breams	99	98	98	98	106	105
Torgoch	1	0	0	0	9	1
Chevins	27	27	21	21	16	16
Other fish species	139	125	120	117	111	107

*SFA – Slovak Fishing Association

Source: SO SR