

## • FLORA, FAUNA AND PROTECTED PARTS OF NATURE

### Key questions and key findings

#### What is the state of endangerment of wild growing plant taxons?

- In the **90-ties** the red lists of Bryophytes and seed-bearing plants of Slovakia then valid contained 1 009 threatened and rare species. In the year **2001**, still valid red list of plants was published. The list categorizes as many as 3 057 species of plants into different threat categories (there have been added categories that were missing). Of this, threats to **non-vascular plants** represent **17.6%** and threats to **vascular plants** represent **42.6%**. In **2012**, preparation of red lists of threatened habitats, species of plants and animals was initiated for the whole Carpathian region.

#### What is the state of endangerment of the animal wildlife?

- In the **90-ties** the valid red lists of animals contained altogether **466** threatened species of **invertebrates** and **153** species of **vertebrates**. The still valid red lists were published in **2001**. According to them, **2 058** species of **invertebrates** (**8.5%**) are threatened along with **257** species of **vertebrates** (**60.9%**). Increase in the numbers does not necessarily mean increased threats to species but rather their thorough knowledge and their consequent addition in the lists.

#### What is the trend in the network of protected areas in Slovakia?

- In the period of the years **1992 - 2012** in the legislation addressing nature protection and also protected areas was amended and revised on two occasions. Since 1955 **until 1994** there were categories of protected areas different than the ones that exist today. As of 1994, the overall number of declared **protected areas** was **922** with the size of **1 306 741 ha** (**26.7%** of the size of Slovakia). In 1994, a new act on nature and landscape protection revised the categories of protected areas. Currently, in Slovakia there are **1,128 protected areas** within the national network in the size of **1 142 151 ha**, which takes up **23.3%** of the size of Slovakia. Reduction has been mainly provoked by cancelling PLA protective zones as well as adjustments to "large-size" protected areas (NP and PLA). **From 2011 to 2012**, the situation with "large-size" PA (protected areas) has not changed. In the case of so-called "small-size" PA there was an increase by 14 areas (i.e. by 3 578 ha).

#### What is the trend in the number of protected trees?

- Since **2004** until 2012 there were **declared 15** protected trees (PT) and **49 were removed**, which **reduced** the number to **446** (mainly due to the extinction of the object to be protected). Compared to the previous year, there has been a reduction by 2 PT (from the category of "degraded").

### Flora

#### ◆ Monitoring of plant taxons

**Monitoring of 35 plant species** of the European importance was carried out at about 200 localities in 2012.

### ◆ Endangerment of wild growing plant taxons

State of endangerment for individual taxons is elaborated on the basis of the *Red List of Plants and Animals of Slovakia, 2001*.

#### Overview of endangerment for individual plant taxons

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	1 585	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

Level of **endangerment of non-vascular plants** in Slovakia is presently **17.6%** (including fungi), or 11.3% (for the CR, EN, and VU categories). Level of **endangerment of vascular plants** is **42.6%**, or **30.3%** (for the CR, EN, and VU categories).

Recently, preparation of **red lists** started within the BioREGIO Carpathians project funded from a South-Eastern Europe international programme. Updated national lists will become the basis for the whole-Carpathian red lists.

#### Comparison of the vascular plant endangerment\* in selected countries

	Slovakia	Austria	Hungary	Poland	Czech Rep.
Vascular plants (%)	30	33	7	11	42

Source: OECD

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

### ◆ Protection of plant species

Number of the **state protected species** is now **1 419** (vascular plants – 1,285; bryophytes – 47; higher fungi – 70; lichens – 17). Also the species of European importance classified under the **Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora** not found in Slovakia are protected by pertinent legislation. Of total number of 1 419 protected species, **823 species** are found in Slovakia (713 of vascular plants, 23 of bryophytes, 70 of higher fungi, 17 of lichens).

#### Wild growing plant taxons in Slovakia protected by international conventions and EU regulations

	Cyanophytes and Algae	Fungi	Lichens	Bryophytes	Vascular plants
In attachment II of <b>Habitats Directive</b>	-	-	-	9	40
In attachment IV of <b>Habitats Directive</b>	-	-	-	-	42
In attachment V of <b>Habitats Directive</b>	-	-	-	2*	3**
In attachment I and II of <b>CITES</b>	-	-	-	-	110
In attachment I of <b>Bern Convention</b>	-	-	-	8	35

\* The entire genus *Sphagnum*, excluding *Leucobryum glaucum*

Source: SNC SR

\*\* The entire genus *Lycopodium*, excluding *Artemisia eriantha*, *Galanthus nivalis*

**State of protection of plants of European importance, 2004-2006<sup>1)</sup> (%)**

Taxons	Favourable	Inadequate	Bad	Unknown	Total
Vascular plants	10	40	10	40	100
Other plants	20	40	30	10	100

1) Assessment of 200 species registered pursuant to article 17 of the Habitat directive  
New reporting for the European Commission for the years 2007 - 2012 will take place in 2013

Source: MoE SR

Within the implementation of **transfers** of endangered plant species, there was a transfer of 21 individual plants within 5 species (*Fritillaria meleagris*, *Onosma visianii*, *Pulsatilla grandis*, *Adonis vernalis*, *Campanula xylocarpa*). Total costs of the transfers reached approximately 199 EUR.

In 2012, no drafted **rescue programmes** were submitted for approval. There were implemented rescue programmes for 9 species of vascular plants (*Liparis loeselii*, *Tephroses longifolia* ssp. *moravica*, *Herminium monorchis*, *Spiranthes spiralis*, *Drosera anglica*, *Radiola linoides*, *Lycopodiella inundata*, *Alkanna tinctoria* and *Colchicum arenaria*).

**◆ Invasive plant species**

In 2012, the total of 85 sites of invasive plant species of the size of 662.5 ha, and 106 sites of areas with the first degree of protection of the size of 565 ha were **mapped** all over the protected areas or their protective zones.

Protection of natural species living in ecosystems has been performed through **regulating the occurrence** of non-native plant species. Elimination of the non-native invasive and invasive-like plant species was carried out at 145 sites (94 sites in protected areas, 51 sites out of protected areas). Interventions were carried out in the area of 1 201.5 ha (89.21 ha in protected areas and 1 112.28 ha out of protected areas).

In 2012, the **National strategy for invasive non-native plants** was **revised**. The issue of invasive species at the same time became part of the drafted revised National biodiversity strategy in the Slovak Republic for the years 2012 - 2020.

**Overview of the most spread invasive plant species**

	Name
The most spread invasive species	<i>Fallopia japonica</i>
	<i>Fallopia sachalinensis</i>
	<i>Helianthus tuberosus</i>
	<i>Impatiens glandulifera</i>
	<i>Impatiens parviflora</i>
	<i>Solidago gigantea</i>
	<i>Solidago canadensis</i>
	<i>Aster novi-belgii</i>
	<i>Aster lanceolatus</i>
	<i>Heracleum mantegazzianum</i>
	<i>Asclepias syriaca</i>
	<i>Stenactis annua</i>
	<i>Galinsoga parviflora</i>
	<i>Bidens frondosa</i>
	<i>Parthenocissus quinquefolia</i>
	<i>Robinia pseudoacacia</i>
<i>Negundo aceroides</i>	

	<i>Ailanthus altissima</i>	
Total	number of known taxons of invasive sp. in the SR	% of total number of vascular plants taxons
	125*	3.7

Data as shown in the publication **Gojdičová, E., Cvachová, A., Karasová, E., 2002: Zoznam nepôvodných, invázných a expanzívnych cievnatých rastlín Slovenska 2.** and includes categories of invasive taxons (neophytes - 28, archaeophytes - 19) potentially (regionally) invasive taxons - 49, and expansive taxons - 29.

## Fauna

### ◆ Monitoring of animal species

**Monitoring of animal species** involved the monitoring of **nest/nesting boxes occupancy** and the monitoring of the **nests of the bird of prey**. Monitoring the number of **dead birds** under electricity poles within the monitored routes was continuously performed, along with monitoring of the effectiveness of the adopted technical measures. Functionality of the existing **fish passes** was monitored at water courses. Slovak Caves Administration carried out monitoring of **bats** in 15 caves.

### ◆ Endangerment of animal wildlife

State of endangerment for individual animal species is elaborated on the basis of actual red lists (2001, 2005, 2008).

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

Taxons Group	Number of taxons		Categories of endangerment (IUCN)							Endangerment 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

\* without the category of NE

Source: SNC SR

**Endangerment of invertebrates** in Slovakia is now about 8.5% (or **6.4%** just within CR, EN and VU categories). For **vertebrates**, 60.9% of them are endangered (or **23.5%** when limited to only CR, EN and VU categories).

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

Taxons Group	Number of taxons		Categories of endangerment (IUCN)							Endangerment total*	Endang. %
	World <sup>1)</sup>	SR	EX	CR	EN	VU	LR	DD	NE		
Lampreys		4	-	-	1	1	1	-	-	3	75.0
Pisces	25 000	79	4	-	6	9	40	-	-	59	74.7
Amphibians	4 950	18	-	-	3	5	10	-	-	18	100.0
Reptiles	7 970	12	-	1	-	4	6	-	-	11	91.7
Birds <sup>2)</sup>	9 946	219	2	7	23	19	47	4	19	102	46.6
Mammals	4 763	90	2	2	6	12	27	15	4	64	71.1

\* without the category of NE

Source: SNC SR

1) Source: UNEP – GBO

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

In the 90-ties, red lists of animals contained altogether **466** threatened species of **invertebrates** and **153** species of **vertebrates**. Revised red lists were published in **2001**. They list **2 085** threatened **invertebrates** and **257** species of **vertebrates** today. Increase in the numbers does not necessarily mean increased threats to species but rather their thorough knowledge and their consequent addition to the lists (especially in invertebrates).

In **2012**, preparation of red lists of threatened animals for the whole Carpathian region was started. It involved works of experts on the assessment of selected animal categories - Molluscs, Spiders, Malacostraca, Dragonflies, Day butterflies, Lampreys, Fishes, Amphibians, Reptiles, Birds and Mammals.

#### Comparison of animals endangerment<sup>1)</sup> in selected countries (%)

	Slovakia	Austria	Hungary	Poland	Czech Rep.
<b>Invertebrates</b>	5.3	-	> 0.9	-	13.1
<b>Pisces</b>	24.1	50.6	43.2	21.0	41.5
<b>Amphibians</b>	44.4	60.0	27.8	-	61.9
<b>Reptiles</b>	38.5	64.3	33.3	33.3	72.7
<b>Birds</b>	14.0	27.7	14.5	7.8	50.0
<b>Mammals</b>	21.7	22.0	37.8	13.5	20.0

Source: OECD

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

Austria) invertebrates: *insecta*, *decapoda*, *mysidacea* and *mollusca*, birds: only nesting birds

Czech Rep.) data refer to autochthonous species and EX including, birds: only nesting birds, pisces: including lampreys

Hungary) birds: all species recorded in Hungary since 1800

Poland) pisces: including lampreys.

#### ◆ Protection of animal species

The number of animal taxons under state protection is now **813** 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

	Invertebrates	Pisces	Amphibians	Reptiles	Birds	Mammals
In annex II of Habitats Directive	53	23	5	1	-	24
In annex IV of Habitats Directive	50	1	10	9	-	46
In annex I of Birds Directive <sup>1)</sup>	-	-	-	-	114	-
In annexes I and II of CITES	2	2	-	1	53	5
In annexes II and III of Bern Convention	33	38	19	12	357	65
In annexes II and III of Bonn Convention	-	3	-	-	209	24
In annex of AEWA	-	-	-	-	129	-

<sup>1)</sup> including migratory birds

Source: SNC SR

#### State of protection of animals of European importance<sup>1)</sup>, 2004-2006 (%)

	Favourable	Inadequate	Bad	Unknown	Total
<b>Mammals</b>	5	30	20	45	100
<b>Pisces</b>	10	10	0	80	100
<b>Amphibians</b>	5	70	20	5	100
<b>Reptiles</b>	30	60	10	0	100
<b>Mollusca</b>	30	10	30	30	100
<b>Arthropoda</b>	30	10	30	30	100
<b>Other species</b>	0	100	0	0	100

Assessment of 200 species registered pursuant to article 17 of the Habitat directive

Source: MoE SR

New reporting for the European Commission for the years 2007 - 2012 will take place in 2013

#### ◆ Care of protected and threatened animal species

In 2012, no new animal **rescue programmes** were drafted. 3 rescue programmes were processed (for *Bison bonasus*, *Castor fiber* and butterflies of *Maculinea* genus).

In **rehabilitation stations** operated by the nature and landscape protection organizations there were **adopted** in 2012 altogether **812** injured individuals or otherwise disabled animals (165 animals more than in 2011). Back to wild nature there were **released** altogether **474** individuals (increase by 88 animals).

In 2012, **guarding** of 97 nests of 6 bird of prey species (*Aquila chrysaetos*, *Aquila pomarina*, *Aquila heliaca*, *Haliaeetus albicilla*, *Falco peregrinus*, *Buteo buteo*) within the SNC SR organisation units was provided. There were successfully **brought up 85 nestlings**. Financial costs for guarding the nests of the bird of prey achieved more than 3 000 EUR.

In term of in situ animal preservation in 2012 there were organized **transfers** of frogs and bats and **restitutions** of *Rhodeus sericeus* into proper nature biotopes by nature and landscape protection organizations.

In the area of practical care of the protected animal species, State Nature Conservancy of the SR ensures the **installation of foil barriers** in the problematic areas of roads at the time of spring migration of amphibians and the subsequent carrying of amphibians, mainly frogs, across the road. In total, **81 246 of amphibians were carried over** in 2012 (this was 16 thous. more than in the previous year) and 16 846 m of barriers were installed, which is an increase by 106%.

#### ◆ Game stock and hunting and fishing

In 2012, it was possible to stop the undesirable growth in **spring stock** of the ungulate game. The number of almost all animal species was stabilised. Hunting for the rare animal species is strictly regulated.

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

Species	2009		2010		2011		2012	
	stock	hunting	stock	hunting*	stock	hunting	stock	hunting*
Deer	46 207	18 854	51 856	19 374	58 106	22 157	58 932	24 010
Fallow deer	10 511	3 654	11 240	4 214	12 831	4 984	13 027	5 747
Roe deer	96 650	27 035	100 080	22 382	110 943	23 658	110 989	23 960
Wild boar	31 652	31 473	34 577	38 903	37 092	36 390	37 667	49 997
Brown hare	205 028	32 570	196 994	11 965	177 747	13 219	176 783	14 207
Wild duck	-	-	-	-	0	10 743	53 791	19 797
Grey partridge	12 562	342	10 956	419	9 199	450	6 590	782
Pheasant	200 863	115 730	186 494	88 694	162 986	77 063	168 538	79 369
Chamois	882	11	823	0	745	0	827	0
Bear	1 940	27	2 001	47	2 067	8	2 080	47
Wolf	1 698	130	1 823	149	2 065	118	2 006	149
Northern lynx	1 558	0	1 616	0	1 724	0	1 667	0
Catamount	2 480	0	2 715	0	2 963	0	3 191	0
Moorcock	1 343	1	1 211	0	1 260	0	1 232	0
Wood-grouse	1 011	0	902	0	814	0	835	0
Beaver	-	-	-	-	1 767	2	1 851	0

\* Actual hunting in numbers, excluding other kills

Source: SO SR, NFC

In 2012, amount of the fish **caught** in the fish ponds, water dams and water flows for economic and sport purposes again increased, compared to the previous year and achieved **3 232 t**. The waters were **stocked by 43 171 869 pieces of setting**, which shows a reduction by 13.3% compared to 2011.

### Overview of fishing for the economic and sport purposes (t)

Fish species	2009		2010		2011		2012	
	total	of this SFA*	total	of this SFA*	total	of this SFA*	total	of this SFA*
<b>Fish total</b>	<b>2 584.2</b>	<b>1 751.5</b>	<b>2 295.9</b>	<b>1 596.3</b>	<b>2 750.4</b>	<b>1 921.3</b>	<b>3 232.1</b>	<b>1 925.7</b>
Of these:								
<b>Carp</b>	1 394.6	1 235.4	1 275.7	1 151.9	1 621.0	1 421.5	1 773.6	1 404.5
<b>Trouts</b>	698.6	58.4	608.8	55.9	638.8	60.3	830.2	61.5
<b>Crucians</b>	76.0	70.4	51.9	50.2	56.8	51.9	81.0	58.1
<b>White amur</b>	61.5	50.2	39.9	34.9	82.4	61.1	71.6	62.3
<b>Bighead carps</b>	14.4	4.5	11	3.1	5.9	5.5	122.3	9.0
<b>Sheat fish</b>	40.2	39.1	36.6	35.2	49.3	47.3	62.5	56.5
<b>Maskalonge</b>	51.1	50.6	52.4	51.5	70.1	61.5	55.9	54.0
<b>Sand-eel</b>	62.2	61.5	62.1	61.7	56.6	54.5	53.0	50.3
<b>Grayling</b>	5.9	5.8	3.9	3.3	4.2	4.2	2.0	5.8
<b>Huchen</b>	0.5	0.5	0.4	0.4	0.9	0.9	0.6	0.6
<b>Breams</b>	81.6	81.6	65.6	65.5	65.5	65.5	87.0	74.5
<b>Torgoch</b>	2.2	0.8	2	0.0	7.1	0.1	6.1	0.5
<b>Chevins</b>	13.9	13.9	11.6	11.6	12.5	12.5	14.2	14.2
<b>Other fish species</b>	81.5	78.7	74	71.1	19.2	15.7	19.2	16.9

SFA – Slovak Fishing Association

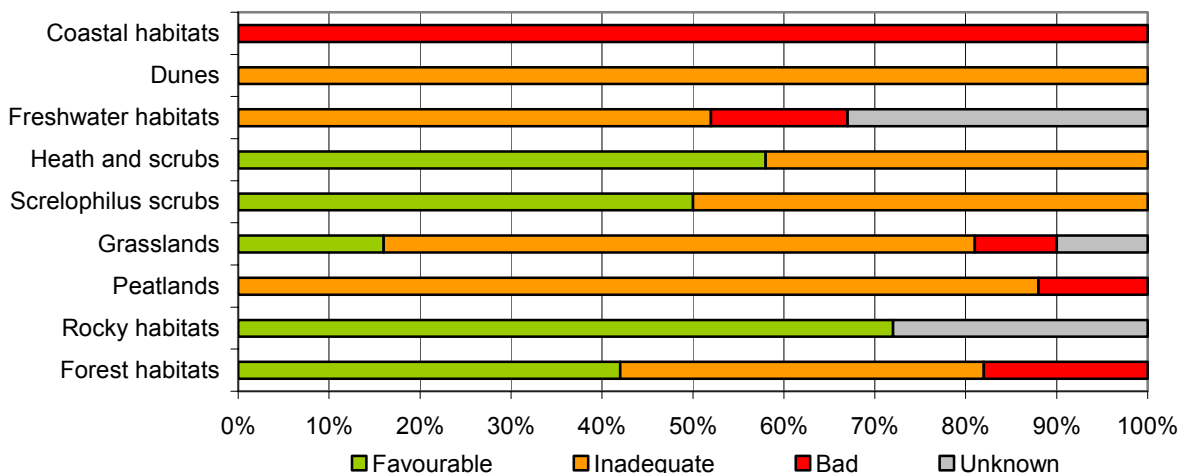
Source: SO SR

## Habitats

Most endangered in Slovakia are saline habitats, which is the result of the decline in the level of ground water, extinction of traditional farming and secondary succession. On the other hand, best characteristics are recorded for rock habitats thanks to their inaccessibility and forest habitats thanks to a relatively sensible management of forests. The **endangered habitats** within the whole of Central Europe include peats and bogs, wetlands, flooded meadows, saline grassland, and sands.

Systematic **monitoring of habitats** in Slovakia was not carried out. However, it was to be implemented within the framework project under the Operation programme of Environment.

### Conservation of the state of habitats of the European importance\*



\* data from reporting pursuant to article 17 of the Habitat directive - assessment of 66 habitats

Source: SNC SR

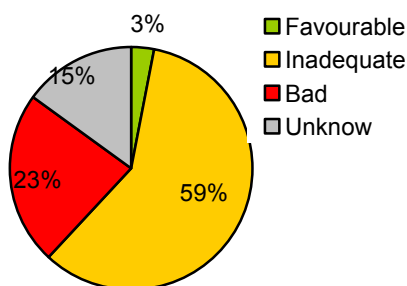
In 2012, management measures were implemented to **improve the favourable state of habitats** and plants at 137 sites within protected areas on total size of 379.95 ha, excluding protected areas at 53 sites (gene pool areas) taking up the size of 44.1 ha.

## ◆ Wetlands

Biodiversity of wetlands is more threatened than biodiversity of terrestrial ecosystems. Wetlands are becoming more and more **threatened** as a consequence of mainly intensive agricultural practices, meliorations, eutrophication, landscape fragmentation, changes in water balance. Also, traditional management approaches to meadows (scything) have been abandoned, which results in excessive vegetation growth of wetlands and peat bogs. Water courses have been locally contaminated or suffer from the consequences of past regulation activities. Construction of new hydro-electric power plants leads to the fragmentation of river habitats.

On the basis of the assessment for the European Commission, Slovakia is known to have 24 types of habitats of European importance that are classified as water, river, wetland, or dependent on the aquatic environment. All over Europe, 85% of wetland habitats are in **unfavourable state**. Slovakia has a similar situation.

State of wetland-type habitats



Source: SNC SR

State of wetlands in Slovakia

	Number of sites	Area (ha)	% of SR territory
<b>Wetlands of international importance</b>	18	41 704	0.9
of which Ramsar sites	14	40 697	0.8
<b>Wetlands of national importance</b>	72	147 260	3.0
<b>Wetlands of regional importance</b>	467	10 431	0.2
<b>Wetlands of local importance</b>	1 050	4 550	0.1
<b>Total</b>	<b>1 607</b>	<b>203 945</b>	<b>4.2</b>

Source: SNC SR

In 2011, a draft of **Action plan for the years 2012-2014** was produced and subsequently approved. This document accompanied the revised **Slovak Wetland Management Programme for the years 2008-2014**.

## Ecosystem services, ecological footprint

Assessment of ecosystem services **has been performed** in the national park of Slovenský raj. Partial assessments of ecosystem services have been produced for selected forest ecosystems. In 2012, assessment in the national park of Muránska planina began.

"To preserve and renew ecosystems and their services by 2020" belongs to the objectives of the new EU biodiversity strategy. In the same context, the Slovak Ministry of Environment initiated workshops with the pertinent institutions that resulted in drafting the LIFE+ project for ecosystem accounting.



## Care of the protected nature parts

### ◆ Implementation of law and strategic activities within the area of biodiversity conservation

#### CITES

**Slovak Ministry of Environment** acting as the **executive body of the CITES Convention** in 2012 published **370 exceptions** from the ban of commercial activities pursuant to Council Regulation (EC) no. 338/97 of 9th December 1996 on the protection of species of wild fauna and flora by regulating trade therein, **3 permissions** to relocate live animals, **133 permits to import** and **63 permits to export**. The most frequently imported products are leather bands for wristwatch made of crocodile (Mississippi alligator) and other reptiles' skin. Besides, in 2012 several parrots were imported, along with trophies (brown bear, leopard, and cheetah), etc.

**State Nature Conservancy of the SR** acting as **scientific CITES body** in Slovakia assisted customs authorities, police, and inspections (identification of individual animals, assessment of social and customs values of individual animals).

**Cooperation with the police** improved significantly in 2012. Customs authorities were **successful for the first time** in tracing and identifying illegal import of 2 deliveries of Asian medicine that contained endangered species. In 2012, the Slovak Ministry of Environment distributed information pamphlets for the public (tourists) crossing the customs border points.

#### Strategic documents

**Preparation of the revised National Biodiversity Strategy** for the next period continued in 2012. On the basis of the outcomes of the 10th session of the Conference of the parties to the Convention on Biological diversity in Nagoya in Japan and the adopted revised Strategic plan for biodiversity 2011-2020 and strategic targets (Aichi biodiversity targets) as well as the targets and measures of the EU Biodiversity Strategy to 2020 of May 2011. **Direction** in biodiversity conservation as compared to the strategy from 1997 has been **supplemented** especially with reactions to the new threats and trends in biodiversity conservation over the past years, and the reaction to the implementation of selected EU strategies that impact biodiversity and began to be seen only after Slovakia entered the EU.

### ◆ Protected minerals and fossils

The list of **protected minerals** includes:

- 12 typological minerals, first time scientifically documented from the Slovak territory,
- 61 significant minerals or rare occurrence in Slovak sites, and having European significance, or minerals with specific morphological shape or trend,
- meteorites found in Slovakia's territory.

The list of **protected fossils** includes:

- 655 typological fossils that represent an irreplaceable, unique material of extinct plants and

animals that served to describe the specific taxonomic group for the first time,

- selected groups of fossils with rare occurrence that thanks to their characteristics and degree of preservation are unique testimonies of the evolution of organisms in the Slovak geological past.

The samples of protected minerals and protected fossils are deposited especially in the collections of state nature scientific museums.

## ◆ Protection of caves

There are **more than 6 691 caves** registered in Slovakia. They are natural monuments at the same time. Of these, 44 most significant were classified among the national natural monuments.

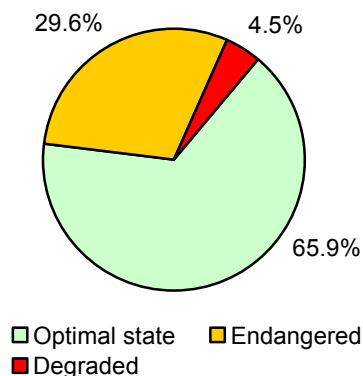
Presently, there are **18 accessible caves**. Total number of **publicly accessible caves** grew to **41**.

## ◆ Protected trees

The network of protected trees (PT) in 2012 was created by **446 protected trees** and their groups including alleys - protected objects (2 PT less than in the previous year). Physically it is represented by 1 256 solitary trees of 65 taxons, including 32 domestic and 33 alien taxons.

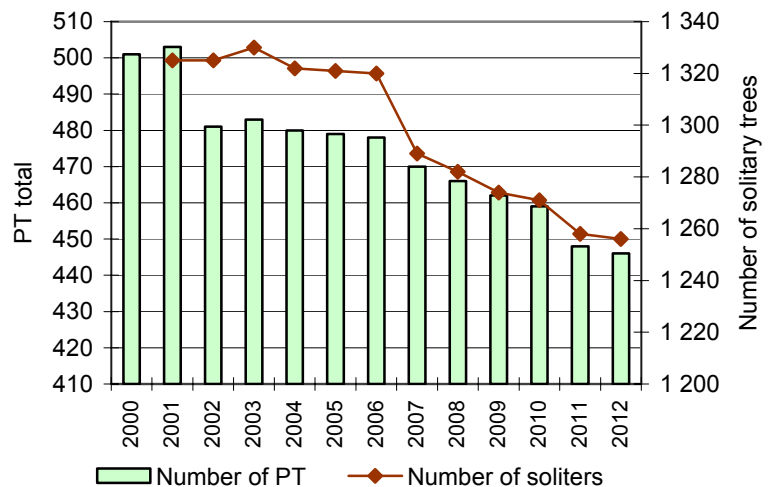
There were 294 in the **optimal** state, 132 were **endangered** and 20 **degraded** of the protected trees and their groups. This is stagnation in the situation, compared to the previous year.

### State of protected trees and their groups



Source: SNC SR

### Trend in number of protected trees



Source: SNC SR

## ◆ Protected areas

### Legal protection of protected areas

**15 new "small-size" protected areas** were declared in 2012 of total size of 3 250 ha (including 12 PS, 2 NR a 1 NM). All of the areas belong to the Natura 2000 network under the Sites of Community Importance. A **decree was published** on declaring the **most recent Special Protection Area** - Levočské vrchy.

Policies regarding **9 protected areas** have been **updated**. Besides, decrees were also published on declaring other 5 nature monuments - publicly accessible caves and 1 more NM.

Decrees on **repealing 6 protected areas** (5 PS and 1 NR) came into effect.

**Overview of the national network of protected areas**

**Overview of protected areas in the SR – in categories of PLA and NP**

Category	Number	Size of core area (ha)	Size of protective zone (ha)	% of SR territory (incl. PZ)
Protected landscape areas (PLA)	14	522 582	-	10.66
National parks (NP)	9	317 890	270 128	11.99

Source: SNC SR

Size of all so-called "**small-size**" **protected areas (SSPA)** including their protective zones (PZ) takes up **2.44%** of Slovakia's territory. This represents an increase by 14 areas (3 578 ha or 0.07% of Slovakia's territory) compared to the previous year.

**Overview of protected areas in the SR – in categories of PLA and NP**

Category	Number	Size of core area (ha)	Size of protective zone (ha)	% of SR territory (incl. PZ)
Protected landscape fragments	1	3	-	0.00
Protected sites	173	11 023	2 425	0.27
Nature reserves (including 2 private)	392	14 246	301	0.30
National nature reserves	219	84 189	2 239	1.76
Natural monuments (without caves and waterfalls)	218	1 586	207	0.04
Natural monuments - publicly accessible caves	35	0	31	0.00
Natural monuments - other declared caves	7	0	261	0.01
Natural monuments - natural waterfalls	0	0	0	0.00
National natural monuments (without caves and waterfalls)	11	59	27	0.00
National natural monuments - caves	44	0	3,055	0.06
National nature monuments - natural waterfalls	5	0	0	0.00
<b>SSPA total</b>	<b>1 105</b>	<b>111 105</b>	<b>8 545</b>	<b>2.44</b>

Source: SNC SR

Besides the already mentioned objects, there are in Slovakia also territories that **are not classified under protection levels** - 40 declared **special protection areas** with total size of 1 237 213 ha, and 20 **caves** (14 NNM and 6 NM) with declared protective zone of total size of 3 347 ha (major part of their territories reaches into other protected areas).

In total, **in the territory of PLA** there are **247 SSPA** (this represents 2.4% of total PLA territory, incl. their PZ), **in the territory of NP** there are **209 SSPA (22.8%** of the NP area, incl. their PZ), while **in the territory of NP protective zones** there are **68 SSPA (0.9%** of the NP protective zones area).

Outside PLA, NP, and PZ of NP, which means the open landscape, there are 581 SSPA (0.9% of the open landscape area and 27% of total SSPA territory, incl. their PZ).

**Agricultural land (AL) and forest land (FL) in protected areas**

	Size of AL (ha) in PA*	%	Size of FL (ha) in PA	%
2012	187 190	16.4	830 330	72.7

\*only permanent grasslands according to LPIS (inventory of actively used agricultural land)

In the period of the years 1993-2012, legislation addressing nature protection and also protected areas was amended and revised on two occasions. Since 1955 until 1994 there were categories of protected areas different than the ones that exist today. As of 1994, the overall number of protected areas was 922 with the size of 1 306 741 ha (26.7% of the size of Slovakia). Currently, in Slovakia there are 1 128 protected areas within the national network in the size of 1 142 151 ha, which takes up 23.3% of the size of Slovakia. Reduction has been mainly provoked by cancelling PLA protective zones as well as adjustments to "large-size" protected areas (NP and PLA).

**Overview of protected areas in the SR by types and levels of protection (as of 31.12.2012)**

Level of protection*	Category	Area (ha)	% of SR territory
1 <sup>th</sup> level	„ open landscape “	3 761 249	76.70
2 <sup>th</sup> level	PLA**, NP PZ**, D zones	759 917	15.50
3 <sup>th</sup> level	NP**, PS, PS PZ, NR PZ, NNR PZ, NM PZ, NNM PZ, C zones	269 992	5.51
4 <sup>th</sup> level	NNR, NR, NNM, NM, PS, NR PZ, NNR PZ, NM PZ, NNM PZ, B zones	18 833	0.38
5 <sup>th</sup> level	NNR, NR, NNM, NM, A zones	93 409	1.91

Source: SNC SR

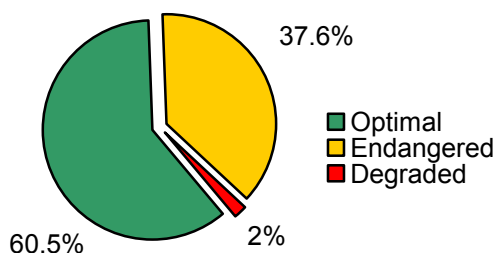
\* excluding territories without the level of protection (SPAs and PZs of caves and natural waterfalls)

\*\* area out of SSPA

**Endangerment and degradation of protected areas**

Of the total number of 1 105 small-size protected areas, there were degraded 22 territories of area of 276 ha (this area presents 0.2% of total area of SSPA), 415 were endangered of area of 20 161 ha (16.9% of SSPA) and in the optimal condition there were 668 territories of area of 99 213 ha (82.9% of SSPA). Compared to the previous year, a slight improvement has been recorded, since 2003.

**Endangerment of SSPA in terms of their number**



Source: SNC SR

**Care of protected areas**

Professional nature protection organisations carried out regulatory intervention in the field of practical care of the specially protected nature and landscape parts - major activities included mowing and mulching, together with elimination of self-seeded trees.

State Nature Conservancy of the SR elaborated 9 241 expert viewpoints. The biggest rate was created by the department of tree species protection (18.9%) and building and regional planning activities (18.5%).

As of 2012, **71 education paths, 49 education localities and 13 information centres of nature protection** were documented (only within the State Nature Conservancy of the SR organisation units).

**Protected areas within the international context**

**European Diploma of Protected Areas**

So far, there have been 2 protected areas that received the European Diploma:

- NNR Dobročský prales (A category) and
- NP Poloniny (B category).

**Man and the Biosphere Programme (MaB):**

The following 4 protected areas have been included into the biosphere reserves in Slovakia:

- Poľana biosphere reserve (1990)
- Slovak karst biosphere reserve (1977)
- East Carpathian biosphere reserve (1998) (trilateral BR: Poland/Slovakia/ Ukraine)
- Tatra biosphere reserve (1992) (bilateral BR: Poland/Slovakia).

As of 2012, **14 wetlands** were declared and registered in *List of Wetlands of International Importance* as **Ramsar sites** with total size of **40 697 ha** (0.8% of SR territory) under the *Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention)*:

Name of wetland	Area (ha)	District	Date of registration
1. Parížske swamps	184.0	Nové Zámky	2.7.1990
2. Šúr	1 136.6	Pezinok	2.7.1990
3. NNR Senné - ponds	424.6	Michalovce	2.7.1990
4. Donau floodplains	14 488.0	Bratislava II, V, Senec, D. Streda, Komárno	26.5.1993
5. Flat of Morava river	5 380.0	Bratislava IV, Malacky, Senica, Skalica	26.5.1993
6. Latorica river	4 404.7	Michalovce, Trebišov	26.5.1993
7. Alluvium of Rudava river	560.0	Malacky, Senica	17.2.1998
8. Wetlands of Turiec	750.0	Martin, Turčianske Teplice	17.2.1998
9. Poiplie	410.9	Levice, Veľký Krtíš	17.2.1998
10. Wetlands of Orava basin	9 287.0	Námestovo, Tvrdošín	17.2.1998
11. Orava river and its confluents	865.0	Dolný Kubín, Tvrdošín	17.2.1998
12. Domica cave	621.8	Rožňava	2.2.2001
13. Tisa river	734.6	Trebišov	4.12.2004
14. Caves of Demänovská valley	1 448.0	Liptovský Mikuláš	17.11.2006

Source: SNC SR

**Review of Biosphere Reserves and Ramsar sites in selected countries**

		Slovakia	Czech Rep.	Poland	Hungary	Austria
<b>Biosphere Reserves (BR)</b>	Number	4	6	10	6	7
	area (km <sup>2</sup> )	407	603	1 451	2 449	1 239

CR) BR: one common with Poland

Slovakia) BR: one common with Poland and one with Poland and Ukraine together

Poland) BR: one common with Czech Republic, one with Slovakia and one with Slovakia and Ukraine together

Source: SNC SR

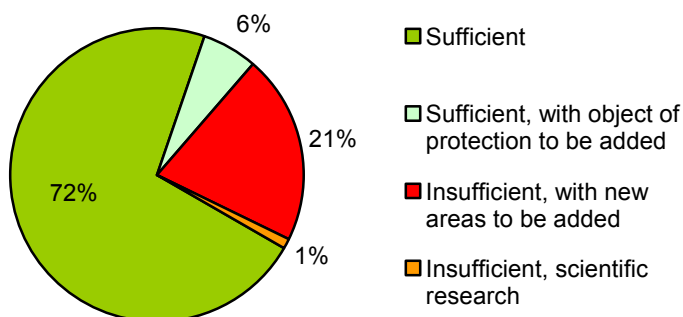
## NATURA 2000 in Slovakia



## Sites of Community Importance (SCI)

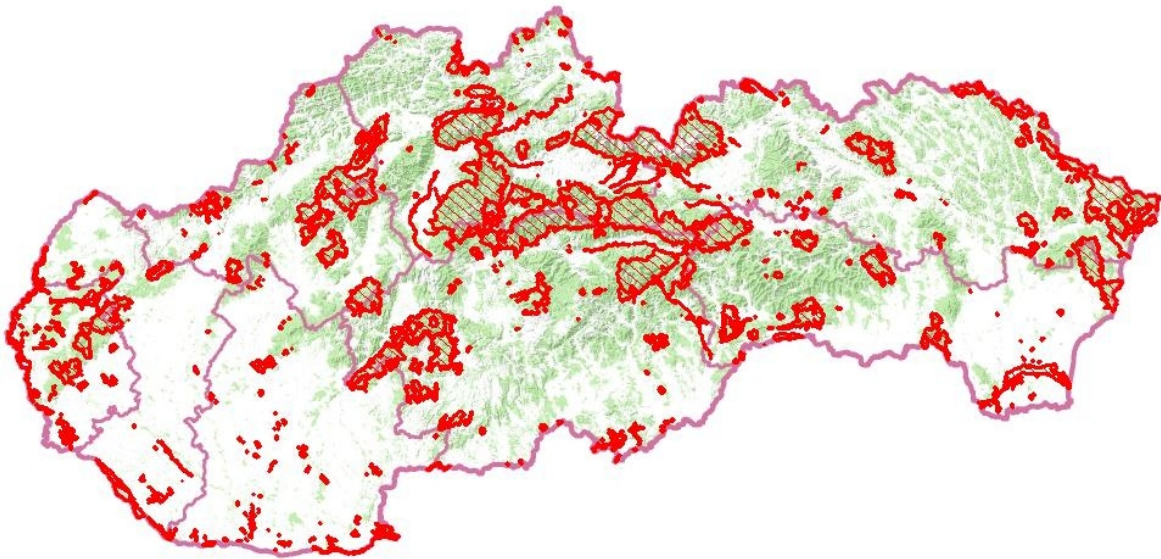
- National list of SCI was approved on 17.3.2004 by the Slovak Republic government and published *on the basis of the MoE SR Edict* of July 14, 2004 and was sent to the European Commission for approval;
- SCI are proposed for **44 plant taxons, 96 animal species** and **66 types of biotopes**;
- Into the **proposed list** of the SCI there were originally listed **382 territories** with the area of **573 690 ha**. The territories cover **11.7% of the SR area**, lapping with present network of protected areas is **86%**;
- In 2011, first **enlargement of the SCI national list** of 2004 was implemented. On the basis of the EC requirements stemming from the outcomes of bio-geographical seminars as well as the Slovak Government Resolution No. 577 of August 31, 2011, **97 new sites** were added to the national list of European importance. At the same time, **6 original areas were excluded** from the national list. **Total share of SCI** on the size of Slovakia **grew** from 11.7% to **11.9%**. Relevant **total number of SCI** is **473 areas** of the size of **584 353 ha**;
- **Negotiations with the EC** took place in Bratislava in **March of 2012** in the presence of independent experts from the Slovak Academy of Sciences, non-government organisations, State enterprise Forests of the Slovak Republic, National Forest Centre, and private forest owners. Negotiations centred around the **level of sufficiency in demarcation of sites of community importance**. The negotiations showed that for **approximately 78% of species and habitats** of the European importance, there is **sufficient number of sites of community importance**. In the years to come, however, new **sites** will have to be added also for the remaining habitats and species, **especially the fish**;
- The process of **declaring new SCI** continued in the national categories of protected areas (especially PS or NR). Areas should be declared within 6 years following their approval by the EC, which in the case of the SCI submitted in 2004 is by November 2013 or January 2014 respectively. **Less than 60%** of these sites were **declared** in 2012. Among the declared areas were 15 new "small-size" protected areas of the size of 3 250 ha (12 PS, 2 NR, and 1 NM) that are at the same time sites of community importance, and still others are to be completed or legally approved.

**Sufficiency of demarcation of sites of community importance expressed by the number of species and habitats**



Source: SNC SR

## Updated overview of Sites of Community Importance in the SR



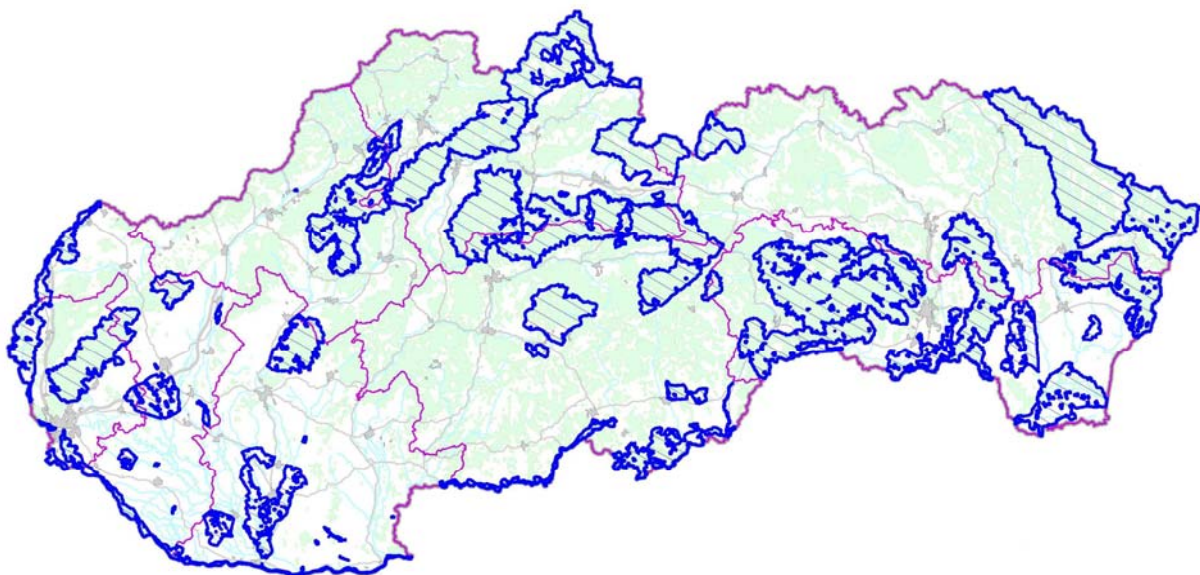
Source: SNC SR



### Special protection areas (SPA)

- the Slovak Government approved the SPA national list on July 9, 2003. In 2004 began the process of creating resolutions and care programmes for individual SPA. National list includes **38 SPA** with total area of **1 154 111 ha** and covers **23.5% of the SR area** and lapping of SPA with the existing network of protected areas in the SR presents **55%**;
- Slovak Government Resolution 345/2010 of 25/05/2010 **revised and amended** the national list. **5 new** areas were added to the list and **2 areas were taken out**;
- **In 2012 was declared also the last territory** belonging to the national list of **41 SPA**. **Size** of all SPA reached the size of **1 282 811 ha**, which is **26.16%** of Slovakia's territory.

## Updated overview of Special protection areas in the SR



Source: SNC SR

**Agricultural and forest land in the NATURA 2000 territories**

<b>NATURA 2000</b>	<b>Number</b>	<b>Area (ha)</b>	<b>Agricultural land area (ha)</b>	<b>Share of agricultural land (%)</b>	<b>Forest land area (ha)</b>	<b>Share of forest land (%)</b>
<b>SPA</b>	41	1 282 811	365 102	28.4	828 110	64.3
<b>SCI</b>	473	584 353	58 640	10.0	503 926	86.2

Source: SNC SR