Habitats management in the Slovak Republic: challenges and strategies

* *Jana Zacharová*
Ministry of the Environment of SR
* *Zuzana Guziová, Pavol Polák*
State Nature Conservancy of SR

Oslo, November 23rd, 2006





Content:

1. *Introduction on Slovakia and protected areas*
2. *Habitats – types, database*
3. *Habitats – favourable conservation status and measures*
4. *Habitats - main challenges and strategies*
5. *Habitats related to possible EEA support*

Introduction

Slovakia - area and people:

49 035 km^2 with 5 384 822 inhabitants (109,8 inhabitats/km^2)

Slovakia - protected areas:

23 % of the territory or 36 % including (proposed) NATURA 2000 sites:

9 national parks

14 protected landscape areas

over 1 000 others

** protected sites*

** (national) nature reserves*

** (national) nature monuments*

+ cca 5 000 caves and natural waterfalls...



NATURA 2000=SPAs + pSCIs/SAC

National list of proposed SPAs

** 38 pSPAs were selected*
** 25.2 % of Slovakia (1 236 545 ha)*
** 55.15 % overlap with national network of protected areas*

National list of proposed SCIs

** 382 sites*
** 11.7 % of Slovakia (573 690 ha)*
** 86 % overlap*







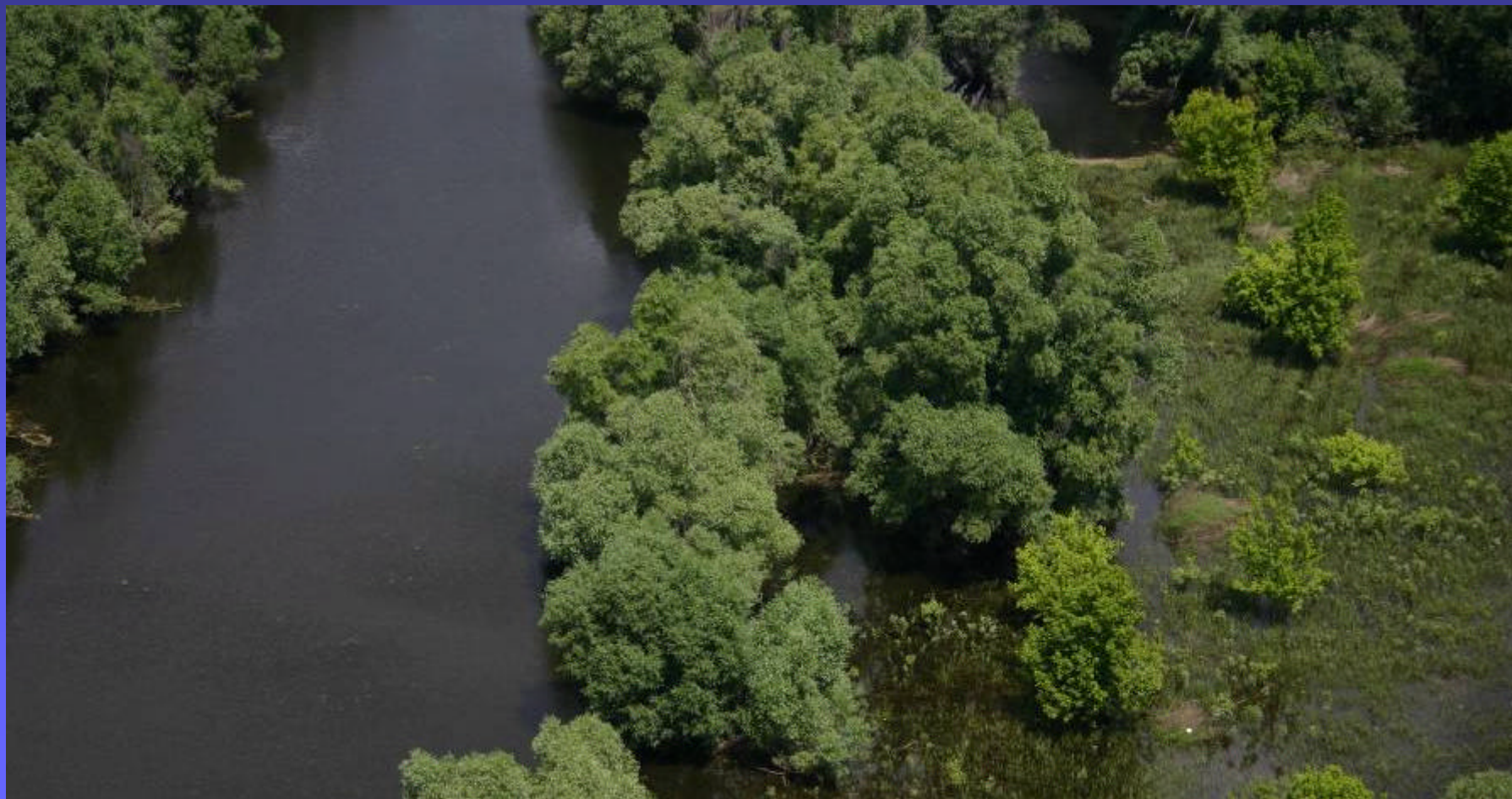
Both national lists

** approved by the Government (2003 – pSPAs, 2004 – pSCIs)*

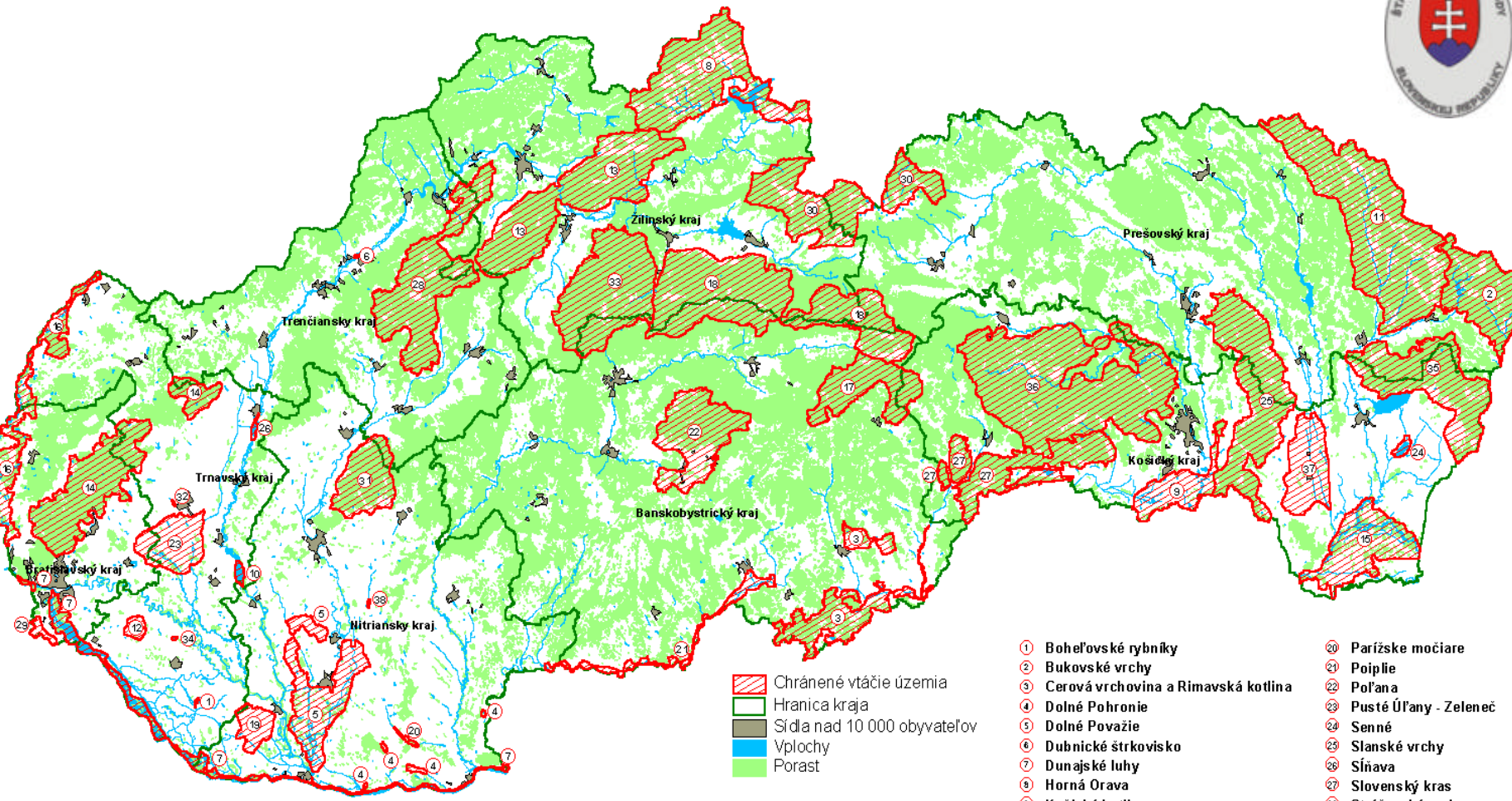
** submitted in April 2004 to the Commission*

** subject to 2 biogeographical seminars in 2005 (ALP – 66,3 % ; PAN – 59 % SUFF, IN-MIN),*

** October 2006 – revised SDF submitted to the Commission*

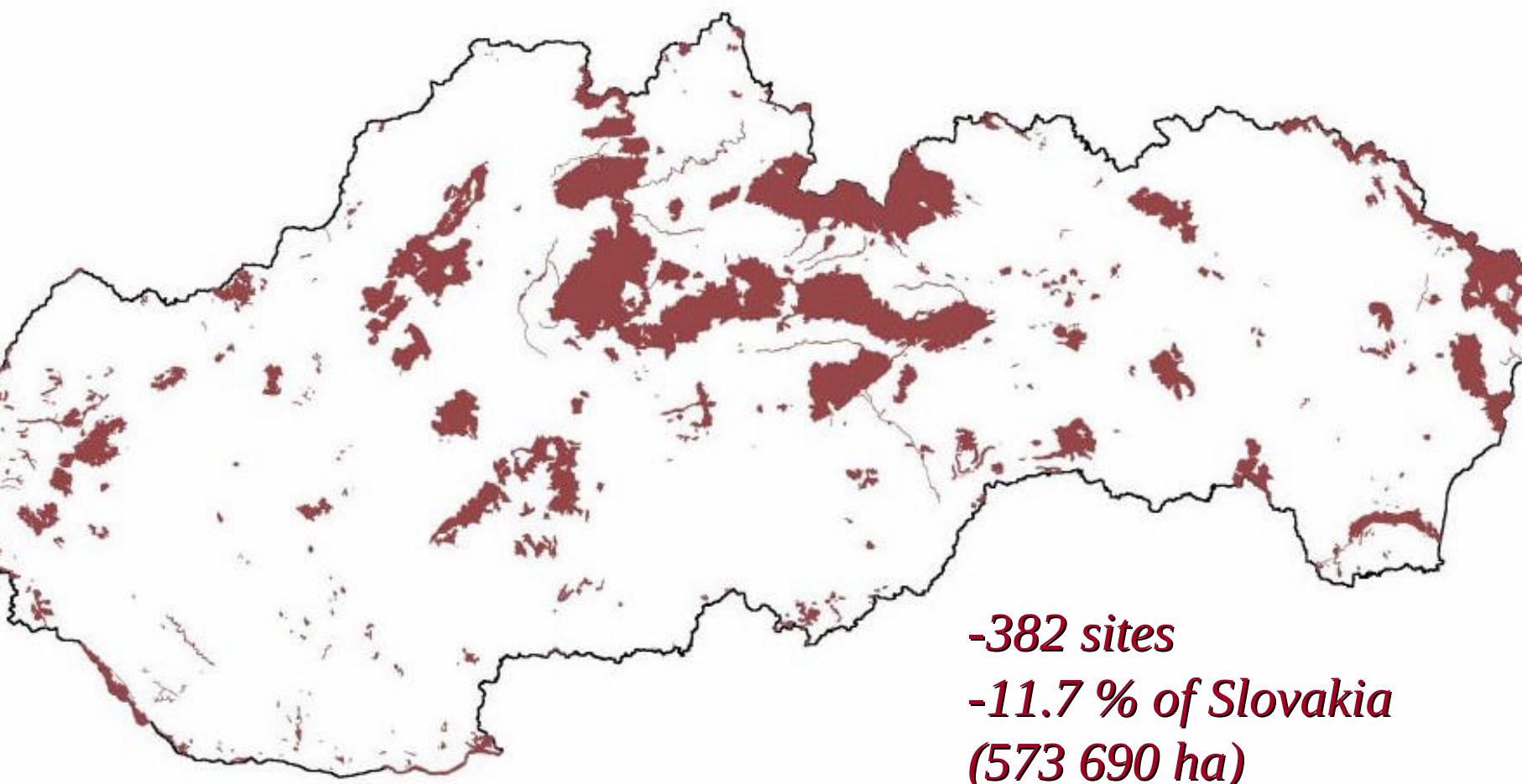


Chránené vtáčie územia



1. Boheľovské rybníky
2. Bukovské vrchy
3. Cerová vrchovina a Rimavská kotlina
4. Dolné Pohronie
5. Dolné Považie
6. Dubnické štrkovisko
7. Dunajské luhy
8. Horná Orava
9. Košická kotlina
10. Kráľová
11. Laborecká vrchovina
12. Lehnice
13. Malá Fatra
14. Malé Karpaty
15. Medzibodrožie
16. Morava
17. Muránska planina a Stolické vrchy
18. Nízke Tatry
19. Ostrovné lúky
20. Parížske močiare
21. Poiplie
22. Poľana
23. Pusté Úľany - Zeleneč
24. Senné
25. Slanské vrchy
26. Sĺňava
27. Slovenský kras
28. Strážovské vrchy
29. Sysľovské polia
30. Tatry
31. Tribeč
32. Trnavské rybníky
33. Veľká Fatra
34. Veľkoblahovské rybníky
35. Vihorlat
36. Volovské vrchy
37. Východoslovenská rovina
38. Žitavský luh

Proposed Sites of Community Importance

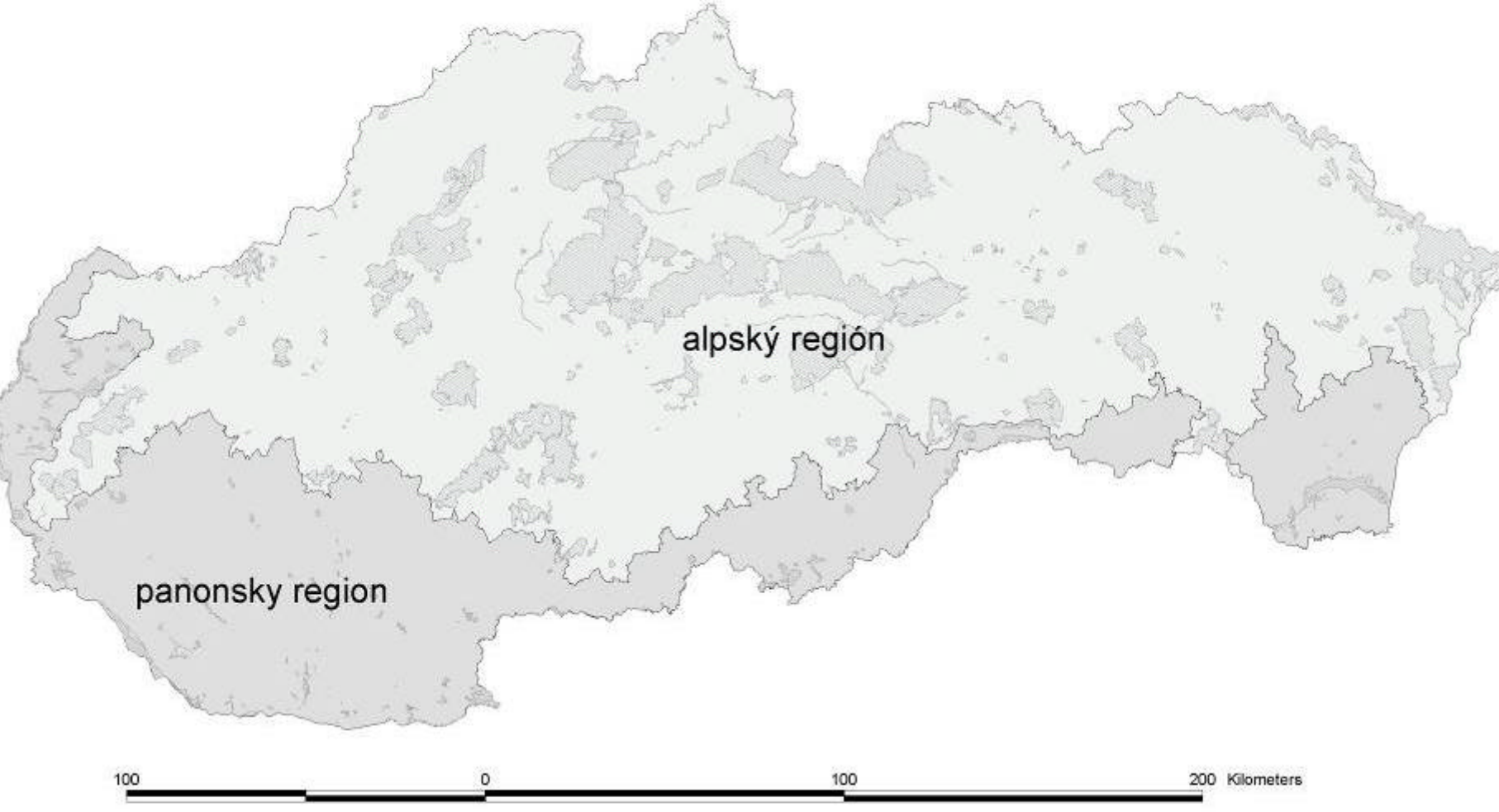


-382 sites

-11.7 % of Slovakia (573 690 ha)

- Overlap 86 %

2 biogeographical regions in Slovakia



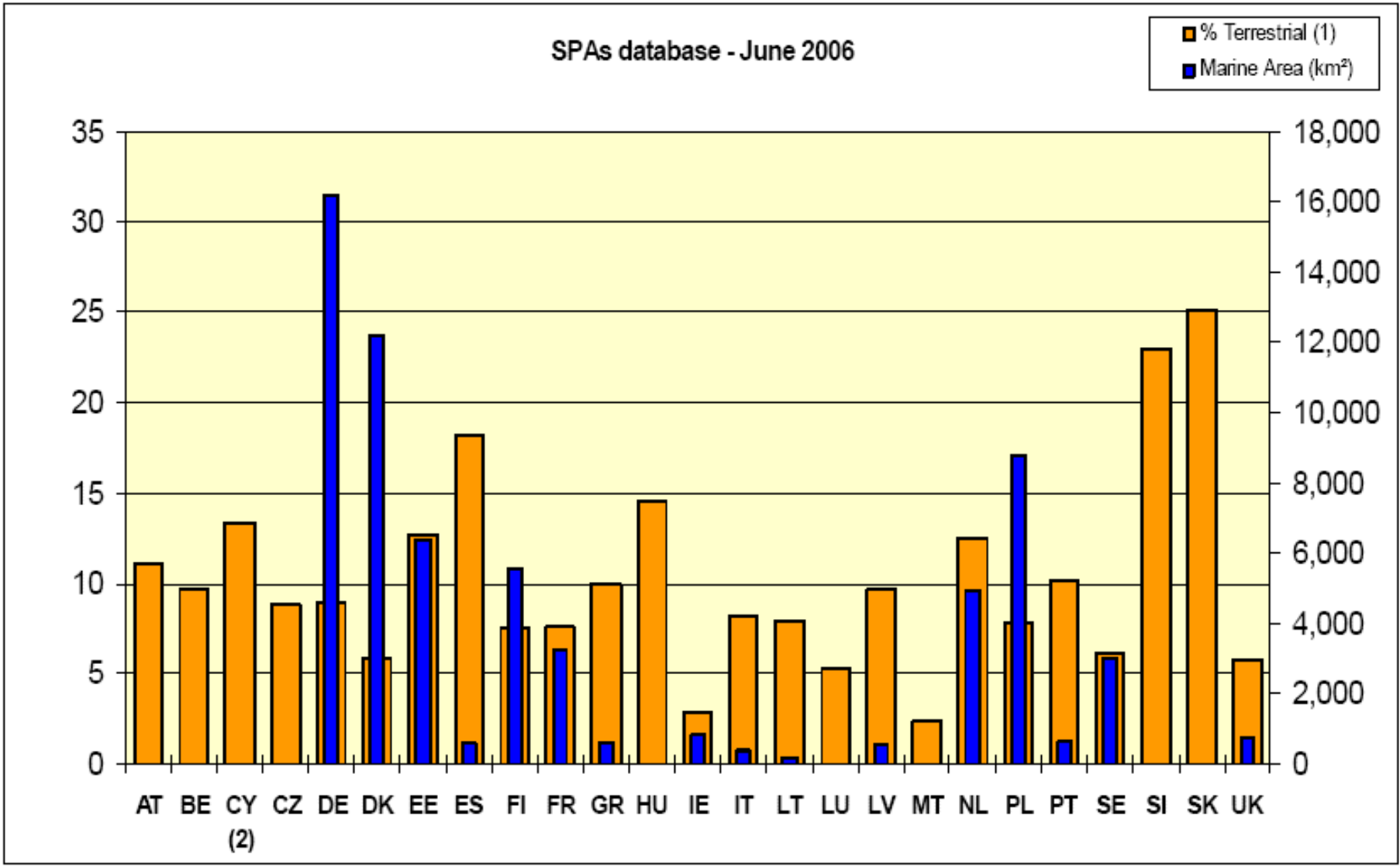
SPECIAL PROTECTION AREAS

Update of June 2006

MS	Total Number	Total Area (km²)	Terrestrial Area (km²)	% Terrestrial (1)	No. of sites in which a marine part is noted	Marine Area (km²)
AT	94	9 275	9 275	11.1		
BE	229	2 964	2 964	9.7		
CY (2)	7	788	767	13.4	1	21
CZ	38	6 936	6 936	8.8		
DE	568	48 102	31 885	8.9	14	16 216
DK	113	14 709	2 536	5.9	59	12 173
EE	66	12 161	5 766	12.8	26	6 394
ES	512	92 377	91 803	18.2	20	574
FI	467	30 868	25 301	7.5	66	5 567
FR	366	45 198	41 928	7.6	63	3 269
GR	151	13 703	13 136	10.0	16	567
HU	55	13 519	13 519	14.5		
IE	131	2 815	2 004	2.9	66	810
IT	503	24 865	24 469	8.1	13	396
LT	73	5 286	5 115	7.8	1	171
LU	12	139	139	5.4		
LV	97	6 751	6 232	9.6	4	520
MT	6	8	8	2.4		
NL	77	10 109	5 197	12.5	7	4 913
PL	72	33 156	24 362	7.8	3	8 794
PT	50	9 956	9 334	10.1	10	622
SE	530	28 764	25 731	6.2	107	3 033
SI	27	4 656	4 653	23.0	1	3
SK	38	12 295	12 295	25.2		
UK	258	14 967	14 257	5.8	3	710
EU	**4 540**	**444 368**	**379 614**	**9.6**	**480**	**64 754**

(1) % of SCI terrestrial area compared to MS terrestrial area

(2) The area of the MS and the % corresponds to the area of Cyprus where the Community acquis applies at present, according to protocol 10 of the Accession Treaty of Cyprus


SPAs database - June 2006
% Terrestrial (1)
Marine Area (km²)
35
30
25
20
15
10
5
0
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
AT
BE
CY (2)
CZ
DE
DK
EE
ES
FI
FR
GR
HU
IE
IT
LT
LU
LV
MT
NL
PL
PT
SE
SI
SK
UK

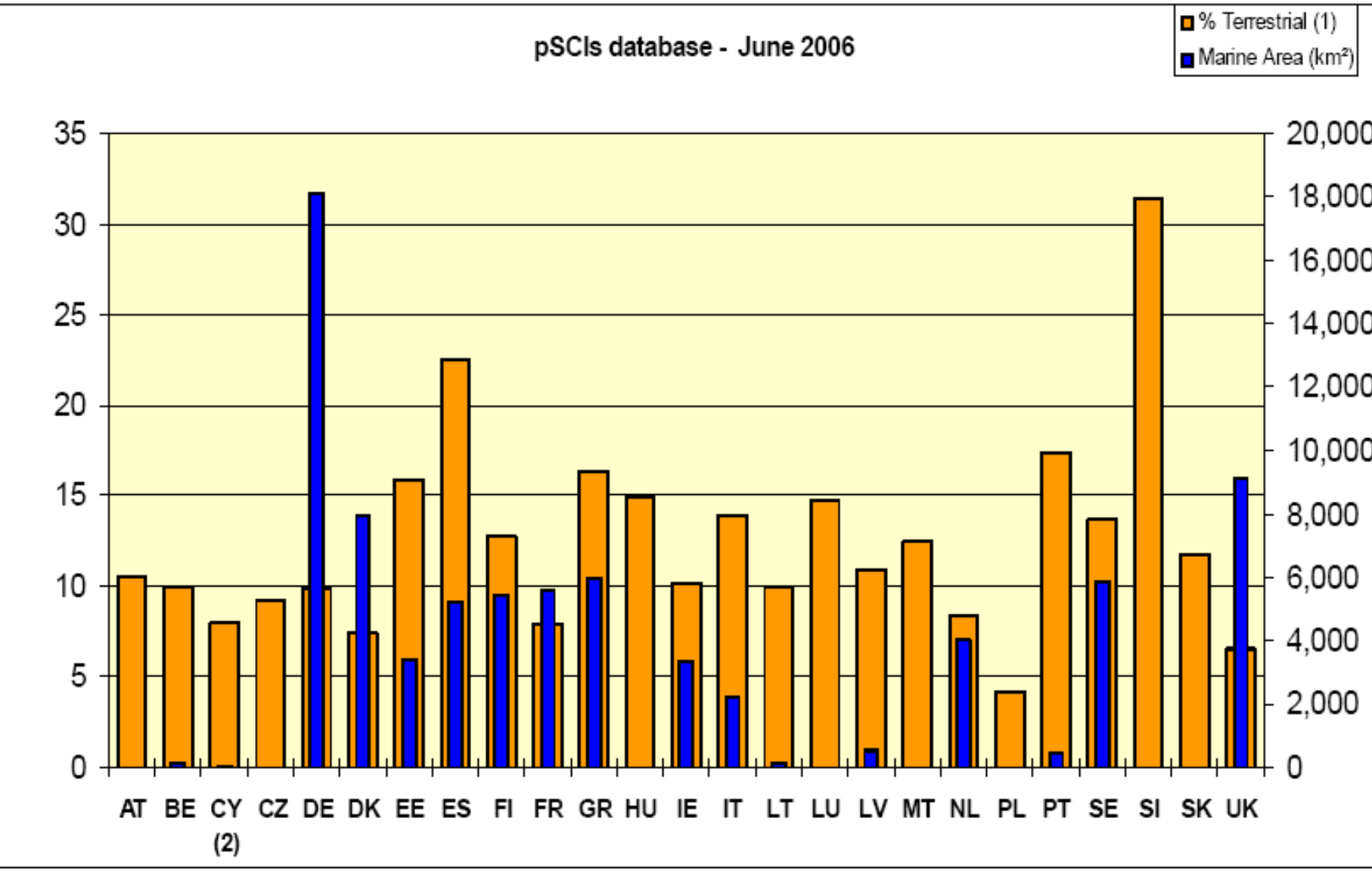
SITES OF COMMUNITY IMPORTANCE

Update of June 2006

MS	Total Number	Total Area (km²)	Terrestrial Area (km²)	% Terrestrial (1)	No. of sites in which a marine part is noted	Marine Area (km²)
AT	164	8 884	8 884	10.6		
BE	278	3 221	3 040	10.0	1	181
CY (2)	26	510	459	8.0	5	50
CZ	841	7 241	7 241	9.2		
DE	4 617	53 294	35 208	9.9	48	18 086
DK	254	11 136	3 177	7.4	118	7 959
EE	509	10 591	7 172	15.9	34	3 419
ES	1 380	119 104	113 913	22.6	88	5 191
FI	1 715	48 552	43 092	12.7	98	5 460
FR	1 304	48 810	43 204	7.9	90	5 605
GR	239	27 641	21 643	16.4	102	5 998
HU	467	13 929	13 929	15.0		
IE	413	10 561	7 175	10.2	92	3 386
IT	2 255	43 977	41 750	13.9	162	2 227
LT	267	6 664	6 493	10.0	2	171
LU	47	383	383	14.8		
LV	331	7 651	7 095	11.0	6	556
MT	23	39	39	12.5		
NL	141	7 510	3 485	8.4	9	4 025
PL	192	13 124	13 124	4.2		
PT	94	16 503	16 013	17.4	23	490
SE	3 981	62 557	56 708	13.7	327	5 848
SI	259	6 360	6 359	31.4	3	
SK	382	5 739	5 739	11.8		
UK	610	25 102	15 972	6.5	41	9 131
EU	**20 789**	**559 082**	**481 298**	**12.2**	**1 249**	**77 784**

(1) % of SCI terrestrial area compared to MS terrestrial area

(2) The area of the MS and the % corresponds to the area of Cyprus where the Community acquis applies at present, according to protocol 10 of the Accession Treaty of Cyprus


pSCIs database - June 2006
% Terrestrial (1)
Marine Area (km²)
35
30
25
20
15
10
5
0
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
AT
BE
CY (2)
CZ
DE
DK
EE
ES
FI
FR
GR
HU
IE
IT
LT
LU
LV
MT
NL
PL
PT
SE
SI
SK
UK



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Habitats – types and database

66 types of habitats of European interest (Annex I HabDirective)

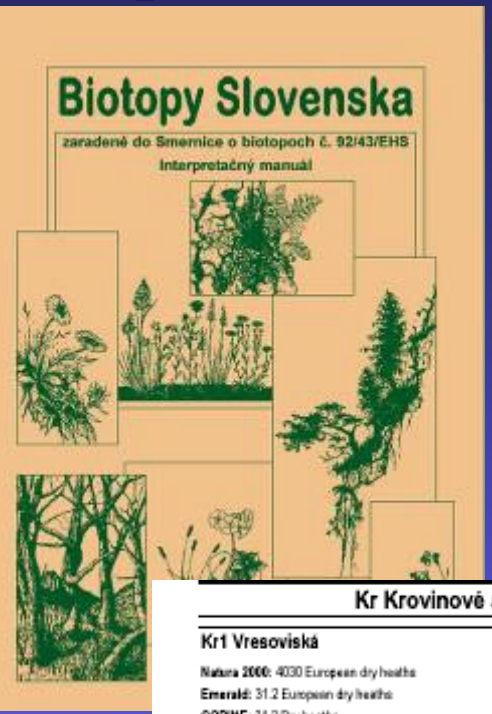
** 19 types of forest habitats (forests cover cca 40 % of Slovakia)*
** 17 types of grasslands (grasslands cover cca 15 % of Slovakia)*
** 7 types of peatlands*
** 23 types of other non-forest habitats (rocks, water, littoral, halophytes, shrubs , cover cca 5 % of Slovakia)*

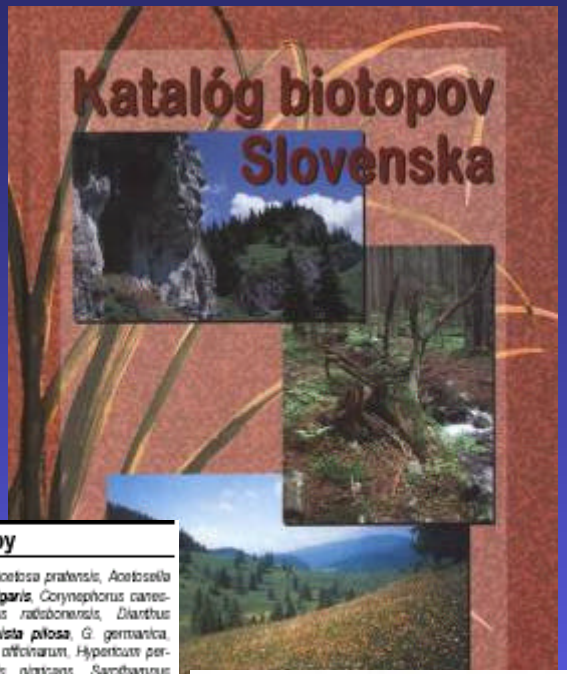
25 types of habitats of national interest (national law)

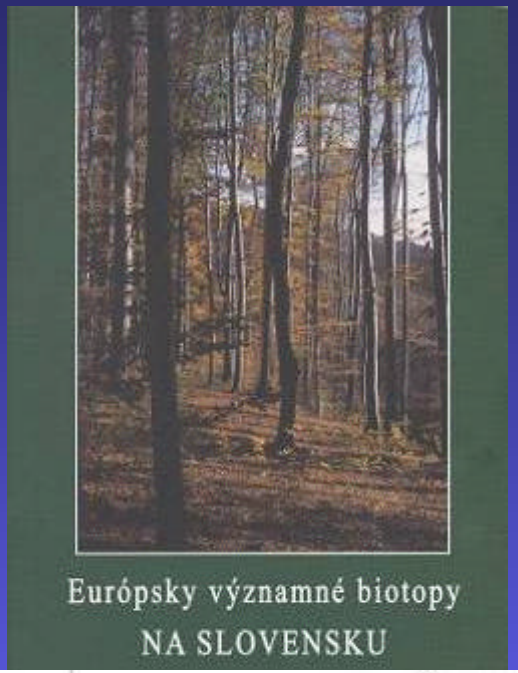




Interpretation manuals for habitats







Kr Krovinové a kríčkové biotopy

Kr1 Vresoviská

Natura 2000: 4030 European dry heaths

Emerald: 31.2 European dry heaths

CORINE: 31.2 Dry heaths

Pal.Hab.: 31.2 European dry heaths; 31.216 Colline-montane Carpathian [Vaccinium] heaths; 31.2161 Submontane western Carpathian bilberry-cowberry heaths; 31.222 Subcontinental [Calluna] – [Genista] heaths; 64.132 Inland dune [Calluna] – [Genista] heaths

EUNIS: F4.21 Sub-montane [Vaccinium] – [Calluna] heaths; F4.22 Sub-Atlantic [Calluna] – [Genista] heaths; F4.262 Dry sandy heaths with [Calluna] and [Genista]

Biotop: Nelesí v lejia podobe nevrchovín, čiastočne spadajú do jednotky Kríčkovité formácie z okruhu psicových porastov (3512500) a Xerofilné trávne -bylinné biotopy na kyslých substrátoch (3450000)

Fytocenológia: Zväz: **Genistion pilosae** Duvigneaud 1942: *Genisto pilosae-Callunetum* Braun 1915 *teucrietosum scorodoniae* Eliáš 1985, *Calluno-Sarothamnetum* Eliáš 1986.

Štruktúra a ekológia: Rozvolnené až uzavreté porasty vresu na kyslých, piesočnatých až kamenistých pôdach s veľmi malým obsahom humusu. Zväčša ide o sekundárne porasty po odlesnení borovicových a dubových acidofilných lesov. Vzácne sa vyskytujú ako primárne nelesné spoločenstvá na skalných hranách. Pravdepodobne prirodzene veľmi blízke porasty sa utvorili aj na piesočnatých dunách kyslých pieskov. Geologickým podkladom sú žuly, ruly, kremence a nevápenaté eolické piesky. Fyziognómiu porastov určujú nízke kríčky, niektoré suchomilné

Druhové zloženie: *Acetosa pratensis, Acetosella vulgaris,* **Calluna vulgaris**, *Corynephorus canescens, Chamaecytisus ratisbonensis, Dianthus carthusianorum,* **Genista pilosa**, *G. germanica, G. tinctoria, Pilosella officinarum, Hypericum perforatum, Luzula campestris* a najmä **Nardus stricta**. Nápadný je výskyt machorastov, najmä rodov *Polytrichum* a *Racomitrium*, a početné druhy lišajníkov rodu *Cladonia*. V pahorkatinách a pohoriach sa vyskytuje okrem vresu aj *Avenella flexuosa, Deschampsia cespitosa, Vaccinium myrtillus, V. vitis-idaea*, vzácne *Arctostaphylos uva-ursi*, v kombinácii s náletmi drevín a machmi.

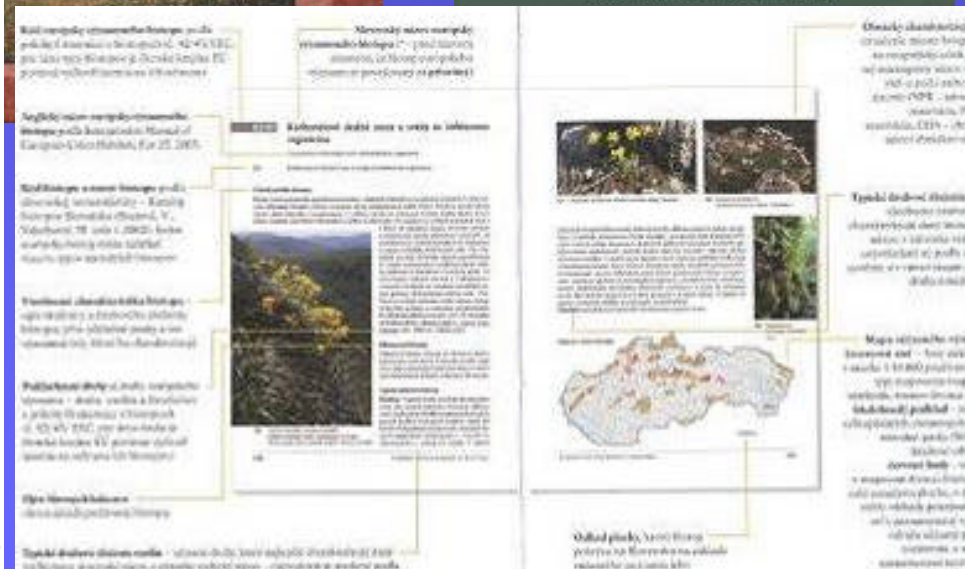
Výskyt: Doteraz je údaje o subatlantickom type sú z orografických celkov Borská nížina, Malé Karpaty, Tribeč. Vresoviská sa nachádzajú aj na strednom a východnom Slovensku, vo vyšších polohách.

Mapujeme (E, P): Len plošne rozsiahlejšie vresoviská, najčastejšie komplexy porastov vresu na okraji nižších dubín a travinno-bylinnej vegetácie zväzu *Koelerio-Phleion phleoidis*. Horské porasty s vresom a čučoriedkami sa mapujú v celom areáli okrem tých, ktoré sú v subalpínskom stupni a mapujú sa v rámci jednotky **Al9**.

Literatúra: Krippelová, Krippel 1966; Eliáš 1986.

Vypracoval: M. Valachovič.

Kr2 Porasty borievky obyčajnej



1999 - Existing databasis and GIS layers (habitats)

Corine Biotopes

Data base on habitats of Slovakia (ÚKE SAV)

Forestry data base (Lesoprojekt)

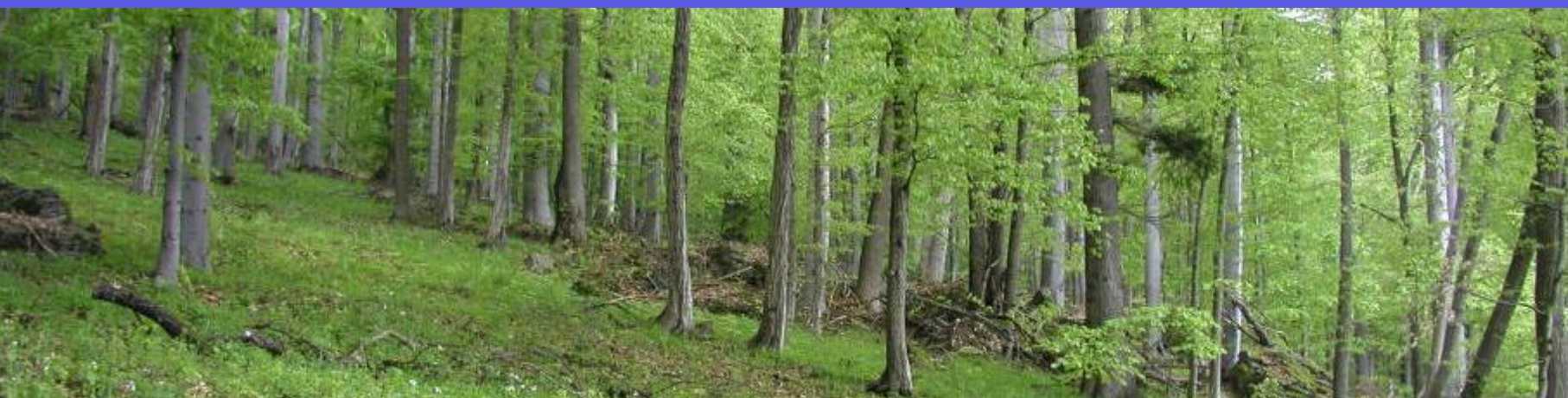
others (including private ones)

in paralel

national inventories (grasslands, peatlands…NL, DK)

after

transformation of existhing data bases for Natura 2000 (forests - 2002)

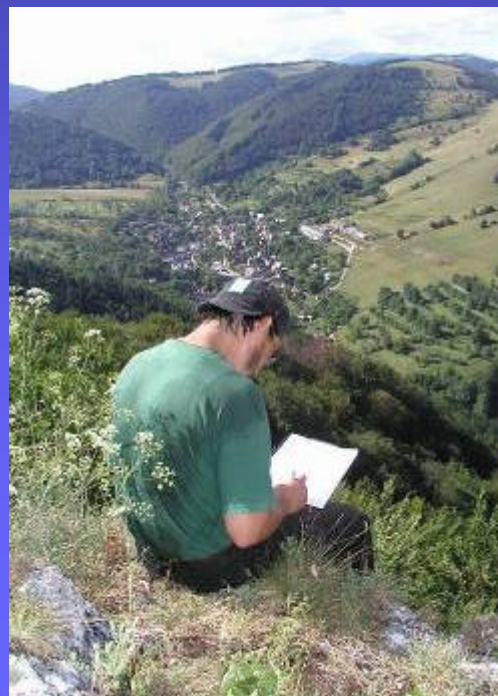


Field mapping (projects):

grasslands - since 1998 in (1:25 000)
- over 11 000 sites and 650 000 species records
peatlands - since 2001 (1:10 000)
- cca 600 sites and 9 200 species records
other non-forest habitats - since 2002 (1:25 000)
- over 3 000 sites and 80 000 species records
forest habitats - since 2003 (1:10 000)
- only on selected sites
(check – transformation)

Cca 350 experts involved
(including the species mapping)

..and
Information system on taxons and habitats





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Habitats - favourable conservation status and measures

EU- Article 1 e) of the Habitats Directive:

„Conservation status of a natural habitat will be taken as „favourable“ when:

- *its natural range and areas it covers within that range are stable or increasing and*
- *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future , and*
- *the conservation status of its typical species is favourable as defined...“*

Slovakia

- *definitions of FCS exist for each habitat type of European interest (book)*
- *each habitats – data on web page , including measures following the definition*



Habitats – data, FCS (www.sopsr.sk)



EXAMPLE

Description of habitat:

Photo

Code: 9420

alpine forest – Larix decidua, Pinus cembra

Name in Slovak :Smrekovcovo-limbové lesy

Favourable conservation status: 81.5 kB (doc)

Recommended measures: 63.5 kB (doc)

Current state of a habitat: map

Characteristics in Slovak: Porasty s borovicou limbovou sú vtrúsené v smrecinách na hornej hranici lesa, alebo vo vyššie položených porastoch kosodreviny na rôznych podložiach (žuly, granodiority, vápence), na hlbokých pôdach najcastejšie typu humusových podzolov. V bylinnej vrstve prevládajú druhy nenárocné na obsah minerálnych látok v pôde. Výskyt biotopu na Slovensku je ohranicený iba na Belianske Tatry, Vysoké Tatry a Západné Tatry, kde sa nachádza v nadmorskej výške 1 400 – 1 900 m. V rámci Európy len v Alpách tvoria porasty borovice limbovej spolu so smrekovcom opadavým samostatný vegetacný stupen.

Habitats –FCS (www.sopsr.sk)

EXAMPLE – 9420

Definition of favorable conservation status (FCS)

3 tables, the final one:

Kritérium	Váha kritérium	Indikátor	Váha indikátora
Typické druhy biotopu	0,45	Druhové zloženie stromovej vrstvy	0,4
		Bylinné druhy a kry	0,05
Štruktúra lesného biotopu	0,35	Veková štruktúra	0,1
		Prirodzené zmladenie drevín	0,05
		Priestorová štruktúra	0,05
		Hrubé stromy a zvlášt cenné stromy	0,05
		Hrubé mrtve drevo	0,1
Negatívne vplyvy	0,2	Zdravotný stav	0,1
		Širšie priestorové súvislosti	0,1



Habitats – measures (www.sopsr.sk)

EXAMPLE – 9420

Measures to achieve/maintain favourable conservation status (FCS)

Endangered *(very rare, strictly protected, not significantly affected by man, currentyly by acidification, ozon and global warmins and expansion of the insects, tourism promotion, mailny skiing slopes and touristic trails)*

Weight of indicators *(table – typical species, structure, negative impacts)*

Comparison of probable decisions *... forestry (table for A,B, C and D levels)*

Table *(achieving or maintenance of FCS)*



Example of table for improving traditional management for beech habitats (9110, 9130, 9150) differences from legitimate managment models for managing forest for production timber

Objective managment	Measurements	Favourable status		Unfavourable status		No habitat
		A	B	C	D	E
Increasing (improving) FCS to upper status (1 level)	*Minimal modification cutting period*		Manage forests + 20 to model	According to model, possible slightly increasing	According to model	
	Modification for regeneration period		Manage forests + 20 to model	According to model, possible slightly increasing	According to model	
	Managment technique		MP - successive transition to UV and no intervene regime	Successive restrict and later eliminate MH	According to model	
	Extent of regeneration elements		Successive decreasing to 1 ar (0,01 ha)	Successive decreasing from current status	According to model	
	Objectives of measurements:		Acquirement structure for status of level upper FCS, location measurements to places with no aqurete structure or no proper tree species composition. Successive elimination economic trees (sm, sc, bo). Consistent elimination invasive trees			
	Raising forest stands		Improving difference structure for acquirement status of level upper FCS. Successive elimination economic ingredient trees (sm, sc, bo) and consistent elimination invasive species in youngest stages of development of forest stands			



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Habitats – main challenges

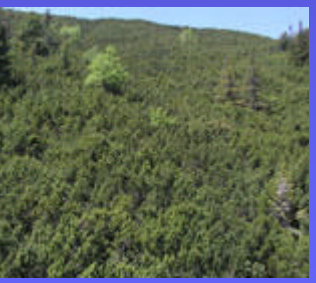
Steps:

Before ***(transposition of Habitats Directive to the national law, clear definition and manuals, start of systematical mapping, revision of existing data basis, transformation and processing the data, using them for pSCIs)***

Now

Mapping, monitoring and reporting ***(****6-year reports on status, trend, favourable reference values – due in Jnne 2007)*

Protection and management ***(****FCS, via management plans for areas and rescue programs for areas or species, currently only 6 approved management plans and 1 rescue program for protected areas, over 40 for species)*







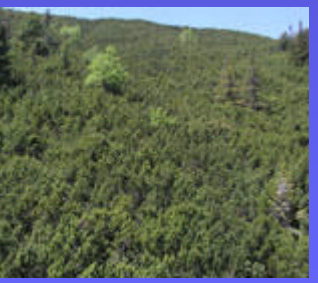
Habitats – challenges and strategies

Generally - challenges:

** Mixed land ownershop in all cathegories of protected areas*
** Sectoral aproach to habitats management*
** Insufficient budget allocations for incentive schemes*
**Lacking awareness*

Generally - strategies:

** purchase land, leasing etc.*
** Promotion of integrated approaches to land management*
** Environmental schemes funded both from EU and national sources*
** Awareness raising programs*







Habitats – main strategies (documents)

National documents approved by the Government /Parliament

- *Environmental Action Plan,*
- *Uptated Action plan for implementation of National Strategy...Biological Diversity (2003-2010, 13.55 bilion Slovak crowns)*
- *Concept of nature protection in Slovakia (2006-2015, 20 aims and 33 measures, 585, 5 mil. Slovak crowns)*

Sectoral documents

- *NATURA 2000 strategy and Action plan for 2006-2013*

EU funds







Strategy for NATURA 2000 (2005-2013)

Followed and „replaced“ the strategy and action plan (2001-5 and the communication strategy (2004-2010)

5 strategic goals:

- *legal protection of species, habitats and sites (SPAs, new pSCIs, designation SCIs)*
- *institutional support (increase staff, infrastructure, information centres)*
- *Awareness, communication and international coordination (publications, campaign, common projects..)*
- *Maintan/restore favourable conservation status of species, habitats and sites (Article 6.2-6.4, management plans + rescue programs, using instruments – rural development);*
- *Long-term monitoring (information and monitoring system, reporting)*

Approved by the Ministry (framework of the sector) along with the ***Action Plan for 2006-2013*** *(20 tasks, 138 measures that are included into the annual plan of the Ministry and its bodies, mainly State Nature Conservancy of SR)*





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Habitats – related to the EEA projects

Conservation of Forest Habitats of European interest in Slovakia

Improving Coexistence of Large Carnivores and Humans

Restoration of Salt Meadows and Salt Marshes in Slovakia









Restoration of Salt Meadows and Salt Marshes in Slovakia



Challenges:

** 2 priority habitats types in Slovakia*

1340 - Inland salt meadows

1530 - Pannonic salt steppes and salt marshes

** Total area decreased by 90 % in last 50 years*

** Remaining area of typical habitats - 50 ha (500 ha including subhalophyte habitats, on 20 sites)*

**23 halophyte plant species are critically endangered and 3 plant species are extinct (Red List)*

**Causes of negative trend*

Changes in hydrological regime resulting in decrease of underground water level

Land abandonment/ lack of traditional management/progressive secondary succession/accumulation of biomass on sites/changes in chemical characteristics of soils

Restoration of Salt Meadows and Salt Marshes in Slovakia



3 project sites (pSCIs)

** Kamenín (150 ha) 1340 – 1 ha, 1530 – 0,01 ha*

The only site in Slovakia with occurrence of Limonium gmelinii susp. hungaricum

**Tvrdošovce (70 ha) 1340 – 2 ha, 1530 – 0,02 ha*

** Mocenok (60 ha) 1340 – 3 ha, 1530 – locally*

Overall project objective:

to achieve favourable conservation status of salt meadows and salt marches in Slovakia

Project purpose:

to halt degradation of salt meadows and salt marshes on 3 sites in Slovakia

Outputs:

Management plans for 3 pSCIs and recovery plans for halophyte plant species

Measures from management plans and from recovery plans implemented

Land with occurrence of salt meadows and salt marshes owned by State...

Restoration of Salt Meadows and Salt Marshes in Slovakia

Project Activities

1/Development of 9 recovery plans for halophyte plant species

2/ Development of 3 conservation management plans for pSCIs

3/ Implemeting measures for improvement of water regime at targeted sites.

4/ Land purchase.

5/ Delineation of borders between targeted sites and agricultural land

6/ Implementing measures for halting secondary succession – removal of pionier woody species on area of cca 100 ha, mowing of salt meadows and removal of biomas from sites, extensive grazing of cattle

7/ Monitoring of hydrological and pedochemical regime and of plant and animal populations

8/ Publicity of the project (www, leaflets, articles in newspapers, interviews in TV/radio, excursions, workshops, scientific conference)



Conservation of Forest Habitats of European interest in Slovakia

Challenges:

**Management of protected areas not facilitated through a single management plan*

Nature Sector – (Conservation) Management Plans for PA

Forestry Sector – Forest Management Plans (FMP)

**Lack of effective coordination and communication on management planning and management of forested NATURA 2000 sites between sectors involved*

** Improper forest management practices and insufficient integration of the objective of NATURA 2000 into forest management*

**Structure and content of the FMP do not sufficiently serve NATURA 2000 objective*

**Absence of methods/schemes for assessment of the impact of forest management practices on the conservation status of forest habitats (Annex I HabDir)*



Conservation of Forest Habitats of European interest in Slovakia

Overall project objective: *to mantain favourable conservation status of forest habitats and species of Community interest through elaborating guidelines and procedures for integrating conservation measures into forest management planning and forest management across Slovakia;*

Project purpose: *developing a framework and procedures for integrating forest conservation measures from nature management plans (for protected areas) into forest management plan.*

Outputs:

Integrated Management Models for forest habitats (Annex I of HabDir)

Guidelines and procedures for developing the Integrated Forest Management Plans in NATURA 2000 sites

Pilot Integrated Forest Management Plans for the Project Sites



Conservation of Forest Habitats of European interest in Slovakia

Project Activities

1/Developing of management models for forest habitats in consideration of criteria and indicators of favourable conservation status of respective forest habitat types and ecological requirements of plant and animal species supported by forest habitats

2/ (Gap) Analyses of the structure and content of the existing format of forestry management plans (FMP) against the data needs for assessing conservation status and trends of forest habitats/species

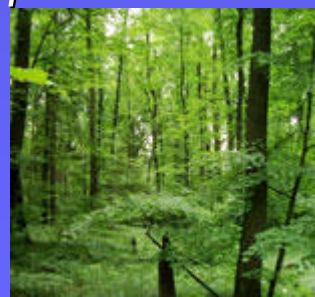
3/ Revision of the structure and content of the FMP so that it accommodate data needed for assessing conservation status of forest habitats/species and for management planning in consideration of NATURA 2000 objectives

4/ Revision of guidelines and procedures for developing FMP in order to develop specific guidelines and procedures for developing integrated forest management plans for forested NATURA 2000 sites. Analyses of financial impacts of implementing extended procedures.

5/ Developing pilot integrated forest management plans

6/ Publicity of the project

7/ Project coordination and financial management



Thank you for your attention



Zacharova.jana@enviro.gov.sk

www.enviro.gov.sk

www.sopsr.sk/natura