Methodology of Carpathian Habitats Red List – Proposal

Carpathian Convention Working Group on Sustainable Forest Management , Donji Milanovac, Serbia, 23-24 April 2012
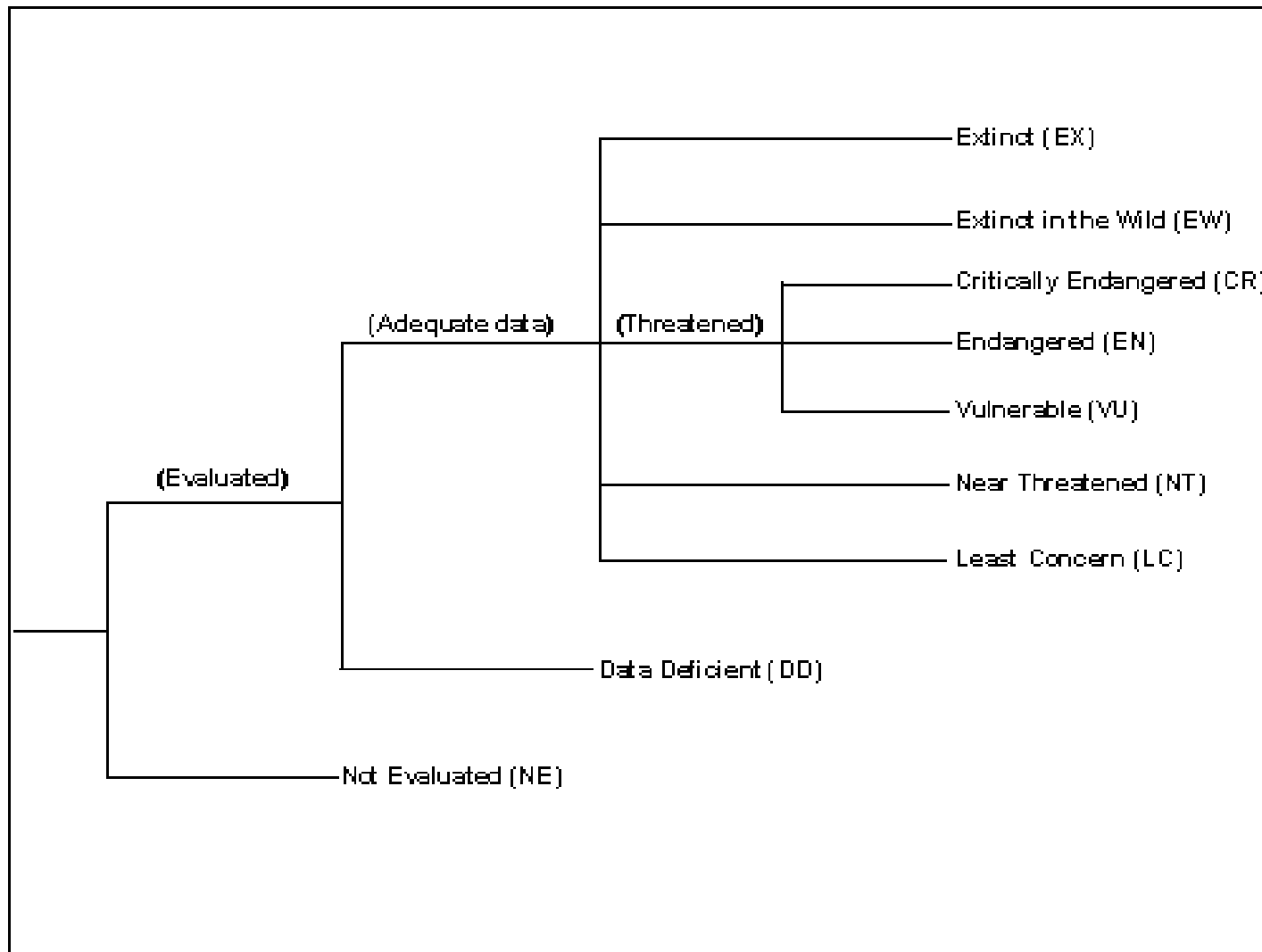
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Issue of (Habitat) Red Lists

- **IUCN Criteria for red list <u>can be applied to any taxonomic unit</u> <u>at or below the species level.</u>**

- **<u>What about habitats????</u>**

- **<u>No official approach was defined and agreed by IUCN yet</u>**

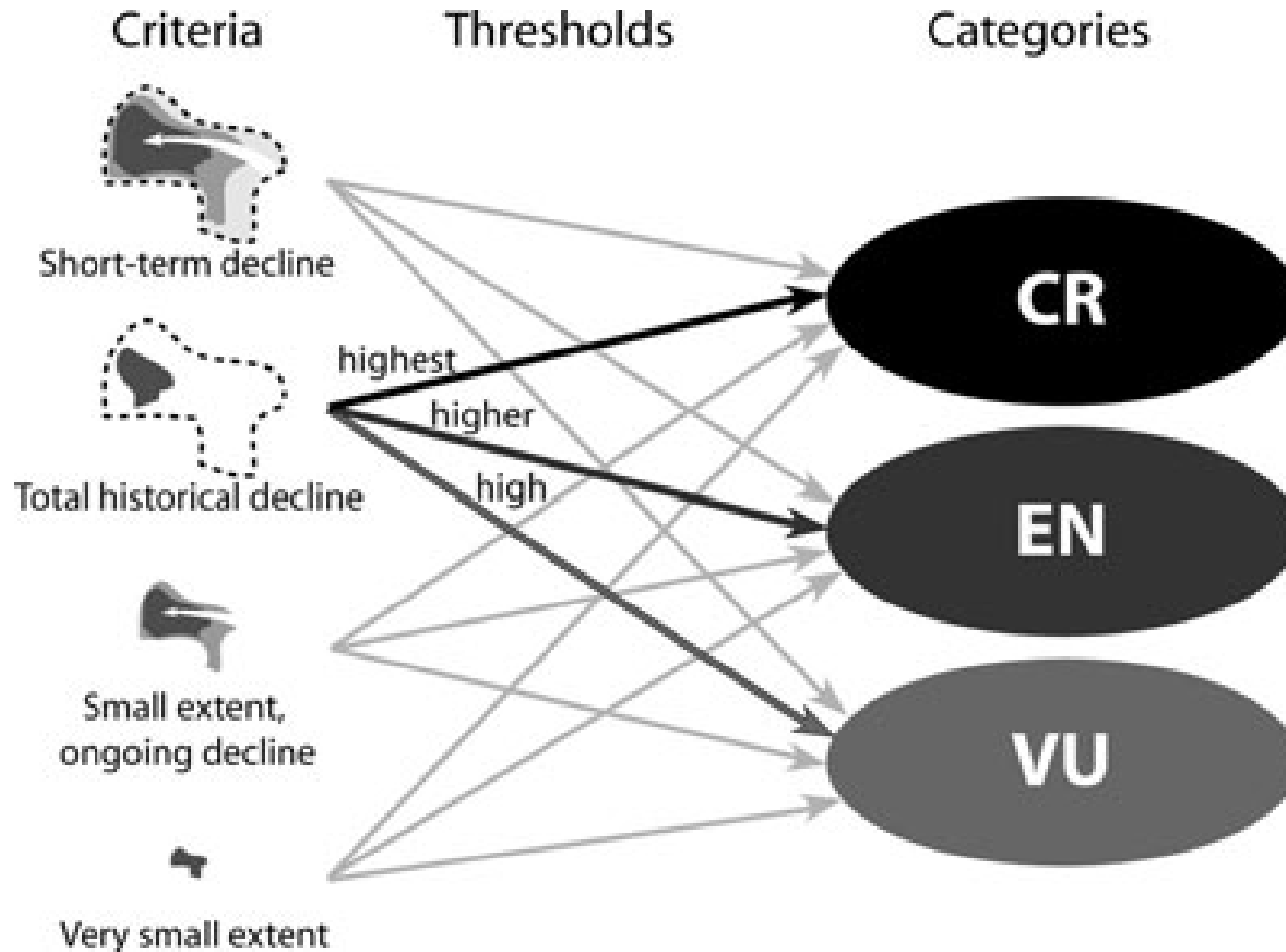# IUCN Red List Categories for species

Some known attempts to establish national habitat Red lists, or to develop criteria for it on national level

- **Establishing IUCN Red List Criteria for Threatened Ecosystems (RODRIGUEZ et all 2010)**

- **The Norwegian Red List of on Habitats (Kjaerstad, 2011)**

- **German Red List of Threatened Habitats (http://www.bfn.de/0322_biotope_kat+M52087573ab0.html)**

- **Red List of on Habitats of Czech Republic(Kučera, ed. 2005)**

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Establishing IUCN World Red List Criteria for Threatened Ecosystems (Rodriguez *et al* 2011)

Rodriguez et all

SOUTH EAST EUROPE
Transnational Cooperation Programme

BioREGIO
carpathians

Programme co-funded by the
EUROPEAN UNION

Table 1. Possible categories and criteria for use in developing a red list of ecosystems[a].

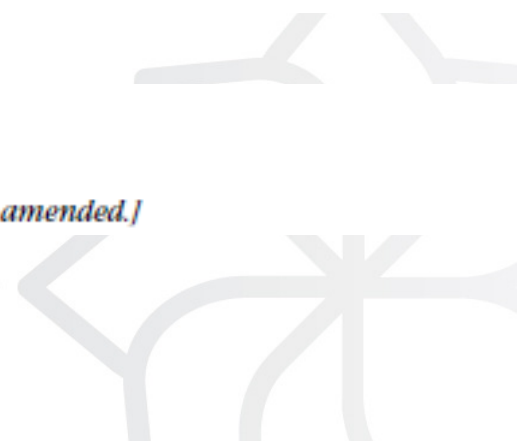| Criterion	Subcriterion	Status[b]
A: Short-term decline (in distribution or ecological function) on the basis of any subcriterion	1. observed, estimated, inferred or suspected decline in distribution of	
	$\geq 80\%$,	CR
	$\geq 50\%$, or	EN
	$\geq 30\%$	VU
	over the last 50 years	
	2. projected or suspected decline in distribution of	
	$\geq 80\%$,	CR
	$\geq 50\%$, or	EN
	$\geq 30\%$	VU
	within the next 50 years	
	3. observed, estimated, inferred, projected, or suspected decline in distribution of	
	$\geq 80\%$,	CR
	$\geq 50\%$, or	EN
	$\geq 30\%$	VU
	over any 50-year period, where the period must include both the past and the future	
	4. relative to a reference state appropriate to the ecosystem, a reduction or likely reduction of ecological function that is	
	(a) very severe, in at least one major ecological process, throughout $\geq 80\%$ of its extant distribution within the last or next 50 years;	CR
	(b1) very severe, throughout $\geq 50\%$ of its distribution within the last or next 50 years;	EN
	(b2) severe, in at least one major ecological process, throughout $\geq 80\%$ of its distribution within the last or next 50 years;	EN
	(c1) very severe, in at least one major ecological process, throughout $\geq 30\%$ of its distribution within the last or next 50 years;	VU
	(c2) severe, in at least one major ecological process, throughout $\geq 50\%$ of its distribution within the last or next 50 years.	VU
	(c3) moderately severe, in at least one major ecological process, throughout $\geq 80\%$ of its distribution within the last or next 50 years	VU

Criterion	Subcriterion	Status[b]
B: Historical decline (in distribution or ecological function) on the basis of either subcriterion 1 or 2	1. estimated, inferred, or suspected decline in distribution of ≥90%, ≥70%, or ≥50% in the last 500 years	CR EN VU
	2. relative to a reference state appropriate to the ecosystem, a very severe reduction in at least one major ecological function over ≥90%, ≥70%, or ≥50% of its distribution in the last 500 years	CR EN VU

[a] Based on the IUCN Red List (IUCN 2001) and other systems proposed to date (Nicholson et al. 2009).
[b] Abbreviations: CR, critically endangered; EN, endangered; VU, vulnerable.
[c] See IUCN (2001, 2010b) for guidelines on measuring extent of occurrence and area of occupancy.
[Correction added after publication 5 November 2010: Errors in the second column of Criterion D were amended.]

C: Small current distribution and decline (in distribution or ecological function) or very few locations on the basis of either subcriterion 1 or 2

1. extent of occurrence^c estimated to be
≤ 100 km^2,   CR
$\leq 5{,}000$ km^2, or   EN
$\leq 20{,}000$ km^2 VU

and at least one of the following:
(a) observed, estimated, inferred, or suspected continuing decline in distribution,
(b) observed, estimated, inferred, or suspected severe reduction in at least one major ecological process,
(c) ecosystem exists at
only one location,   CR
5 or fewer locations, or   EN
10 or fewer locations.   VU

or

2. area of occupancy^c estimated to be
≤ 10 km^2,   CR
≤ 500 km^2, or   EN

≤ 2000 km^2 VU

and at least one of the following:
(a) observed, estimated, inferred, or suspected continuing decline in distribution,
(b) observed, estimated, inferred, or suspected severe reduction in at least one major ecological process,
(c) ecosystem exists at
only one location,   CR
5 or fewer locations, or   EN
10 or fewer locations   VU

D: Very small current distribution, estimated to be

≤ 5 km^2,   CR
≤ 50 km^2, or   EN
≤ 100 km^2,   VU

and serious plausible threats, but not necessarily evidence of past or current decline in area or function.

Norwegian Red List of on Habitats

Four types of criteria:

- Areal reduction
- Few localities and decreasing area
- Few localities
- Decreasing habitat Quality

- Known methodology...(but in Norwegian)
- [Norsk rřdliste for naturtyper 2011 LITEN SIKRET 6u2 6O.pdf](#)

German Red List of Threatened Habitats

Criteria

- **Area Loss (FL) and Regional Threat (rG)**
- **Quality Loss (QU)**
- **Current trends**
- **Regenerability (RE)**
- Not known thresholds between categories yet
- [BfN Threat criteria and categories in the German Red List of Threatened Habitats.htm](BfN_Threat criteria and categories in the German Red List of Threatened Habitats.htm)

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What we need, (or can) to do on Carpathian habitats red list?

Expected result in the Bioregio project is Red list on habitats for Carpathians.

To establish it we need to decide:

- Units for the list (Habitat level, National biotopes, Natura2000 habitats, phytosociology units, etc...)

-We need data about above mentioned units, according to chosen criteria

-We need categories, criteria, thresholds

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What habitats data we have got for whole carpathian teritory?

The results of Questionnaires about forest data availability :

Potential vegetation:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	yes	yes	no	?	?	no	?
Database	no	no	no	?	?	no	?

National classification:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	yes	yes	yes	?	?	no	?
Database	no	yes	yes	?	?	no	?

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The results of Questionnaires about forest data availability :

Natura 2000 habitats:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	yes	/.	yes	yes	?	no	?
Database	yes	no	yes	yes	?	no	?

European Forest Types:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	?	yes	?	?	?	no	?
Database	?	yes	?	?	?	no	?

Existing central database on forests in the country:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	/. yes	yes	no	No ?	?	no	?
Database	/. yes	yes	no	No ?	?	no	?

The results of Questionnaires about forest data availability :

Natura 2000 habitats:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	yes	/.	yes	yes	?	no	?
Database	yes	no	yes	yes	?	no	?

European Forest Types:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	?	yes	?	?	?	no	?
Database	?	yes	?	?	?	no	?

Existing central database on forests in the country:

Country	CZ	SK	H	PL	UA	RO	SR
Map GIS	/. yes	yes	no	No ?	?	no	?
Database	/. yes	yes	no	No ?	?	no	?

What data we can use for Carpathians ???

- **Carpathian Biodiversity Information System** manages information on **distribution (but no area of occurrence)** of:
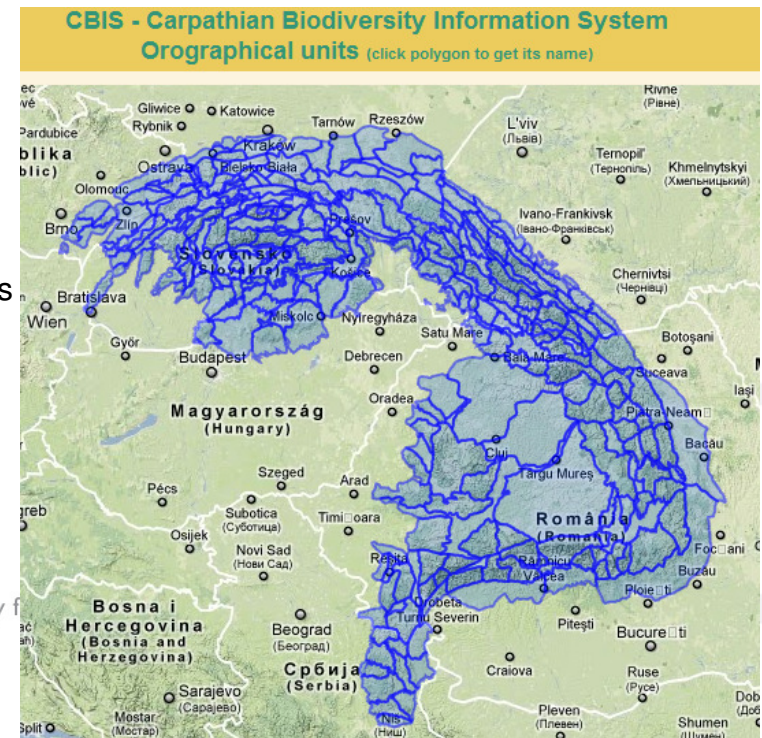 — All Carpathian Habitats

  (represented by Alliances)

    — Endemic and Natura 2000 AnnexII Carpathian Plant Species
    — Endemic and Natura 2000 AnnexII Carpathian Animal Species

  in 309 Orographical Units

  CBIS is divided into Two Sections:
    — The Eastern Carpathians
    — The Western Carpathians

CBIS - Carpathian Biodiversity Information System
Orographical units (click polygon to get its name)

Carpathian Biodiversity Information System (Eastern)
List of 148 habitats (state in december 2008)
rows color legend: Not used for eco-network design Missing targets

id	Alliance	Targets	
		high	normal
1001	Abieti-Piceion (Br.-Bl. In Br.-Bl. Et al. 1939) Soó 1964	-1	-1
16	Aceri tatarici-Quercion Zólyomi & Jakucs 1957	80	0
17	Adenostylion alliariae Br.-Bl. 1926	60	0
501	Agrostion stoloniferae Soó (1933) 1971	-1	-1
19	Alnion glutinosae Malcuit 1929	80	0
20	Alnion incanae Pawlowski in Pawlowski, Sokolowski et Walisch 1928	80	0
605	Alnion viridis Aichinger 1933	-1	-1
21	Alopecurion pratensis Passarge 1964	0	0
502	Alysso alyssoidis-Sedion albi Oberdorfer et Müller in Müller 1961	100	0

Carpathian Biodiversity Information System
Western Carpahtians - List of 137 habitats

Alliance	
Aceri tatarici-Quercion Zólyomi 1957	N2000 priority habitat
Adenostylion alliariae Br.-Bl. 1926	N2000 habitat
Alnion glutinosae Malcuit 1929	
Alnion incanae Pawłowski in Pawłowski, Sokolowski et Walisch 1928	N2000 priority habitat
Alnion viridis Aichinger 1933	
Alopecurion pratensis Passarge 1964	N2000 habitat
Alysso alyssoidis-Sedion albi Oberdorfer et Müller in Müller 1961	N2000 priority habitat
Androsacion alpinae Br.-Bl. in Br.-Bl. et Jenny 1926	N2000 habitat

Expected criteria will be ?

Norwegian:
Areal reduction
Few localities and decreasing area
Few localities
Decreasing habitat Quality

IUCN? : (Rodriguez)

Short term decline
Total historical decline
Small extent on-going decline
Very small extent

Germany:
Area Loss and Regional Threat
Quality Loss
Current trends
Regenerability

Carpathians?
Area Loss (Total historical decline)?
and Regional (Carpathian) Threat
Quality Loss
Current trends (on-going decline)
Regenerability – (trends)
Maybe endemism ?
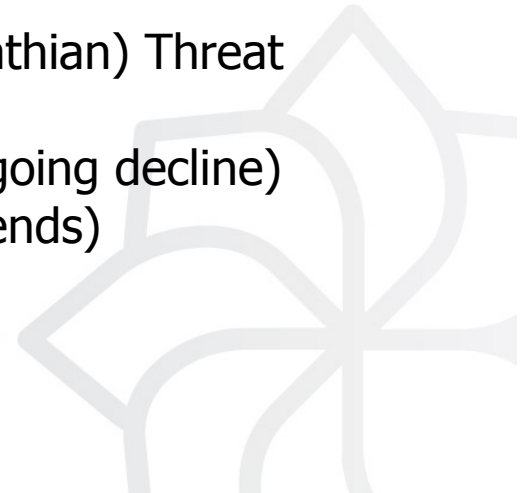
What ever the criteria will be like, we will need information about:

Real occurrence of habitats
-Real mapping, or estimating, for Carpathian part of the countries
-Or for the orographic units

Previous occurrence of habitats in the
-Historical study, 50, 500 years ago
-Potential vegetation

Real current status of habitats
-According FCS (A,B,C...)
-Or degree of preservation

Trends, regenerability
-Threats
-Experts evaluation of trends

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Proposed Methodical Approach for Carpathians
Next steps:

1. Step

The next proposed questionnaire should collect the data for orographic units or group of them in the Carpathian countries.

2. Step

Collecting and summarizing national questionnaires on Carpathian level.

Developing final criteria and thresholds for Carpathians
Proposal of red list category on Carpathian level

3. Step Discussions and final proposal.

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Proposal of questionaire for data collecting for habitats red list

National experts will fill data into database with prepared columns:
• Orographic unit/ country/ alliance according the database CERI:
Proposed columns for filling out by national experts:
• Potential area of distribution in hectares according to maps of potential vegetation for forest habitats (alliances) or estimated area of distribution 500 years ago.
• Estimated area 50 years ago
• Estimated area 10 years ago
• Current area
• Status A – area (in forest the area of primeval (virgin) forest)
• Estimated trend in the next 10 years

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Proposal of questionaire for data collecting for habitats red list

- Evaluating of regenerability
- Endemic Alliance in Carpathian
- Negative Threats to the area or status – maybe possible fill more than one but according to some possible (prepared) values
- Proposed IUCN Category in the Country (not for Orographic unit)
- Used sub criterion by Rodriguez
- Name of the national expert

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	Criteria	Category			
		CR	EN	VU	NT
1	Area decline				
1.1	Observed, estimated, inferred or suspected area reduction over the last 50 years *	> 90 %	70–90 %	50–70 %	25–50 %
1.2	Observed, estimated, inferred or suspected potentional area reduction over the last 50 years *	> 80 %	50–80 %	30–50 %	15–30 %
1.3	Observed, estimated, inferred or suspected area reduction in the next 50 years * (based on 1.1 and 1.2 and assumed development of key factors which influence the biotop status)	[not used]	[not used]	> 80 %	50–80 %
2	Reduction of sites number				
2.1	Number of sites and their reduction	≤ 5 localities	≤ 10 localities	≤ 50 localities	≤250 localities
3	Small number of sites				
3.1	Number of sites	[not used]	[not used]	≤ 5 localities	≤ 10 localities
4	Biotop status				
4.1	The biotop area has declined in the last 50 years compared to original status	Extrem reduction (> 80 %)	Very strong reduction (50–80 %)	Strong reduction (30–50 %)	fairly strong reduction (15–30 %)
4.2	The biotop area will decline in the next 50 years (based on.1 assumed development of key factors which influnce the biotop status)	[not used]	[not used]	> 80 %	50–80 %

Thank You for Your attention