

HABIT-CHANGE

List of climate-change induced and related pressures on protected areas

Output 3.2.2

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1. Introduction, objective and method

1.1. Introduction

In the proposal for the HABIT-CHANGE Project output 3.2.2 is described as following: “List of climate-change induced and related pressures on protected areas. List developed by each practice partner for each participating member state, summarised and adapted to the results of 3.2.1”.

During the discussions about the implementation of the DPSIR framework for classification of indicators and their use in the spatial decision support system (SDSS) in work package 5 it became obvious that many different and competing definitions for the term “pressure” exist between different project partners of the HABIT-CHANGE Project. The variety of different understandings only reflects the heterogeneous use of the term in different scientific concepts and approaches. The discussion about a common understanding of the term “pressure” took place while first project partners already submitted their contribution for this report. That is why the delivered information from the investigation areas needed an evaluation and partly new classification. The discussion about terms, definitions and concepts is still in progress but hopefully can be finished during the 3rd Partner Meeting in Portorož.

In this output the term “pressure” is defined as “habitat change (such as land use changes, physical modification of rivers or water withdrawal from rivers, and loss of coral reefs), climate change, invasive species, overexploitation, and pollution” (Omann et al. 2009). These pressures are results of human activities and are divided by Kristensen (2004) into three categories: “(i) excessive use of environmental resources, (ii) changes in land use, and (iii) emissions (of chemicals, waste, radiation, noise) to air, water and soil”. With the special focus of the HABIT-CHANGE Project Kristensens categories have to be completed by climate change as an important category of pressures that is also caused by human activities.

The protected habitats of the HABIT-CHANGE investigation areas have to be managed and maintained to reach a favourable conservation status. Several pressures on the habitats can stand contrary to the favourable conservation status. These pressures may be caused by land-use practices, management activities of land users and stakeholders or by changing climatic conditions. The key to climate-change adapted management plans (CAMPs) is the identification of relevant pressures and the development of management strategies and measures that can reduce or eliminate the pressures themselves or their impacts on the habitats. It is important to differentiate between pressures that may be influenced directly through the management authorities in the protected areas like pressures from land-use practices and pressures like rising temperatures that cannot be influenced directly by management activities inside the protected areas. The differentiation between locally driven pressures that are mainly caused by land-use practices and pressures that result from extensive regional or global developments is important for the identification of responsible actors that have to be addressed and integrated in the adaptation process of the management plans.

In most cases a clear differentiation between pressures, drivers and impacts is difficult. The intensification of agricultural land use may be a result of changing climatic conditions and therefore classified as an impact or respond to climate change but it may also be addressed as a pressure because it may influence the conservation status of protected habitats. Therefore a wide variety of

activities and pressures were offered in a table sent to the investigation areas so they could mark developments in their investigation area that may influence the conservation status of habitats.

1.2. Objectives

Main objective of the outputs 3.2.1 and 3.2.2 is the identification of problems, pressures, difficulties and their causes that influence the conservation status of protected habitats in the HABIT-CHANGE investigation areas.

The lists in this report give an overview of pressures reported from the investigation areas. Those pressures are one of the starting-points for the adaptation of management plans.

The tables provided with this report enable the management authorities to identify land users, sectors and habitats that adaptation measures should be focused on.

The table also serve as an information basis for intensified stakeholder dialogues in the investigation areas and to raise awareness of climate change and the problems related to either climate change or land use.

1.3. Method

The report on existing pressures in the HABIT-CHANGE investigation areas is based on data which was collected in the HABIT-CHANGE Project and already existing sources. Two sources were used as a basis for the collection of site specific data. At first site specific lists of habitats were extracted from an internet-database containing data about all Natura 2000 sites in Europe (<http://www.eea.europa.eu/data-and-maps/data/natura-2000/>). In a second step the information from Appendix E „Impacts and Activities influencing the conservation status of the site“ (from the Explanatory Notes from the Natura 2000 Standard Data Form (EU 15 version), Official Journal n° L 107 - April 24th, 1997, available at:

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/standarddataforms/notes_en.pdf) was used to create a list with possible pressures influencing the habitats in the investigation areas. This list was used to fill in a drop down list in every site specific habitat chart, thus for every habitat one or more relevant pressures could be selected. The list with pressures was checked by some experts from the Potsdam Institute for Climate Impact Research (PIK) and the IOER with their expertise and every pressure was assessed if it could be caused by climate change directly or indirectly. These assessment doesn't claim to be finished, it is open for further reassessment.

The prepared habitat lists inclusive the potential pressures list were sent to the protected areas management authorities or their academic partners together with some questions/instructions by e-mail at the end of 2010, and were returned until end of January 2011. For this output the respondents were asked to:

A) Check if the information about the habitats in the respective investigation area is right, and if the information is not correct to add or delete habitat types.

B) To mark the habitat types which are of interest for the HABIT-CHANGE project. A habitat type might be considered of interest, if

- the habitat is of special importance for conservation or,
- the habitat covers mayor parts of the area or,
- you have special expertise regarding this habitat or,
- you consider this habitat sensitive to climate change impacts.

C) To add the most important pressures influencing the conservation status of every selected habitat at the moment from a drop down list. Further pressures not listed so far could be added.

Both, the habitat list and the pressure list could be enlarged by the questioned persons.

In this output the term “pressure” is used similar to the term “difficulties” in the output 3.2.1. The pressures in this output 3.2.2 are always discussed with a focus on the habitat level. They can occur due to unsuccessful human actions, natural catastrophes or shortness of resources. They are often caused by land use activities but are frequently influenced by external factors (e.g. climate) also.

The gathered information was prepared in different charts. At first one chart shows all possible pressures that could influence the protected habitats in all investigation areas. In this chart it is tagged which pressure is relevant for which investigation area. Afterwards some more charts show the relevant pressures per investigation area and the habitat lists per investigation area together with relevant pressures per habitat. Concluding one chart shows all pressures which are relevant in the HABIT-CHANGE investigation areas, sorted according to their frequency. The frequency shows in how many areas the pressures occur.

2. Existing pressures on HABIT-CHANGE investigation areas

In the following the HABIT-CHANGE investigation areas are abbreviated as:

BNP	Biebrza National Park (Poland)
BR FEB	Flusslandschaft Elbe-Brandenburg Biosphere Reserve (Germany)
BR VTF	Vessertal-Thuringian Forest Biosphere Reserve (Germany)
BUNP	Balaton Uplands National Park (Hungary)
BucNP	Bucegi Natural Park (Romania)
DDBR	Danube Delta Biosphere Reserve (Romania)
KMNP	Körös-Maros National Park (Hungary)
NP SES	Sečovelje Salina Nature Park (Slovenia)
RANP	Rieserferner Ahrn Nature Park (Italy)
TNP	Triglav National Park (Slovenia)

2.1. List of pressures on HABIT-CHANGE investigation areas

Table 1: List of pressures on HABIT-CHANGE investigation areas

Pressures	Topic	Direct	Indirect	BNP	BR FEB	BR VTF	BUNP	BucNP	DDBR	KMNP	NP SES	RANP	TNP
		climatic cause											
Abandonment of pastoral systems	Land use			X			X			X			X
Agricultural structures (Change of)	Land use structure		x		X								X
Agriculture (Intensification of)	Management/ land use activities		x										
Agriculture (Extensification of)	Management/ land use activities		x										
Agriculture activities not referred to above	Management/ land use activities		x										
Air pollution	Land use												
Animal breeding	Land use												
Antagonism arising from introduction of species	Climate/ land use								X				
Antagonism with domestic animals	Management/ land use activities								X				
Aquatic sport activities	Tourism, Sport												X
Artificial planting	Land use		x						X	X			
Avalanche	Climate	x											X
Bailing	Management/ land use activities												X
Bait digging	Management/ land use activities												
Biocenotic evolution	Natural development			X			X						
Bridge, Viaduct	Infrastructure												
Burning	Land use		x							X			
Camping and Caravans	Tourism, Sport		x										
Canalisation	Infrastructure								X			X	
Collapse of terrain, Landslide	Climate		x										
Communication networks	Infrastructure												
Continuous urbanisation	Land use/ land use structure												
Cultivation	Land use		x							X			
Damage by game species	Natural hazards						X						
Discontinuous urbanisation	Land use/ land use structure												
Dispersed habitation	Land use/ land use structure								X				X
Disposal of household waste	Land use activities												
Drainage	Infrastructure			X				X				X	
Drift-net fishing	Management/ land use activities												

Pressures	Topic	Direct	Indirect	BNP	BR FEB	BR VTF	BUNP	BucNP	DDBR	KMNP	NP SES	RANP	TNP
		climatic cause											
Droughts (more often/ longer periods)	Climate	x			X		X						
Drying out (of ponds/ lakes/ soil)	Climate	x			X		X		X	X			
Drying out/ accumulation of organic material	Climate		x	X			X		X	X			
Dumping, depositing of dredged deposits	Land use activities						X						
Dykes, embankments, artificial beaches, general	Infrastructure		(x)		X			X					
Electricity lines	Infrastructure		x										
Erosion	Climate		x				X	X	X				X
Eutrophication	Management/ land use activities				X				X	X	X		X
Exploration and extraction of oil or gas	Land use												
Fertilisation	Management/ land use activities											X	X
Fire (natural)	Climate		x										
Fixed location fishing	Land use												
Flooding	Climate	x			X			X	X		X		
Forest planting	Land use		x					X		X			
Forestry clearance	Management/ land use activities							X					X
General Forestry management	Land use/ land use structure				X			X		X			X
Gliding, delta plane, paragliding, ballooning	Tourism, Sport												X
Golf course	Tourism, Sport												
Grazing/ overgrazing	Management/ land use activities						X	X	X	X		X	X
Grazing/ undergrazing	Management/ land use activities									X			
Groundwater level (decline of)	Management/ land use activities	x			X				X				
Habitats (loss of, decreasing)	Land use/ natural development		x		X				X				X
Hunting	Tourism, Sport												X
Improved access to site	Management/ land use activities									X			
Industrial or commercial areas	Land use												
Infilling of ditches, dykes, ponds, pools, marshes or pits	Management/ land use activities									X			
Inundation	Climate	x			X			X		X	X		
Invasion by a species	Climate		x				X	X		X			X
Landfill, land reclamation and drying out, general	Land use						X						
Leisure fishing	Tourism, Sport												X
Management irregular/ discontinuing the mowing (changes in Management)	Management/ land use activities					X							
Management of aquatic and bank vegetation for drainage purposes	Land use								X	X			X

Pressures	Topic	Direct	Indirect	BNP	BR FEB	BR VTF	BUNP	BucNP	DDBR	KMNP	NP SES	RANP	TNP
		climatic cause											
Management of water levels	Management/ land use activities		x	X			X		X	X	X		X
Mechanical removal of peat	Management/ land use activities												
Melioration	Management/ land use activities												X
Modification of cultivation practices	Management/ land use activities		(x)									X	
Modification of hydrographic functioning, general	Management/ land use activities		x		X				X	X			
Modifying structures of inland water courses	Infrastructure									X			
Motorised vehicles	Technical development/ machines												X
Mountaineering, rock climbing, speleology	Tourism, Sport							X					X
Mowing/ cutting	Management/ land use activities			X		X	X			X			X
Mushrooms picking and associated activities	Tourism, Sport												X
Natural succession	Land use					X							
Nautical sports	Tourism, Sport												
Noise nuisance	Technical development/ machines												X
Open cast mining	Land use												
Other communication networks	Infrastructure												
Other forms of transportation and communication	Infrastructure												
Other forms or mixed forms of pollution	Land use							X					
Other human induced changes in hydraulic conditions	Management/ land use activities				X								X
Other industrial/ commercial areas	Land use												
Other leisure and tourism impacts not referred to above	Tourism, Sport							X	X				X
Other natural processes	Natural development								X			X	
Other patterns of habitation	Land use/ land use structure												
Other pollution or human impacts/ activities	Land use activities						X						X
Other sport/ leisure complexes	Tourism, Sport												
Other urbanisation, industrial and similar activities	Land use												
Outdoor sports and leisure activities	Tourism, Sport												X
Paths, tracks, hiking/ cycling tracks	Tourism, Sport, Infrastructure											X	X
Peat extraction	Land use												
Pests by insects, fungi, nematodes and so on	Climate		x			X							
Pillaging of floristic stations	Land use												
Pipe lines	Infrastructure												
Polderisation	Infrastructure		x										
Pollution	Land use activities										X		X
Port areas	Infrastructure												

Pressures	Topic	Direct	Indirect	BNP	BR FEB	BR VTF	BUNP	BucNP	DDBR	KMNP	NP SES	RANP	TNP
		climatic cause											
Precipitation and evapotranspiration patterns changes	Climate	x				X							
Professional fishing	Management/ land use activities												
Quarries	Land use												
Railway lines, TGV	Infrastructure												
Removal of dead and dying trees	Management/ land use activities									X			X
Removal of forest undergrowth	Management/ land use activities												X
Removal of hedges and copses	Management/ land use activities									X			
Removal of sediments (mud ...)	Management/ land use activities												
Roads, motorways	Infrastructure							X					X
Sand and gravel extraction	Land use												X
Sea defence or coast protection works	Management/ land use activities		x										
Sea level rise	Natural development	x											
Shipping	Management/ land use activities												
Shrub growth (development of shrubs on grasslands)	Management/ land use activities									X			
Silting up	Management/ land use activities		x						X				
Skid roads	Land use												X
Skiing complex	Land use, Tourism, Sport							X					
Soil pollution	Land use												
Species (lost of) relevant for Habitat status, caused by temperature increase and changes in precipitation pattern	Climate	x				X							
Sport and leisure structures	Tourism, Sport, Infrastructure											X	X
Stock feeding	Management/ land use activities												
Storage of materials	Management/ land use activities												
Storm, cyclone	Climate		x			X							
Submersion	Climate	(x)											
Taking/ removal of fauna, general	Management/ land use activities												
Taking/ removal of flora, general	Management/ land use activities												
Temperature pattern changes	Climate	x				X						X	
Trampling, overuse	Management/ land use activities									X			X
Trapping, poisoning, poaching	Land use activities												
Trawling	Technical development/ machines												
Urbanised areas, human habitation	Land use												
Use of pesticides	Management/ land use activities										X		
Vandalism	Land use activities												

Pressures	Topic	Direct	Indirect	BNP	BR FEB	BR VTF	BUNP	BucNP	DDBR	KMNP	NP SES	RANP	TNP
		climatic cause											
Vegetation (changed patterns)	Climate	x											
Vegetation (zones are shifting)	Climate	x											
Walking, horse riding and non-motorised vehicles	Tourism, Sport												
Water (groundwater) pollution	Land use activities		x										x
Water level changes	Climate	x				x			x				
Wintering, Salting	Management/ land use activities		x										x

2.2. Pressures on Biebrza National Park, Poland

Table 2: List of pressures on Biebrza National Park, Poland

Pressures	Topic	Direct	Indirect
		climatic cause	
Abandonment of pastoral systems	Land use		
Biocenotic evolution	Natural development		
Drainage	Infrastructure		
Drying out/ accumulation of organic material	Climate		x
Management of water levels	Management/ land use activities		x
Mowing/ cutting	Management/ land use activities		

Table 3: List of pressures on habitat types of Bierbza National Park, Poland

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conser- vation status	Relevant for HABIT- CHANGE?	Abandonment of pastoral systems	Biocenotic evolution	Drainage	Drying out/ accumulation of organic material	Management of water levels	Mowing/ cutting
Biebrzański Park Narodowy	PLH200008	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,15	A	yes				x		
	PLH200008	3160	Natural dystrophic lakes and ponds	0,20		no						
	PLH200008	3270	Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation		A	yes					x	
	PLH200008	4030	European dry heaths			yes	x					
	PLH200008	6120	Xeric sand calcareous grasslands	0,36	A	yes	x					
	PLH200008	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	2,77	B	yes	x					
	PLH200008	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,04	A	yes						x
	PLH200008	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	0,54	B	yes	x					
	PLH200008	7110	Active raised bogs	0,11	C	yes			x			
	PLH200008	7140	Transition mires and quaking bogs	5,93	A	yes			x			
	PLH200008	7230	Alkaline fens	2,50	A	yes			x			
	PLH200008	9170	Galio-Carpinetum oak-hornbeam forests	1,25	A	no						
	PLH200008	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	0,03	C	yes			x			
	PLH200008	91F0	Riparian mixed forests of Quercus robur, Ulmus laevis and Ulmus minor, Fraxinus excelsior or Fraxinus angustifolia, along the great rivers (Ulmenion minoris)	0,08		no						
	PLH200009	2330	Spergulo vernalis-Corynephorum			yes	x					
	PLH200010	9160	Tilio-Carpinetum			yes		x				

2.3. Pressures on Flusslandschaft Elbe-Brandenburg Biosphere Reserve, Germany

Table 4: List of pressures on Flusslandschaft Elbe-Brandenburg Biosphere Reserve, Germany

Pressures	Topic	Direct	Indirect
		climatic cause	
Dykes, embankments, artificial beaches, general	Infrastructure		(x)
Agricultural structures (Change of)	Land use structure		x
General Forestry management	Land use/ land use structure		
Habitats (loss of, decreasing)	Land use/ natural development		x
Eutrophication	Management/ land use activities		
Groundwater level (decline of)	Management/ land use activities	x	
Other human induced changes in hydraulic conditions	Management/ land use activities		
Droughts (more often/longer periods)	Climate	x	
Drying out (of ponds/lakes/soil)	Climate	x	
Flooding	Climate	x	
Inundation	Climate	x	
Modification of hydrographic functioning, general	Management/ land use activities		x

Table 5: List of pressures on Flusslandschaft Elbe-Brandenburg Biosphere Reserve, Germany

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conser- vation status	Relevant for HABIT- CHANGE?	Agricultural structures (Change of)	Modification of hydrographic functioning, general	Droughts (more often/ longer periods)	Drying out (of ponds/ lakes/ soil)	Dykes, embankments, artificial beaches, general	Eutrophication	Flooding	General Forestry management	Groundwater level (decline of)	Habitats (loss of, decreasing)	Inundation	Other human induced changes in hydraulic conditions
Biosphere reserve river Elbe landscape - Brandenburg section		2310	Dry sand heaths with Calluna and Genista															
		2330	Inland dunes with open Corynephorus and Agrostis grasslands															
		3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea			yes			x	x		x			x			
		3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation			yes		x	x	x			x				x	x
		4010	Northern Atlantic wet heaths with Erica tetralix															
		6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)															
		6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)															
		6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)															
		6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels			yes			x	x			x				x	x
		6440	Alluvial meadows of river valleys of the Cnidion dubii			yes	x		x	x						x		
		6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)			yes	x						x			x	x	
		7140	Transition mires and quaking bogs															

Biosphere reserve river Elbe landscape - Brandenburg section	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>															
	7230	Alkaline fens															
	9110	Luzulo-Fagetum beech forests															
	9130	Asperulo-Fagetum beech forests															
	9160	Sub-Atlantic and medio-European oak or oak-hornbeam forests of the <i>Carpinion betuli</i>			yes			x	x			x	x	x	x	x	x
	9190	Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains			yes			x	x			x	x	x	x	x	x
	91D0	Bog woodland															
	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)			yes			x		x		x	x		x	x	x
	91F0	Riparian mixed forests of <i>Quercus robur</i> , <i>Ulmus laevis</i> and <i>Ulmus minor</i> , <i>Fraxinus excelsior</i> or <i>Fraxinus angustifolia</i> , along the great rivers (<i>Ulmion minoris</i>)			yes			x		x		x	x		x	x	x

2.4. Pressures on Vessertal-Thuringian Forest Biosphere Reserve, Germany

Table 6: List of pressures on Vessertal-Thuringian Forest Biosphere Reserve, Germany

Pressures	Topic	Direct	Indirect
		climatic cause	
Management irregular/ discontinuing the mowing (changes in Management)	Management/ land use activities		
Mowing/ cutting	Management/ land use activities		
Natural succession	Land use		
Pests by insects, fungi, nematodes and so on	Climate		x
Precipitation and evapotranspiration patterns changes	Climate	x	
Species (lost of) relevant for Habitat status, caused by temperature increase and changes in precipitation pattern	Climate	x	
Storm, cyclone	Climate		x
Temperature pattern changes	Climate	x	
Water level changes	Climate	x	

Table 7: List of pressures on habitat types of Vessertal-Thuringian Forest Biosphere Reserve, Germany

Designated siteName	siteCode	Habitat Code	Description En	Perce- tage Cover	Conser- vation status	Relevant for HABIT- CHANGE?	Management irregular/ discontinuing the mowing (changes in Management)	Mowing/ cutting	Natural succession	Pests by insects, fungi, nematodes and so on	Precipitation and evapotranspiration patterns changes	Species (lost of) relevant for Habitat status, caused by temperature increase and changes in precipitation pattern	Storm, cyclone	Temperature pattern changes	Water level changes
Vessertal	DE5328305	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnion incanae</i> , <i>Salicion albae</i>)	0,16	A	no									
	DE5328305	1340	Inland salt meadows	0,04	C	no									
	DE5328305	3140	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	0,01	B	no									
	DE5328305	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,55	B	no									
	DE5328305	3190	Lakes of gypsum karst	0,01	A	no									
	DE5328305	3260	Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation	14,73	C	no									
	DE5328305	3270	Rivers with muddy banks with <i>Chenopodion rubri</i> p.p. and <i>Bidention</i> p.p. vegetation	2,88	C	no									
	DE5328305	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)	0,09	C	no									

Vessertal	DE5330301	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	0,05	A	no											
	DE5330301	9110	Luzulo-Fagetum beech forests	1,84	C	yes					x	x			x		
	DE5330301	9180	Tilio-Acerion forests of slopes, screes and ravines	0,04	B	yes					x	x			x		
	DE5330301	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetea)	6,95	C	yes								x			
	DE5330301	91D0	Bog woodland	4,52	B	yes											x
	DE5330305	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	0,53	B	yes											x
	DE5330305	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,01	C	no											
	DE5330305	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	0,97	B	no											
	DE5330305	6230	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe)	0,05	B	no											
	DE5330305	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,35	A	no											
	DE5330305	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	0,15	B	no	x		x								
	DE5330305	6520	Mountain hay meadows	2,52	A	no	x		x								
	DE5330305	7140	Transition mires and quaking bogs	0,07	A	yes			x								x
	DE5330305	8220	Siliceous rocky slopes with chasmophytic vegetation	0	B	no											
	DE5330305	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	0,06	B	no											
	DE5330305	9110	Luzulo-Fagetum beech forests	7,06	B	yes					x	x			x		
	DE5330305	9130	Asperulo-Fagetum beech forests	5,77	B	yes					x	x			x		
	DE5330305	9180	Tilio-Acerion forests of slopes, screes and ravines	0,47	B	yes					x	x			x		
	DE5330305	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetea)	0,18	C	yes								x			
	DE5330306	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	0,40	B	yes											x
	DE5330306	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0	B	no											
	DE5330306	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	0,52	A	no											
	DE5330306	4030	European dry heaths	0,02	B	no											
	DE5330306	6230	Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe)	1,04	B	no											

Vessertal	DE5330306	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,85	B	no																	
	DE5330306	6510	Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	0,01	A	no	x		x														
	DE5330306	6520	Mountain hay meadows	4,04	B	no	x		x														
	DE5330306	7140	Transition mires and quaking bogs	0,07	A	yes			x													x	
	DE5330306	8150	Medio-European upland siliceous screes	0,02	C	no																	
	DE5330306	8220	Siliceous rocky slopes with chasmophytic vegetation	0,11	B	no																	
	DE5330306	8230	Siliceous rock with pioneer vegetation of the <i>Sedo-Scleranthion</i> or of the <i>Sedo albi-Veronicion dillenii</i>	0,02	B	no																	
	DE5330306	9110	Luzulo-Fagetum beech forests	22,6	C	yes						x	x								x		
	DE5330306	9130	Asperulo-Fagetum beech forests	16,27	B	yes						x	x								x		
	DE5330306	9180	Tilio-Acerion forests of slopes, screes and ravines	0,36	B	yes						x	x								x		
	DE5330306	9410	Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>)	0,35	B	yes														x			
	DE5331301	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	0,11	B	yes																	x
	DE5331301	3150	Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation	0,20	B	no																	
	DE5331301	3260	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	1,02	B	no																	
	DE5331301	6230	Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	0,06	A	no																	
	DE5331301	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,31	B	no																	
	DE5331301	6510	Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	0,72	B	no	x		x														
	DE5331301	6520	Mountain hay meadows	2,85	B	no	x		x														
	DE5331301	7120	Degraded raised bogs still capable of natural regeneration	0,06	B	yes			x													x	
	DE5331301	7140	Transition mires and quaking bogs	1,32	B	yes			x													x	
	DE5331301	9110	Luzulo-Fagetum beech forests	14,54	C	yes						x	x								x		
	DE5331301	9130	Asperulo-Fagetum beech forests	2,73	B	yes						x	x								x		
	DE5331301	9410	Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>)	2,01	B	yes														x			
	DE5331301	91D0	Bog woodland	1,11	B	yes																	x
	DE5331302	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	0,10	C	yes																	x

Vessertal	DE5331302	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,35	B	no												
	DE5331302	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	1,51	A	no												
	DE5331302	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	3,32	B	no												
	DE5331302	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	0,04	A	no												
	DE5331302	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1,26	B	no												
	DE5331302	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	1,65	B	no	x		x									
	DE5331302	6520	Mountain hay meadows	30,83	A	no	x		x									
	DE5331302	7140	Transition mires and quaking bogs	6,57	B	yes			x									x
	DE5331302	9110	Luzulo-Fagetum beech forests	0,08	B	yes						x	x			x		
	DE5331302	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetea)	2,08	B	yes						x	x			x		
	DE5331302	91D0	Bog woodland	10,82	B	yes												x
	DE5430301	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	1,90	B	yes												x
	DE5430301	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,11	B	no												
	DE5430301	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	0,62	B	no												
	DE5430301	4030	European dry heaths	0,03	B	no												
	DE5430301	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	2,92	B	no												
	DE5430301	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	2,12	B	no												
	DE5430301	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	5,33	B	no	x		x									
	DE5430301	6520	Mountain hay meadows	13,68	B	no	x		x									
	DE5430301	7140	Transition mires and quaking bogs	0,08	A	yes			x									x
	DE5430301	7230	Alkaline fens	0,13	B	yes			x									x
	DE5431301	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,01	C	no												
	DE5431301	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	2,03	B	no												

Vessertal	DE5431301	4030	European dry heaths	0,66	A	no											
	DE5431301	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	0,80	B	no											
	DE5431301	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	0,01	B	no											
	DE5431301	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1,84	A	no											
	DE5431301	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	27,23	B	no	x		x								
	DE5431301	6520	Mountain hay meadows	21,12	B	no	x		x								
	DE5431301	7140	Transition mires and quaking bogs	0,10	A	yes			x								x
	DE5431301	8220	Siliceous rocky slopes with chasmophytic vegetation	0,01	C	no											
	DE5431301	9110	Luzulo-Fagetum beech forests	1,41	B	yes					x	x			x		
	DE5431301	9130	Asperulo-Fagetum beech forests	0,57	B	yes					x	x			x		
Zwischenmoor im oberen Vessertal	DE5330306	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	0,40	B	yes											x
	DE5330306	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0	B	no											
	DE5330306	3260	Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	0,52	A	no											
	DE5330306	4030	European dry heaths	0,02	B	no											
	DE5330306	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	1,04	B	no											
	DE5330306	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,85	B	no											
	DE5330306	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	0,01	A	no	x		x								
	DE5330306	6520	Mountain hay meadows	4,04	B	no	x		x								
	DE5330306	7140	Transition mires and quaking bogs	0,07	A	yes			x								x
	DE5330306	8150	Medio-European upland siliceous screes	0,02	C	no											
	DE5330306	8220	Siliceous rocky slopes with chasmophytic vegetation	0,11	B	no											
	DE5330306	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	0,02	B	no											
	DE5330306	9110	Luzulo-Fagetum beech forests	22,6	C	yes					x	x			x		
	DE5330306	9130	Asperulo-Fagetum beech forests	16,27	B	yes					x	x			x		
	DE5330306	9180	Tilio-Acerion forests of slopes, screes and ravines	0,36	B	yes					x	x			x		
	DE5330306	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetea)	0,35	B	yes								x			

2.5. Pressures on Balaton Uplands National Park, Hungary

Table 8: List of pressures on Balaton Uplands National Park, Hungary

Pressures	Topic	Direct	Indirect
		climatic cause	
Abandonment of pastoral systems	Land use		
Biocenotic evolution	Natural development		
Damage by game species	Natural hazards		
Droughts (more often/ longer periods)	Climate	x	
Drying out (of ponds/ lakes/ soil)	Climate	x	
Drying out/ accumulation of organic material	Climate		x
Dumping, depositing of dredged deposits	Land use activities		
Erosion	Climate		x
Grazing/ overgrazing	Management/ land use activities		
Invasion by a species	Climate		x
Landfill, land reclamation and drying out, general	Land use		
Management of water levels	Management/ land use activities		x
Mowing/ cutting	Management/ land use activities		
Other pollution or human impacts/ activities	Land use		

Table 9: List of pressures on habitat types of Balaton Uplands National Park, Hungary

Designated siteName	siteCode	Habitat Code	Description En	Perce- tage Cover	Conser- vation status	Relevant for HABIT- CHANGE?	Abandonment of pastoral systems	Biocenotic evolution	Damage by game species	Droughts (more often/ longer periods)	Drying out (of ponds/ lakes/ soil)	Drying out/ accumulation of organic material	Dumping, depositing of dredged deposits	Erosion	Grazing/ overgrazing	Invasion by a species	Landfill, land reclamation and drying out, general	Management of water levels	Mowing/ cutting	Other pollution or human impacts/ activities
Balaton Uplands National Park	HUBF20006	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	3	A	no													x	
	HUBF20006	6110	Rupicolous calcareous or basophilic grasslands of the Alyso-Sedion albi	1	A	no										x				
	HUBF20006	6190	Rupicolous pannonic grasslands (Stipo-Festucetalia pallentis)	1	B	yes									x					
	HUBF20006	6240	Sub-Pannonic steppic grasslands	5	B	yes									x					
	HUBF20006	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	5	A	yes													x	
	HUBF20006	7230	Alkaline fens	2	A	no			x											
	HUBF20006	91H0	Pannonian woods with Quercus pubescens	30	A	no			x											
	HUBF20006	91M0	Pannonian-Balkan turkey oak – sessile oak forests	1	A	no			x											
	HUBF20007	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	1	A	no						x								
	HUBF20007	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1	B	no										x				
	HUBF20007	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	10	A	no	x													
	HUBF20007	7140	Transition mires and quaking bogs	1	C	no					x									
	HUBF20007	8150	Medio-European upland siliceous screes	1	B	no								x						

Balaton Uplands National Park	HUBF20007	8220	Siliceous rocky slopes with chasmophytic vegetation	1	B	no								x					
	HUBF20007	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	1	B	no								x					
	HUBF20007	9130	Asperulo-Fagetum beech forests	7	B	no					x								
	HUBF20007	9180	Tilio-Acerion forests of slopes, screes and ravines	4	B	no					x								
	HUBF20007	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	1	B	no								x					
	HUBF20007	91G0	Pannonic woods with Quercus petraea and Carpinus betulus	30	B	no					x								
	HUBF20007	91H0	Pannonian woods with Quercus pubescens	3	B	no				x									
	HUBF20007	91M0	Pannonian-Balkan turkey oak –sessile oak forests	35	B	no				x									
	HUBF20012	6240	Sub-Pannonic steppic grasslands	80	B	yes	x												
	HUBF20012	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	10	B	yes						x							
	HUBF20012	7230	Alkaline fens	10	B	yes											x		
	HUBF20014	5130	Juniperus communis formations on heaths or calcareous grasslands	6	B	no		x											
	HUBF20014	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	2	B	no	x												
	HUBF20014	6240	Sub-Pannonic steppic grasslands	2	A	no	x												
	HUBF20014	9150	Medio-European limestone beech forests of the Cephalanthero-Fagion	1	B	no					x								
	HUBF20014	91G0	Pannonic woods with Quercus petraea and Carpinus betulus	2	C	no					x								
	HUBF20014	91H0	Pannonian woods with Quercus pubescens	20	A	no				x									
	HUBF20014	91M0	Pannonian-Balkan turkey oak –sessile oak forests	30	B	no				x									
	HUBF20016	6190	Rupicolous pannonic grasslands (Stipo-Festucetalia pallentis)	1	A	no	x												
	HUBF20016	6240	Sub-Pannonic steppic grasslands	5	A	no	x												
	HUBF20016	6510	Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	8	A	yes	x												

Balaton Uplands National Park	HUBF20016	9130	Asperulo-Fagetum beech forests	3	B	no					x								
	HUBF20016	9150	Medio-European limestone beech forests of the Cephalanthero-Fagion	1	B	no					x								
	HUBF20016	91H0	Pannonian woods with Quercus pubescens	45	A	no				x									
	HUBF20016	91M0	Pannonian-Balkan turkey oak –sessile oak forests	30	B	no				x									
	HUBF20020	6240	Sub-Pannonic steppic grasslands	15	A	no	x												
	HUBF20020	8150	Medio-European upland siliceous scree	3	B	no								x					
	HUBF20020	8220	Siliceous rocky slopes with chasmophytic vegetation	3	A	no													x
	HUBF20020	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	4	A	no								x					
	HUBF20020	9180	Tilio-Acerion forests of slopes, scree and ravines	5	A	no					x								
	HUBF20020	91H0	Pannonian woods with Quercus pubescens	35	A	no				x									
	HUBF20020	91M0	Pannonian-Balkan turkey oak –sessile oak forests	25	B	no				x									
	HUBF20025	8150	Medio-European upland siliceous scree	3	A	no				x									
	HUBF20025	8220	Siliceous rocky slopes with chasmophytic vegetation	4	A	no								x					
	HUBF20025	8230	Siliceous rock with pioneer vegetation of the Sedo-Scleranthion or of the Sedo albi-Veronicion dillenii	3	A	no								x					
	HUBF20025	9130	Asperulo-Fagetum beech forests	10	B	no					x								
	HUBF20025	9180	Tilio-Acerion forests of slopes, scree and ravines	30	A	no				x		x							
	HUBF20025	91H0	Pannonian woods with Quercus pubescens	10	A	no				x									
	HUBF20025	91M0	Pannonian-Balkan turkey oak –sessile oak forests	35	A	no				x									
	HUBF20028	6210	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	2	B	yes	x												
	HUBF20028	6410	Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	15	C	yes						x							
	HUBF20028	6440	Alluvial meadows of river valleys of the Cnidion dubii	25	B	yes										x			

Balaton Uplands National Park	HUBF20028	6510	Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	30	B	yes													
	HUBF20028	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	1	A	yes						x							
	HUBF20028	7230	Alkaline fens	2	B	yes										x			
	HUBF20028	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	2	B	no							x						
	HUBF30002	3150	Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation	3	B	no												x	
	HUBF30002	6410	<i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>)	1	B	no											x		
	HUBF30002	7210	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i>	1	B	no											x		
	HUBF30002	7230	Alkaline fens	1	B	no											x		

2.6. Pressures on Bucegi Natural Park, Romania

Table 10: List of pressures on Bucegi Natural Park, Romania

Pressures	Topic	Direct	Indirect
		climatic cause	
Drainage	Infrastructure		
Dykes, embankments, artificial beaches, general	Infrastructure		(x)
Erosion	Climate		x
Flooding	Climate	x	
Forest planting	Land use		x
Forestry clearance	Management/ land use activities		
General Forestry management	Land use/ land use structure		
Grazing/ overgrazing	Management/ land use activities		
Inundation	Climate	x	
Invasion by a species	Climate		x
Mountaineering, rock climbing, speleology	Tourism, Sport		
Other forms or mixed forms of pollution	Land use		
Other leisure and tourism impacts not referred to above	Tourism, Sport		
Roads, motorways	Infrastructure		
Skiing complex	Land use, Tourism, Sport		

Table 11: List of pressures on habitat types of Bucegi Natural Park, Romania

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conservation status	Relevant for HABIT-CHANGE?	Drainage	Dykes, embankments, artificial beaches, general	Erosion	Flooding	Forest planting	Forestry clearance	General Forestry management	Grazing/ overgrazing	Inundation	Invasion by a species	Mountaineering, rock climbing, speleology	Other forms or mixed forms of pollution	Other leisure and tourism impacts not referred to above	Roads, motorways	Skiing complex
2.234. - Bucegi (Abruptul Bucșoiu, Mălăiești, Gaura)	ROSCI0013	3220	Alpine rivers and the herbaceous vegetation along their banks	3	B																
	ROSCI0013	3230	Alpine rivers and their ligneous vegetation with Myricaria germanica	0,1																	
	ROSCI0013	3240	Alpine rivers and their ligneous vegetation with Salix elaeagnos	1	B																
	ROSCI0013	4060	Alpine and Boreal heaths	5	B																
	ROSCI0013	4070	Bushes with Pinus mugo and Rhododendron hirsutum (Mugo-Rhododendretum hirsuti)	5	A																
	ROSCI0013	4080	Sub-Arctic Salix spp. scrub	0,1	B																
	ROSCI0013	6110	Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi	0,02	A																
	ROSCI0013	6170	Alpine and subalpine calcareous grasslands	0,1	B																
	ROSCI0013	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	0,01	B																
	ROSCI0013	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1	B																
	ROSCI0013	6520	Mountain hay meadows	10	B																
	ROSCI0013	7140	Transition mires and quaking bogs	0,1	B																
	ROSCI0013	8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	0,1	B																

2.234. - Bucegi (Abruptul Bucșoiu, Mălăiești, Gaura)	ROSCI0013	8120	Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	0,1	A														
	ROSCI0013	8210	Calcareous rocky slopes with chasmophytic vegetation	0,01	B														
	ROSCI0013	8310	Caves not open to the public	5	A														
	ROSCI0013	9110	Luzulo-Fagetum beech forests	11	B														
	ROSCI0013	9150	Medio-European limestone beech forests of the Cephalanthero-Fagion	2	B														
	ROSCI0013	9180	Tilio-Acerion forests of slopes, screes and ravines	1,7	A														
	ROSCI0013	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)	0,5	B														
	ROSCI0013	91V0	Dacian Beech forests (Symphyto-Fagion)	22,4	A														
	ROSCI0013	9410	Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>)	6,6	A														
	ROSCI0013	9420	Alpine <i>Larix decidua</i> and/or <i>Pinus cembra</i> forests	2,6	A														
2.672. - Abruptul Prahovean Bucegi	ROSCI0013	3220	Alpine rivers and the herbaceous vegetation along their banks	3	B														
	ROSCI0013	3230	Alpine rivers and their ligneous vegetation with <i>Myricaria germanica</i>	0,1															
	ROSCI0013	3240	Alpine rivers and their ligneous vegetation with <i>Salix elaeagnos</i>	1	B														
	ROSCI0013	4060	Alpine and Boreal heaths	5	B	yes													
	ROSCI0013	4070	Bushes with <i>Pinus mugo</i> and <i>Rhododendron hirsutum</i> (Mugo-Rhododendretum hirsuti)	5	A	yes													
	ROSCI0013	4080	Sub-Arctic <i>Salix</i> spp. scrub	0,1	B														
	ROSCI0013	6110	Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi	0,02	A														
	ROSCI0013	6170	Alpine and subalpine calcareous grasslands	0,1	B	yes													
	ROSCI0013	6230	Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	0,01	B	yes													
	ROSCI0013	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1	B														
	ROSCI0013	6520	Mountain hay meadows	10	B														

2.672. - Abruptul Prahovean Bucegi	ROSCI0013	7140	Transition mires and quaking bogs	0,1	B															
	ROSCI0013	8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	0,1	B															
	ROSCI0013	8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii)	0,1	A	yes														
	ROSCI0013	8210	Calcareous rocky slopes with chasmophytic vegetation	0,01	B	yes														
	ROSCI0013	8310	Caves not open to the public	5	A															
	ROSCI0013	9110	Luzulo-Fagetum beech forests	11	B	yes														
	ROSCI0013	9150	Medio-European limestone beech forests of the Cephalanthero-Fagion	2	B															
	ROSCI0013	9180	Tilio-Acerion forests of slopes, screes and ravines	1,7	A															
	ROSCI0013	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	0,5	B															
	ROSCI0013	91V0	Dacian Beech forests (Symphyto-Fagion)	22,4	A	yes														
	ROSCI0013	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetea)	6,6	A	yes														
	ROSCI0013	9420	Alpine Larix decidua and/or Pinus cembra forests	2,6	A															
H - Bucegi	ROSCI0013	3220	Alpine rivers and the herbaceous vegetation along their banks	3	B	no								x						
	ROSCI0013	3230	Alpine rivers and their ligneous vegetation with Myricaria germanica	0,1		no									x					
	ROSCI0013	3240	Alpine rivers and their ligneous vegetation with Salix elaeagnos	1	B	no				x										
	ROSCI0013	4060	Alpine and Boreal heaths	5	B	yes								x				x		
	ROSCI0013	4070	Bushes with Pinus mugo and Rhododendron hirsutum (Mugo-Rhododendretum hirsuti)	5	A	yes								x				x		
	ROSCI0013	4080	Sub-Arctic Salix spp. scrub	0,1	B	no			x											
	ROSCI0013	6110	Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi	0,02	A	no														
	ROSCI0013	6170	Alpine and subalpine calcareous grasslands	0,1	B	yes				x					x				x	

H - Bucegi	ROSCI0013	6230	Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	0,01	B	yes								x						
	ROSCI0013	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	1	B	no	x													
	ROSCI0013	6520	Mountain hay meadows	10	B	no								x						
	ROSCI0013	7140	Transition mires and quaking bogs	0,1	B	no								x						
	ROSCI0013	8110	Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>)	0,1	B	no								x				x		x
	ROSCI0013	8120	Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>)	0,1	A	yes								x			x		x	x
	ROSCI0013	8210	Calcareous rocky slopes with chasmophytic vegetation	0,01	B	yes								x			x			
	ROSCI0013	8310	Caves not open to the public	5	A	no														
	ROSCI0013	9110	<i>Luzulo-Fagetum</i> beech forests	11	B	yes					x	x	x					x		
	ROSCI0013	9150	Medio-European limestone beech forests of the <i>Cephalanthero-Fagion</i>	2	B	no								x						
	ROSCI0013	9180	<i>Tilio-Acerion</i> forests of slopes, screes and ravines	1,7	A	no								x						
	ROSCI0013	91E0	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	0,5	B	no								x						
	ROSCI0013	91V0	Dacian Beech forests (<i>Symphyto-Fagion</i>)	22,4	A	yes					x	x	x					x	x	
	ROSCI0013	9410	Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>)	6,6	A	yes								x						
	ROSCI0013	9420	Alpine <i>Larix decidua</i> and/or <i>Pinus cembra</i> forests	2,6	A	no								x						
		6150	Siliceous alpine and boreal grasslands with <i>Festuca airoides</i>			yes				x					x					

2.7. Pressures on Danube Delta Biosphere Reserve, Romania

Table 12: List of pressures on Danube Delta Biosphere Reserve, Romania

Pressures	Topic	Direct	Indirect
		climatic cause	
Antagonism arising from introduction of species	Climate/ land use		
Antagonism with domestic animals	Management/ land use activities		
Artificial planting	Land use		x
Canalisation	Infrastructure		
Dispersed habitation	Land use/ land use structure		
Drying out (of ponds/ lakes/ soil)	Climate	x	
Drying out/ accumulation of organic material	Climate		x
Erosion	Climate		x
Eutrophication	Management/ land use activities		
Flooding	Climate	x	
Grazing/ overgrazing	Management/ land use activities		
Groundwater level (decline of)	Management/ land use activities	x	
Habitats (loss of, decreasing)	Land use/ natural development		x
Management of aquatic and bank vegetation for drainage purposes	Land use		
Management of water levels	Management/ land use activities		x
Modification of hydrographic functioning, general	Management/ land use activities		x
Other leisure and tourism impacts not referred to above	Tourism, Sport		
Other natural processes	Natural development		
Silting up	Management/ land use activities		x
Water level changes	Climate	x	

Table 13: List of pressures on habitat types of Danube Delta Biosphere Reserve, Romania

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conservation status	Relevant for HABIT-CHANGE?	Antagonism arising from introduction of species	Antagonism with domestic animals	Artificial planting	Canalisation	Dispersed habitation	Drying out (of ponds/ lakes/ soil)	Drying out/ accumulation of organic material	Erosion	Eutrophication	Flooding	Grazing/ overgrazing	Groundwater level (decline of)	Habitats (loss of, decreasing)	Management of aquatic and bank vegetation for drainage purposes	Management of water levels	Modification of hydrographic functioning, general	Other leisure and tourism impacts not referred to above	Other natural processes	Silting up	Water level changes
A - Delta Dunării	ROSCI0065	1110	Sandbanks which are slightly covered by sea water all the time	1	B	yes									x											
	ROSCI0065	1150	Coastal lagoons	2	B	yes															x					
	ROSCI0065	1210	Annual vegetation of drift lines	1	B	yes								x												
	ROSCI0065	1310	Salicornia and other annuals colonizing mud and sand	1	B	yes										x										
	ROSCI0065	1410	Mediterranean salt meadows (Juncetalia maritimi)	1	A	yes						x				x	x									
	ROSCI0065	1530	Pannonic salt steppes and salt marshes	1	B	yes		x									x									
	ROSCI0065	2110	Embryonic shifting dunes	1	B	yes					x						x						x			
	ROSCI0065	2130	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	5	A	yes											x									
	ROSCI0065	2160	Dunes with Hippophaë rhamnoides	1	A	no																				
	ROSCI0065	2190	Humid dune slacks	1	A	yes												x						x		x
	ROSCI0065	3130	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	1	A	no																				

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2.8. Pressures on Körös-Maros National Park, Hungary

Table 14: List of pressures on Körös-Maros National Park, Hungary

Pressures	Topic	Direct	Indirect
		climatic cause	
Abandonment of pastoral systems	Land use		
Artificial planting	Land use		x
Burning	Land use		x
Cultivation	Land use		x
Drying out (of ponds/ lakes/ soil)	Climate	x	
Drying out/ accumulation of organic material	Climate		x
Eutrophication	Management/ land use activities		
Forest planting	Land use		x
General Forestry management	Land use/ land use structure		
Grazing/ overgrazing	Management/ land use activities		
Grazing/ undergrazing	Management/ land use activities		
Improved access to site	Management/ land use activities		
Infilling of ditches, dykes, ponds, pools, marshes or pits	Management/ land use activities		
Inundation	Climate	x	
Invasion by a species	Climate		x
Management of aquatic and bank vegetation for drainage purposes	Land use		
Management of water levels	Management/ land use activities		x
Modification of hydrographic functioning, general	Management/ land use activities		x
Modifying structures of inland water courses	Infrastructure		
Mowing/ cutting	Management/ land use activities		
Removal of dead and dying trees	Management/ land use activities		
Removal of hedges and copses	Management/ land use activities		
Shrub growth (development of shrubs on grasslands)	Management/ land use activities		
Trampling, overuse	Management/ land use activities		

Table 15: List of pressures on habitat types of Körös-Maros National Park, Hungary

Designated site-Name	siteCode	Habitat Code	Description En	Percentage Cover	Conservation status	Relevant for HABIT-CHANGE ?	Abandonment of pastoral systems	Artificial planting	Burning	Cultivation	Drying out (of ponds/ lakes/ soil)	Drying out/ accumulation of organic material	Eutrophication	Forest planting	General Forestry management	Grazing/ overgrazing	Grazing/ undergrazing	Improved access to site	Infilling of ditches, dykes, ponds, pools, marshes or pits	Inundation	Invasion by a species	Management of aquatic and bank vegetation for drainage purposes	Management of water levels	Modification of hydrographic functioning, general	Modifying structures of inland water courses	Mowing/ cutting	Removal of dead and dying trees	Removal of hedges and copses	Shrub growth (development of shrubs on grasslands)	Trampling, overuse
Dél-bihari szikések	HUKM20019	1530	Pannonic salt steppes and salt marshes	65	B	yes	x				x	x	x			x	x	x	x	x		x	x	x	x	x				x
	HUKM20019	6250	Pannonic loess steppic grasslands	1		yes	x	x	x	x				x			x				x							x	x	
	HUKM20019	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	2		yes					x		x						x	x	x	x	x	x	x					
	HUKM20019	3270	Rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation	2		yes																x	x	x	x					
	HUKM20019	6440	Alluvial meadows of river valleys of the Cnidion dubii	10	B	yes					x	x	x						x	x	x		x	x	x	x				x
	HUKM20019	91E0	Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	1		yes					x			x	x	x			x		x		x	x	x		x			

2.9. Pressures on Sečovlje Salina National Park, Slovenia

Table 16: List of pressures on Sečovlje Salina Nature Park, Slovenia

Pressures	Topic	Direct	Indirect
		climatic cause	
Eutrophication	Management/ land use activities		
Flooding	Climate	x	
Inundation	Climate	x	
Management of water levels	Management/ land use activities		x
Pollution	Land use activities		
Use of pesticides	Management/ land use activities		

Table 17: List of pressures on habitat types of Sečovlje Salina Nature Park, Slovenia

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conservation status	Relevant for HABIT-CHANGE?	Eutrophication	Flooding	Inundation	Management of water levels	Pollution	Use of pesticides
Sečovljejske soline in estuarij Dragonje	SI3000240	1130	Estuaries	30	B	yes					x	
	SI3000240	1140	Mudflats and sandflats not covered by seawater at low tide	1	B	yes		x	x			
	SI3000240	1310	Salicornia and other annuals colonizing mud and sand	20	B	yes		x	x			
	SI3000240	1320	Spartina swards (Spartinion maritimae)	1	B	yes	x				x	x
	SI3000240	1410	Mediterranean salt meadows (Juncetalia maritimi)	10	B	yes	x			x		
	SI3000240	1420	Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	20	A	yes	x			x		

2.10. Pressures on Rieserferner Ahrn Nature Park, Italy

Table 18: List of pressures on Rieserferner Ahrn Nature Park, Italy

Pressures	Topic	Direct	Indirect
		climatic cause	
Canalisation	Infrastructure		
Drainage	Infrastructure		
Fertilisation	Management/ land use activities		
Grazing/ overgrazing	Management/ land use activities		
Modification of cultivation practices	Management/ land use activities		(x)
Other natural processes	Natural development		
Paths, tracks, hiking/ cycling tracks	Tourism, Sport, Infrastructure		
Sport and leisure structures	Tourism, Sport, Infrastructure		
Temperature pattern changes	Climate	x	

Table 19: List of pressures on habitat types of Rieserferner Ahrn Nature Park, Italy

Designated siteName	siteCode	Habitat Code	Description En	Percentage Cover	Conservation status	Relevant for HABIT-CHANGE?	Canalisation	Drainage	Fertilisation	Grazing/ overgrazing	Modification of cultivation practices	Other natural processes	Paths, tracks, hiking/ cycling tracks	Sport and leisure structures	Temperature pattern changes
Parco Naturale Vedrette di Ries- Aurina, Rieserferner Ahrn	IT3110017	3150	Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	0,1	C	no								x	
	IT3110017	3220	Alpine rivers and the herbaceous vegetation along their banks	0,4	A	yes	x								
	IT3110017	4060	Alpine and Boreal heaths	3,5	B	yes						x			x

Parco Naturale Vedrette di Ries-Aurina, Rieserferner Ahrn	IT3110017	6150	Siliceous alpine and boreal grasslands	9,2	A	yes						x			x
	IT3110017	6170	Alpine and subalpine calcareous grasslands	3	B	yes						x			x
	IT3110017	6230	Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	5,6	B	yes					x				
	IT3110017	6430	Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	0,4	A	no					x				
	IT3110017	6520	Mountain hay meadows	1,1	A	yes					x				
	IT3110017	7140	Transition mires and quaking bogs	0,2	A	yes		x							
	IT3110017	7240	Alpine pioneer formations of the Caricion bicoloris-atrofuscae	0,1	C	yes						x			x
	IT3110017	8110	Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani)	18,8	A	yes						x			x
	IT3110017	8120	Calcareous and calcshist screes of the montane to alpine levels (Thlaspietalia rotundifoliae)	1,9	A	yes						x			x
	IT3110017	8210	Calcareous rocky slopes with chasmophytic vegetation	1,3	A	no						x			
	IT3110017	8220	Siliceous rocky slopes with chasmophytic vegetation	14,6	A	no						x			
	IT3110017	8340	Permanent glaciers	4,3	A	yes									x
	IT3110017	9410	Acidophilous Picea forests of the montane to alpine levels (Vaccinio-Piceetalia)	20,6	B	no					x				
	IT3110017	9420	Alpine Larix decidua and/or Pinus cembra forests	12,7	A	no					x				
	IT3110017	6510	Nutrient-Poor Hay meadows (Alopecurus pratensis, Sanguisorba officinalis)			no					x				

2.11. Pressures on Triglav National Park, Slovenia

Table 20: List of pressures on Triglav National Park, Slovenia

Pressures	Topic	Direct	Indirect
		climatic cause	
Abandonment of pastoral systems	Land use		
Agricultural structures (Change of)	Land use structure		x
Aquatic sport activities	Tourism, Sport		
Avalanche	Climate	x	
Bailing	Management/ land use activities		
Dispersed habitation	Land use/ land use structure		
Erosion	Climate		x
Eutrophication	Management/ land use activities		
Fertilisation	Management/ land use activities		
Forestry clearance	Management/ land use activities		
General Forestry management	Land use/ land use structure		
Gliding, delta plane, paragliding, ballooning	Tourism, Sport		
Grazing/ overgrazing	Management/ land use activities		
Habitats (loss of, decreasing)	Land use/Natural development		x
Hunting	Tourism, Sport		
Invasion by a species	Climate		x
Leisure fishing	Tourism, Sport		
Management of aquatic and bank vegetation for drainage purposes	Land use		
Management of water levels	Management/ land use activities		x
Melioration	Management/ land use activities		
Motorised vehicles	Technical development/machines		
Mountaineering, rock climbing, speleology	Tourism, Sport		
Mowing/ cutting	Management/ land use activities		
Mushrooms picking and associated activities	Tourism, Sport		
Noise nuisance	Technical development/machines		
Other human induced changes in hydraulic conditions	Management/ land use activities		
Other leisure and tourism impacts not referred to above	Tourism, Sport		
Other pollution or human impacts/ activities	Land use activities		
Outdoor sports and leisure activities	Tourism, Sport		
Paths, tracks, hiking/ cycling tracks	Tourism, Sport, Infrastructure		
Pollution	Land use activities		

Pressures	Topic	Direct	Indirect
		climatic cause	
Removal of dead and dying trees	Management/ land use activities		
Removal of forest undergrowth	Management/ land use activities		
Roads, motorways	Infrastructure		
Sand and gravel extraction	Land use		
Skid roads	Land use		
Sport and leisure structures	Tourism, Sport, Infrastructure		
Trampling, overuse	Management/ land use activities		
Water (groundwater) pollution	Land use activities		
Wintering, Salting	Management/ land use activities		x

[illegible]

[illegible]

2.12. Frequency of pressures

Table 22: List of pressures on HABIT-CHANGE investigation areas sorted by frequency

Frequency of pressures	Pressures	Topic	Direct	Indirect
			climatic cause	
5	Grazing/ overgrazing	Management/ land use activities		
5	Management of water levels	Management/ land use activities		x
4	Erosion	Climate		x
4	Eutrophication	Management/ land use activities		
4	Flooding	Climate	x	
4	Mowing/ cutting	Management/ land use activities		
3	Abandonment of pastoral systems	Land use		
3	Drainage	Infrastructure		
3	Drying out (of ponds/ lakes/ soil)	Climate	x	
3	Drying out/ accumulation of organic material	Climate		x
3	General Forestry management	Land use/ land use structure		
3	Habitats (loss of, decreasing)	Land use/ natural development		x
3	Inundation	Climate	x	
3	Invasion by a species	Climate		x
3	Other leisure and tourism impacts not referred to above	Tourism, Sport		
2	Agricultural structures (Change of)	Land use structure		x
2	Biocenotic evolution	Natural development		
2	Canalisation	Infrastructure		
2	Dispersed habitation	Land use/ land use structure		
2	Droughts (more often/ longer periods)	Climate	x	
2	Dykes, embankments, artificial beaches, general	Infrastructure		(x)
2	Fertilisation	Management/ land use activities		
2	Forestry clearance	Management/ land use activities		
2	Groundwater level (decline of)	Management/ land use activities	x	
2	Management of aquatic and bank vegetation for drainage purposes	Land use		
2	Mountaineering, rock climbing, speleology	Tourism, Sport		
2	Other human induced changes in hydraulic conditions	Management/ land use activities		
2	Other natural processes	Natural development		
2	Other pollution or human impacts/ activities	Land use activities		
2	Paths, tracks, hiking/ cycling tracks	Tourism, Sport, Infrastructure		
2	Pollution	Land use activities		

Frequency of pressures	Pressures	Topic	Direct	Indirect
			climatic cause	
2	Roads, motorways	Infrastructure		
2	Sport and leisure structures	Tourism, Sport, Infrastructure		
2	Temperature pattern changes	Climate	x	
2	Water level changes	Climate	x	
1	Antagonism arising from introduction of species	Climate/ land use		
1	Antagonism with domestic animals	Management/ land use activities		
1	Aquatic sport activities	Tourism, Sport		
1	Artificial planting	Land use		x
1	Avalanche	Climate	x	
1	Bailing	Management/ land use activities		
1	Damage by game species	Natural hazards		
1	Dumping, depositing of dredged deposits	Land use activities		
1	Forest planting	Land use		x
1	Gliding, delta plane, paragliding, ballooning	Tourism, Sport		
5	Grazing/ undergrazing	Management/ land use activities		
1	Hunting	Tourism, Sport		
1	Landfill, land reclamation and drying out, general	Land use		
1	Leisure fishing	Tourism, Sport		
1	Management irregular/ discontinuing the mowing (changes in Management)	Management/ land use activities		
1	Melioration	Management/ land use activities		
1	Modification of cultivation practices	Management/ land use activities		(x)
1	Modification of hydrographic functioning, general	Management/ land use activities		x
1	Motorised vehicles	Technical development/ machines		
1	Mushrooms picking and associated activities	Tourism, Sport		
1	Natural succession	Land use		
1	Noise nuisance	Technical development/ machines		
1	Other forms or mixed forms of pollution	Land use activities		
1	Outdoor sports and leisure activities	Tourism, Sport		
1	Pests by insects, fungi, nematodes and so on	Climate		x
1	Precipitation and evapotranspiration patterns changes	Climate	x	
1	Removal of dead and dying trees	Management/ land use activities		
1	Removal of forest undergrowth	Management/ land use activities		
1	Sand and gravel extraction	Land use		
1	Silting up	Management/ land use activities		x

Frequency of pressures	Pressures	Topic	Direct	Indirect
			climatic cause	
1	Skid roads	Land use		
1	Skiing complex	Land use, Tourism, Sport		
1	Species (lost of) relevant for Habitat status, caused by temperature increase and changes in precipitation pattern	Climate	x	
1	Storm, cyclone	Climate		x
1	Trampling, overuse	Management/ land use activities		
1	Use of pesticides	Management/ land use activities		
1	Water (groundwater) pollution	Land use activities		x
1	Wintering, Salting	Management/ land use activities		x

3. References

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