

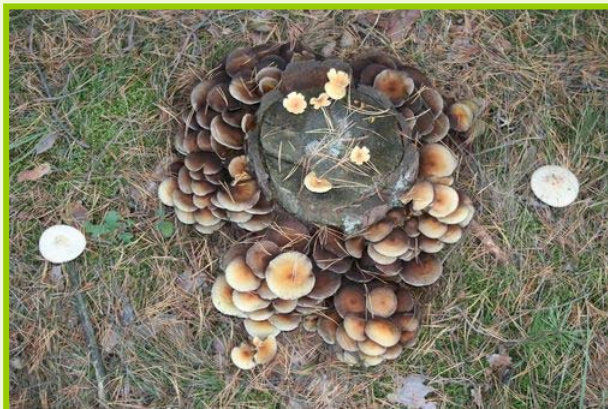


MINISTRY OF THE ENVIRONMENT OF THE SLOVAK REPUBLIC



**STATE OF THE ENVIRONMENT REPORT  
SLOVAK REPUBLIC 2006**





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

#### State of endangerment of plant taxons in 2006

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 endangered habitats** in Slovakia include: inland salt marshes and salt meadows, Carpathian travertine salt lakes, inland Pannonic sand dunes, alpine and sub-alpine grassland, alpine snow beds, xeric grassland and scrub vegetation on calcareous substrate with species of the *Orchideaceae* family, active raised bogs, transition mires and quaking bogs, Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*, alkaline fens, petrifying springs with tufa formation.

**Comparison of the vascular plant endangerment\* in selected countries (2004)**

	Slovakia	Austria	Hungary	Poland	Czech Rep.
Vascular plants (%)	30.3	33.4	19.8	11.2	42.5

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.* as amended by Resolution 492/2006 Coll. Number of the **state protected taxons** is now **1 406** (vascular plants – 1 272; bryophytes – 47; higher fungi – 70; lichens – 17). There are **850 taxons** occurring in Slovakia (vascular plants – 713, bryophytes – 23, higher fungi – 70, lichens – 17).

**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 <b>Habitats Directive</b>	-	-	-	9	328
In attachment IV of <b>Habitats Directive</b>	-	-	-	-	530
In attachment I and II of <b>CITES</b>	-	-	-	-	110
In attachment I of <b>Bern Convention</b>	-	-	-	8	34

Source: SNC SR

There were processed and realized **rescue programmes** for the following species of vascular plants:

Rescue programmes (RP)	Vascular plants species
<b>Processed in 2006</b>	There were processed RP for 1 critically endangered species in 2006: <i>Pedicularis sceptrum-carolinum</i> (still not approved)
<b>Realized in 2006</b>	There were realized RP for the following species in 2006: <i>Orchis coriophora</i> subsp. <i>coriophora</i> , <i>Ophrys holubyana</i> , <i>Drosera anglica</i> , <i>Rhynchospora 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> , <i>Carex pulicaris</i> , <i>Glaux maritima</i>

Source: SNC SR

Actual problem endangering the diversity of plant species in last years has been becoming **invasive species**. In 2006, **elimination** of invasive plant species was carried out at 52 sites in protected areas of the size of almost 80 ha. This activity followed up on the measures implemented also in the previous years. 18 species of introduced and invasive plant species were thus eliminated. Outside the protected areas, eliminated were 7 species of invasive plants at 58 sites of the size of 50 ha.

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

### State of endangerment of the particular invertebrate taxons in 2006

Taxons	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	45	-	422	45.2
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	490	81	2	-	718	11.1
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

\* without the category of NE

### State of endangerment of the particular vertebrate taxons in 2006

Taxons	Number of taxons		Categories of endangerment (IUCN)							Total	%
	World <sup>4)</sup>	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 <sup>1)</sup>	57.0
Amphibians	4 950	18	-	-	3	5	10	-	-	18	100.0
Reptiles	7 970	12	-	1	-	4	6	-	-	11	91.6
Birds <sup>2)</sup>	9 946	219	2	7	23	19	47	4	19	121	55.3 (35.5 <sup>3)</sup> )
Mammals	4 763	90	2	2	6	12	27	15	4	68	75.6

Source: SNC SR

<sup>1)</sup> taxon has two forms listed under two different categories (EX, CR)

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

<sup>3)</sup> % of total number of birds 341

<sup>4)</sup> 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 <sup>1)</sup> in selected countries (%) (2004)**

	Slovakia	Austria	Hungary	Poland	Czech Rep.	EU*
<b>Invertebrates</b>	5.3	-	> 0.9	5.6	0.3	13.9
<b>Pisces</b>	24.1	41.7	32.1	14.5	29.2	38.1
<b>Amphibians</b>	44.4	100.0	100.0	-	90.0	46.7
<b>Reptiles</b>	38.5	75.0	100.0	33.3	100.0	85.7
<b>Birds</b>	14.4	26.0	18.8	14.5	55.9	100.0
<b>Mammals</b>	22.2	22.0	71.1	15.7	33.3	82.4

Source: OECD

<sup>1)</sup> "endangered" taxons include species under categories: CR, EN, and VU under IUCN

\* proportion of globally endangered species according to IUCN, included in the European instruments (EU directives, Bern convention)

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.

#### ◆ 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** is now **808 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 (2006)**

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

\* AEWA – African-Eurasian Migratory Water Bird Agreement

Source: SNC SR

**Rescue programmes** in 2006 were realized for the following taxons: *Marmota marmota*, *Lutra lutra*, *Aquila chrysaetos*, *Aquila pomarina*, *Falco cherrug*, *Falco peregrinus*, *Crex crex*, *Emys orbicularis*, *Paranssius apollo* and *Umbra krameri*.

In **breeding** and **rehabilitation stations** operated by the nature and landscape protection organizations (including ZOO Bratislava and ZOO Bojnice) there were **adopted** in 2006 altogether **589** injured

individuals or otherwise disabled animals. Back to wild nature there were **released** altogether **351** individuals and there was spent more than 420 thous. SKK.

There was provided **the guarding** of 75 nests of 6 bird of prey species (*Aquila heliaca*, *Aquila chrysaetos*, *Aquila pomarina*, *Haliaeetus albicilla*, *Falco peregrinus*, *Falco vespertinus*) - information only for the organization organs of SNC SR. There were successfully **brought up** 104 nestlings, which is in average 1.4 brought up nestlings per nest and there were **spent** about 300.4 thous. SKK.

In term of in situ animal preservation in 2006 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 – *Spermophilus citellus*, *Bison bonasus*, *Castor fiber*, *Amphibia* and there was **spent** altogether 204 thous. SKK.

Within the **improvement of nesting and living conditions** of animals, there were realized 1 332 actions, while there was invested more than 700 thous. SKK.

In concern of preventing the collisions of **migrating Amphibians** with the car transport, **over 23 kilometres of barriers** in total were build in 2006, with investment of about 180 thous. SKK.

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

To 31<sup>st</sup> March 2006, the **spring stock numbers** of the ungulate game species, without Fallow deer species, were higher in comparison to the previous year. Hunting for the rare animal species is strictly regulated.

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

Species	2003		2004		2005		2006	
	stock	hunting	stock	hunting	stock	hunting	stock	hunting
Deer	38 030	13 064	38 264	13 118	39 738	14 030	41 105	12 888
Fallow deer	7 501	2 109	7 475	2 011	8 425	2 529	8 010	2 208
Roe deer	83 756	20 770	84 547	20 269	85 124	20 659	87 324	17 313
Wild boar	28 779	21 118	27 415	23 727	27 116	22 551	27 175	17 820
Brown hare	219 450	28 144	201 316	31 842	199 226	36 511	208 946	17 560
Grey partridge	22 594	1 042	18 622	832	17 293	484	15 579	10
Pheasant	204 856	115 598	180 105	116 050	181 374	143 373	187 139	110 113
Chamois	553	8	522	7	625	12	665	8
Bear	1 318	13	1 419	34	1 483	35	1 577	16
Wolf	973	112	1 158	86	1 165	74	1 219	91
Otter	304	0	315	0	343	0	380	0

Source: SO SR

Amount of the fish **caught** in the fish ponds, water dams and water flows for economic and sport purposes achieved **2 979 t** in 2006. The waters were **stocked** by **41 327 114 pieces of setting**.

## Fishing for the economic and sport purposes in 2006 (t)

Fish species	2003		2004		2005		2006	
	total	of this SFA *	total	of this SFA *	total	of this SFA *	total	of this SFA *
<b>Fish total</b>	<b>2 528</b>	1 631	<b>2 783</b>	1 565	<b>2 652</b>	1 663	<b>2 979</b>	1 697
Of these:								
<b>Carp</b>	1 186	1 040	1 360	988	1 281	1 092	1 597	1 169
<b>Trouths</b>	743	50	878	52	800	49	837	49
<b>Crucians</b>	101	71	80	75	76	71	117	71
<b>White amur</b>	36	34	28	28	33	24	39	33
<b>Bighead carps</b>	10	4	8	5	12	6	12	4
<b>Sheat fish</b>	36	35	36	35	37	35	34	33
<b>Maskalonge</b>	59	56	66	60	74	67	62	60
<b>Sand-eel</b>	78	78	78	76	83	82	65	64
<b>Grayling</b>	12	12	9	8	13	7	8	7
<b>Huchen</b>	1	1	1	1	1	1	1	1
<b>Breams</b>	99	98	98	98	106	105	95	94
<b>Torgoch</b>	1	0	0	0	9	1	2	1
<b>Chevins</b>	27	27	21	21	16	16	16	16
<b>Other fish species</b>	139	125	120	117	111	107	94	95

\*SFA – Slovak Fishing Association

Source: SO SR

