

**Methodological Approaches
to the Environmental Evaluation
of Plans and Programs
for the Recreational Development**

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Methodological approach

4 stages:

1. the description of baseline environment including protected areas and social, cultural phenomenas as well;
2. the establishment of aims and priorities;
- 3. environmental evaluation;**
4. the integration of results into the plan/program

Step 3

Environmental Evaluation

Purposes:

- to identify alternatives, goals and priorities of the development plan
- to evaluate the compatibility and assumed effects of mitigation measures contra environmental / sustainable goals and indicators
- to present results of the evaluation of the development plan

Step 3

Environmental Evaluation

Activity	1	2	3	4	5	6	7	8	9	10
transport and travel	+	+/-	-	?	+/-	+/-	?	-	-	?
recreational nature based pursuits										
souvenir purchases										
infrastructure changes										
feeding wildlife										
use of firewoods										
new recreational facilities										
etc.										

Notes:

? = without impact; + = positive impact;

- = negative impact

1 = geology; 2 = air; 3 = water; 4 = soil; 5 = biota; 6 = public; 7 = landscape; 8 = stability; 9 = nature protection; 10 = environmental quality

Methodological approach

- Strategic Environmental Assessment
- Environmental Assessment

The specific feature of environmental impact assessment in Slovakia is that great emphasis is put on the landscape, which coincides with the environment (see the definition of the landscape lower). Quality of the landscape is considered the quality of environment.

Groups of impacts

(Drdos, 2005)

1. The natural landscape components (natural impacts);
2. Landscape (as geosystem and ecosystem), its structure and use (geosystem impacts);
3. Protected areas and elements of the territorial system of ecological stability (USES) (ecosozological impacts);
4. Image of the landscape (visual impacts);
5. Population (social impacts);
6. Economy and its branches (economic impacts);
7. Material and immaterial components of culture (cultural impacts).

Groups of impacts (Pavlickova, 2004)

- 1) Quality – positive, negative
- 2) Type – natural, social health-related, economic
- 3) Nature – direct, indirect, cumulative
- 4) Significance – high, low, average
- 5) Scope – local, regional, crossboundary, global
- 6) Timing – short- or long-term
- 7) Duration – temporary, permanent
- 8) Uncertainty – low or high probability
- 9) Retrievability – retrievable, irretrievable
- 10) Magnitude – big, medium, small, very small
- 11) Rate – qualitative, quantitative
- 12) Occurrence – real, perceived

Basic Groups of Impacts

- Direct = the change of the environment caused proximately by the activity
- Indirect = the change of the environment caused by the change of other element of the environment (secondary impacts)
- Cumulative = impacts on the environment occurred as a consequence of effects of one activity in the mutual functional and temporal coherences with impacts of past, certain and future activities
- Synergic = impacts of relationships as a reaction within impacts of different activities

Example of method - Matrix

Advantage	Disadvantages	DI	II	CI	SI
Good visual summary of impacts. Could be used for the identification and evaluation of impacts and their relationships.	Could be very complicated and overcharged by set of informations.	√	√	√	√

Evaluation of impacts

In the first step as:

- 0 – no impact (proposed activity does not effect environmental elements, human body, landscape in any manner)
- 1 – Non-important = very small significant impact (impacts with a character of risk, accident or with a minor effect or contribution)
- 2 – Small important (impact which effect is from the quantitative point of view low, local and the receptivity is low)
- 3 – Important (it reaches broaden area, the receptivity is high)
- 4 – Very important (the receptivity is high till very high)

Evaluation of impacts

In the second step are for groups of impacts weight added:

- Impacts on abiotic environment: 1,00
- Impacts on biotic environment: 3,00
- Impacts on the landscape: 2,00
- Impacts on protected areas and protected zones:
3,00
- Impacts on human bodies and social-economic activities: 2,00
- Impacts on the infrastructure and land-use: 2, 00.

The values of weights were determined on the basis of:

- Overall nature of affected areas from the point of view of representation and vulnerability of natural and landscape elements and localization of activities in protected areas or their protected zones, too.
- population size in the affected area and concentration of human bodies
- an importance and a gain of proposed activity from the point of view of economic and sociable development of a region.

Impacts on:	Weight	Importance	Resulted evaluation	Importance	Resulted evaluation
		During construction		During operation	
Health risks	2	-1	-2	1	2
Social-economic development	2	1	2	2	4
Well-being and quality of life	2	-1	-2	1	2
Attractivity of territory	2	-1	-2	1	2
Urban complex	2	0	0	1	2
Culture and historical values	2	0	0	0	0
Regional development	2	1	2	2	4
Geology	1	-1	-1	-1	-1
Mineral raw materials	1	0	1	0	0
Geodynamic effects	1	-1	-1	-2	-2
Geomorphology	1	-1	-1	-1	-1
Climate	1	0	0	0	0
Air	1	-1	-1	-2	-2
Soil	1	-1	-2	-1	-1
Ground waters	1	-1	-1	-2	-2
Surface waters	1	-1	-1	-1	-1
Flora	3	-3	-9	-2	-6
Fauna	3	-1	-3	-3	-9
Biotops	3	-3	-9	-3	-9
Landscape structure	2	0	0	-1	-2
Landscape scenery	2	-1	-1	-3	-6
Protected areas and protected zones	3	-4	-12	-4	-12
Territorial system of ecological stability	3	-4	-12	-4	-12

Protected Areas in Slovakia

Categories of protected areas in Slovakia

Act defines these categories of protected areas:

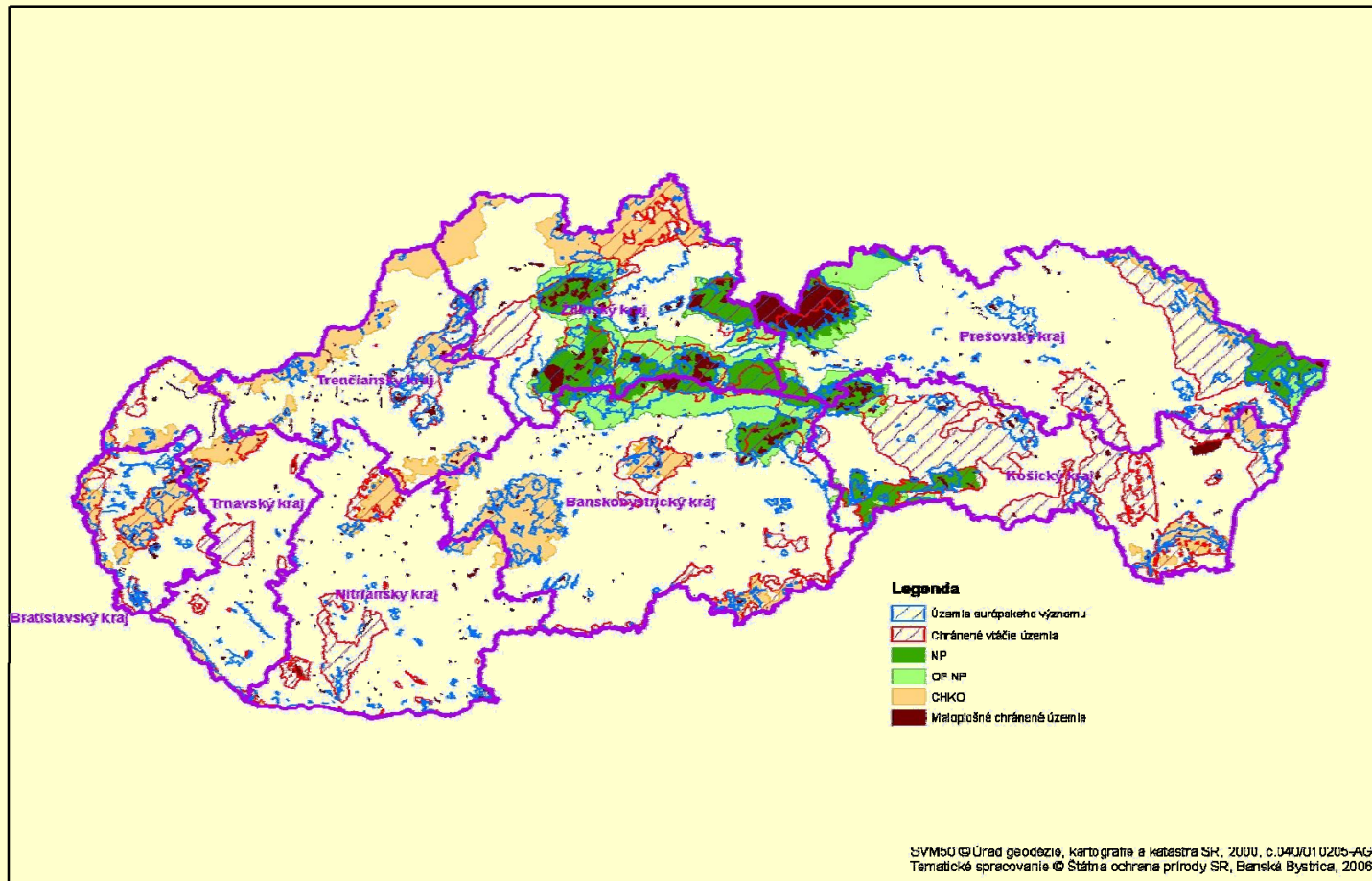
- protected landscape area (14)
- national park (9)
- protected site (179)
- nature reserve (383) + national nature reserve (219)
- nature monument (228) + national nature monument (60)
- protected landscape element
- protected bird area
- area of European interest (NATURA 2000)

- (private protected area)

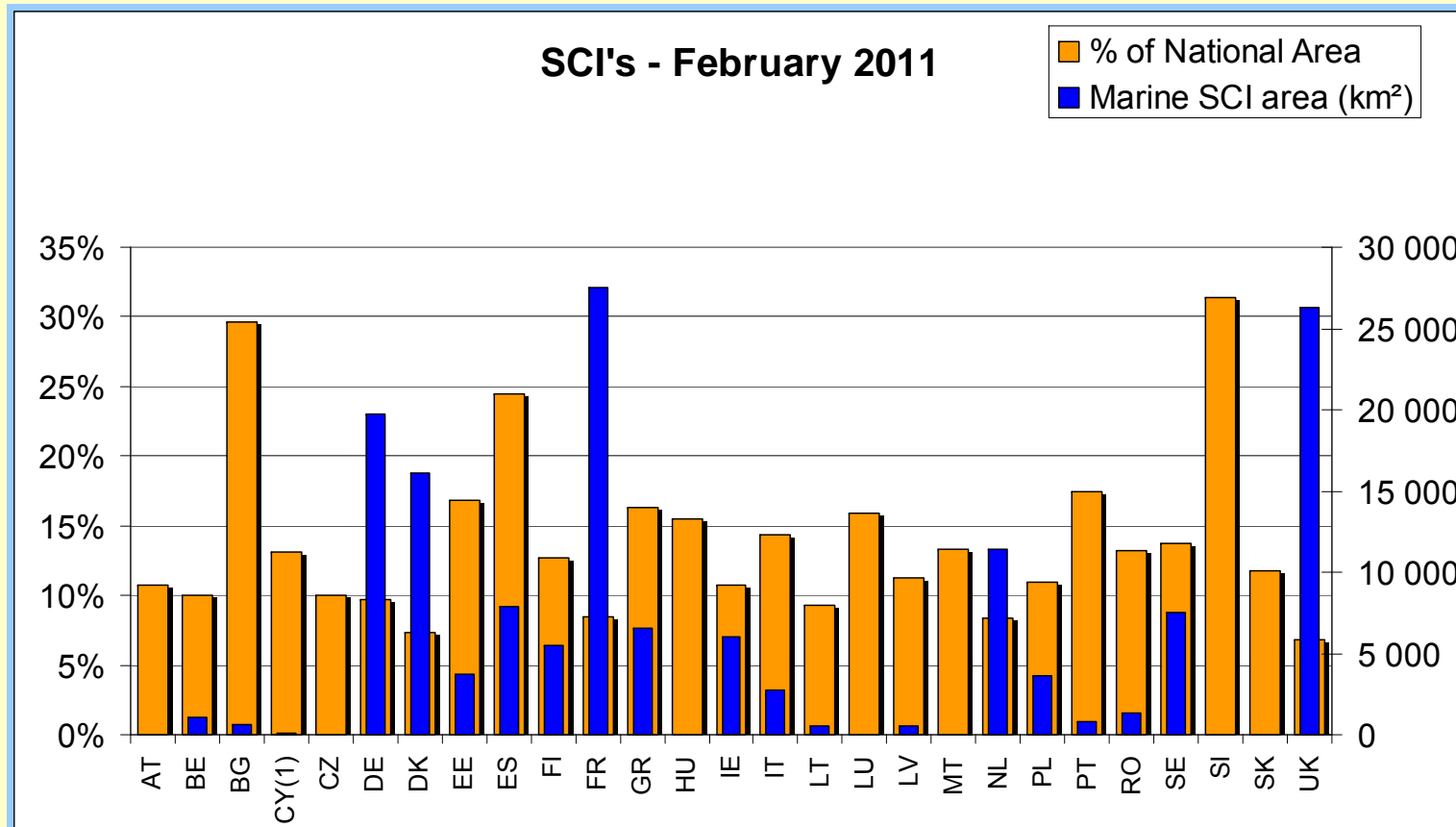
Total area of territorial nature and landscape protection according its levels in Slovakia

Level of landscape protection	Area (km ²)	Area (% of SK)
I.	3 768 191	76,9
II.	758 279	15,4
III.	266 264	5,4
IV.	18 049	0,4
V.	92 617	1,9
II. – V.	1 135 209	23,1

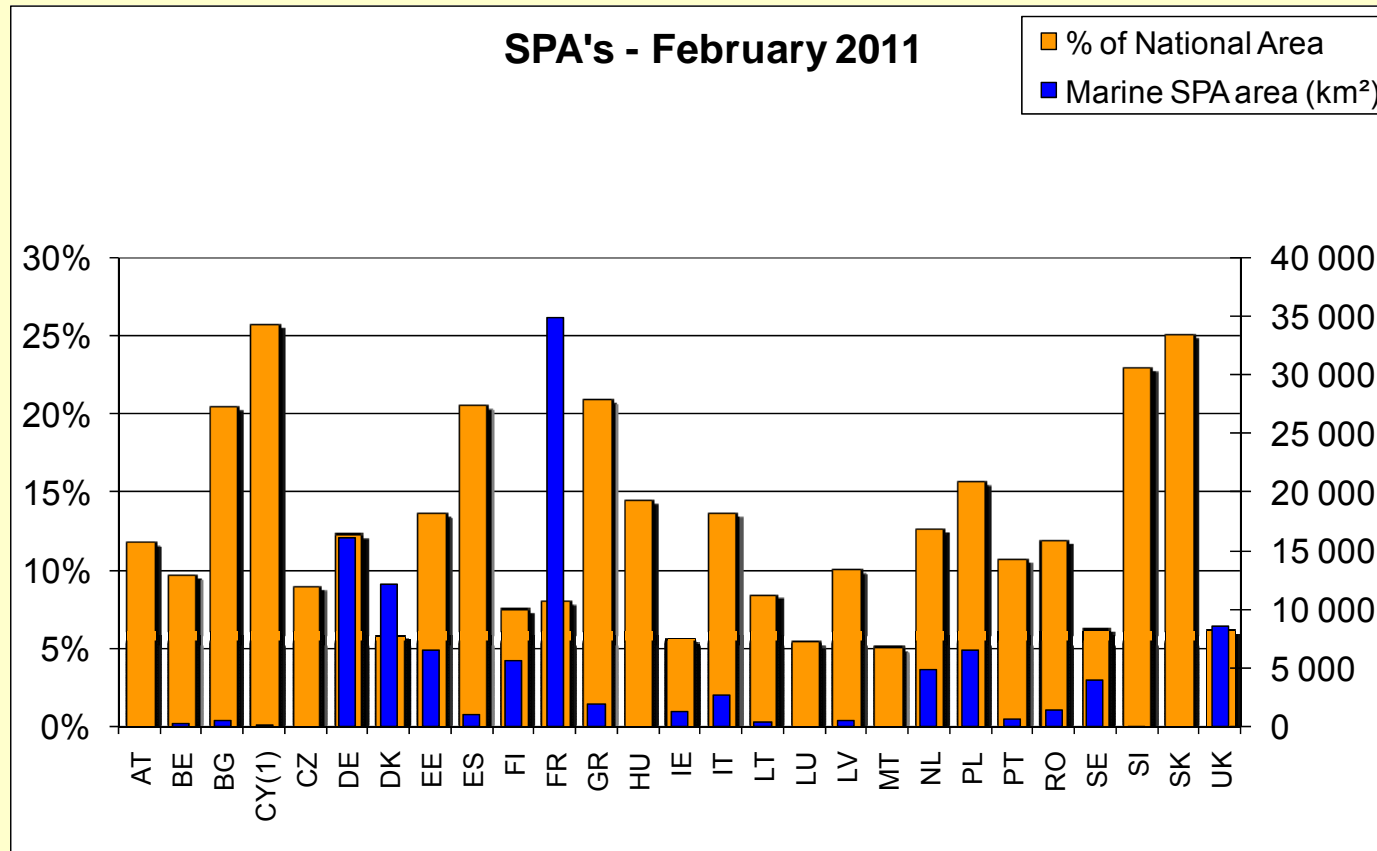
Overlapping of SPAs and SCIs with protected areas in Slovakia



NATURA 2000 in EU – How much???



NATURA 2000 in EU – How much???



Analyzed territory

Analysed territory

- Zalostinska vrchovina with so called White Carpathian fliish reaches 300-620 m of altitude in the peak parts. The relief is distinguished for medium or sometimes steep slopes that appear in the central and lower parts of valleys. Relative altitudinal division in peripheral parts of the mountain range is 181-310 m, in the central parts of the mountain range 311-470 m. Oak-hornbeam communities with sedge-grass (*Carici pilosae - Carpinetum, Queco - Carpinetum caricetosum pilosae*) can be found here. From the point of view of level of feasibility for rural tourism and agri-tourism of agriculture enterprising, the mentioned forest formation is assessed as forest communities extremely feasible for the given plans.
- Myjavská pahorkatina is characterised by more smoothly modelled relief, sometimes with broad flat ridges. Slope inclination is 6-10°, rarely up to 15°. Myjavská pahorkatina is localised roughly over 220-250 m, only relatively small parts exceed 400 m. The largest part of the territory is covered by beech forest, in ridge locations also by talus forests with sycamore maple and ash tree. Myjavská pahorkatina has dryer climate and therefore there is a great number of xerothermic species with weak representation of Dealpine and Carpathian components. Modification of the original natural ecosystems in the whole area to agricultural landscape has, however, liquidated the previous abundance of the Panonic flora.







Protected areas

Type	Name	Landscape Protected Area	Expanse	Year of declaration	Level of protection
Natural Monument	Bučkova jama	White Carpathians	40,91	1993	4
Natural Monument	Kožíkov vrch	White Carpathians	2,8285	1990	4
Natural Monument	Malejov	White Carpathians	0,8241	1990	4
Natural Monument	Štefanová	White Carpathians	5,4759	1990	4
Natural Monument	Žalostiná	White Carpathians	2,1199	1994	4





„Kopanittsee“

The development of land use is very close connected to settling the territory.

Analyzed model territory belongs to ancient settlement areas with archaeological sites. Larger colonization is connected with construction of 2 castles (Cachtice, Branc) in 13th century and the period of Turkish wars. The rush of inhabitants into model territory in 16th century. This rush was so great that the central parts of municipalities did not know to overlap the interest of colonized land. This situation motivated the formation of kopanitseh when new buildings and new farms were established. Economically self-sufficient kopanittsee permanently apart from original central parts of municipalities were based. (Labuda, Pavlickova, 2006)

The Myjavská pahorkatina Hill Land was marked with very varied landscape mosaic and extensive land use. This territory was also typical with the smallest average area of agriculture land in the former Czechoslovakia. This value was 250 square meters. The process of collectivization, which could be pointed as a very important intervention into the land use in the Myjavská pahorkatina Hill Land, was very rapid till 1957 year. The dispersed settlements still exist and it is used as an „oasis“ for „second living“.





Stakeholder Engagement Plan

SEP - principles

- transparency
- providing meaningful information in format and language (mainly Slovak) readily understandable, and tailored to the needs of the target stakeholder group
- providing information in advance of consultation activities
- disclosure of information (written, oral) in ways and locations that make it easy for relevant stakeholders to access it along the consultation process
- use oral or visual methods to explain information to non-literate stakeholders
- respect for traditions of discussion
- clear mechanisms for responding to stakeholders concerns, suggestions and grievances; and adequate to the type of group consulted
- incorporating feedback, and reporting back to stakeholders.

Stakeholders

- the state and self-governmental authorities governing all aspects of any of the foreseen activities as well as environmental issues activities.
- permitting authorities on the state or self-governmental levels
- public - different categories of population inhabiting or working in both, very close and wider neighbourhood area
- local, national and international environmental and social NGOs
- business and professional associations
- expert and academic institutions
- „public concerned“
- workforce.

Basic questions for stakeholders

- what number of tourists is suitable?
- what is the nature of the activities under which tourists partake?
- is needed new infrastructure provided by tourist planners at the site?
- are guidelines for appropriate behaviours issued to tourists?
- what have tourists been told to expect – what promotional promises have been made in any site advertising?
- what levels of fragility exist within the natural or build environments that host the tourists?

Thanks for
your attention.