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Supporting elements
for Boreal Natura 2000 review seminar
(2nd part: Fact sheets for “Low hanging fruits” habitats”)

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1 Introduction

The following fact sheets describe 18 habitat-types from the Boreal region selected as “Low Hanging Fruits’ habitats according to the methodology described in the document entitled “Supporting elements for the Boreal review seminar, 1st part: core document”.

The following information is provided for each habitat:

- Summary: A summary of main features described in the following sections:
- Habitat description: as reflected in Manual of Habitats interpretation
- Distribution in the Boreal region and coverage by Natura 2000 network: as reported by Member States in their 2013 report (covering the period 2007-2012)
- Biogeographical conservation status assessment: as reported by Member States in their 2013 report (covering the period 2007-2012) and available at:
<http://bd.Eionet.europar.eu/article17/reports2012>
- Pressures, threats and proposed measures: as reported by Member States in their 2013 report (covering the period 2007-2012)
- Reason for selection as ‘Low Hanging Fruit’ habitat in the Boreal region: outcome of an analysis of the parameters which could rapidly improve
- Priority conservation measures needed: outcome of an expert judgement analysis
- Links: link to the relevant page on the Art 17 portal
<http://bd.Eionet.europar.eu/article17/reports2012>
- In addition, a section to be filled by Member States is appended to each fact-sheet.

2 Fact sheets for LHF habitat types

1210 Annual vegetation of drift lines

- x Selected for first round of Biogeographical Seminar
- x Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable—inadequate due to assessment of Structure & Function and future prospects in three countries (Finland, Latvia, Sweden). Habitat 1210 is shared by four Member States in the Boreal biogeographic region, with the highest proportion being in Estonia (47%) and Sweden (41%). Improving the conservation status of the habitat requires maintenance of natural dynamics of coastal areas and to control and reducing direct human disturbance of any type, but mostly those linked to recreation and leisure activities in coastal zone. The legal protection and establishment of wilderness areas could improve the conservation status of the habitat, especially in Sweden where lower proportion of the habitat area is located in the Natura 2000 sites. The stopping of the habitat area decrease is needed in Latvia.

Habitat description

Formations of annuals or representatives of annuals and perennials, occupying accumulations of drift material and gravel rich in nitrogenous organic matter (*Cakiletea maritima* p.). Frequently overtopped with sand on sandy beaches; also found on shingle beaches. For the most part, these are narrow, linear habitats, although extensive formations occur more rarely on sand banks. The habitat is dynamic and often as a series of small patches, which vary over time, making estimates of area difficult and unreliable.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is widely distributed along the sea coast across the region, particularly in the Gulf of Bothnia, southern Finland, Gulf of Riga, coast and islands of Estonia, south-west Sweden. It is not reported in Lithuania (although *Cakiletea maritima* is present). Actually only 3% of the habitat extent in the EU is in the Boreal region, with 42% in the Atlantic region. The habitat is largely widespread in the Continental and the Mediterranean regions. Despite wide distribution, the habitat area is small, around 4.5 km² in total with the largest part located in Estonia (ca 47%) and Sweden (ca 41%).

The habitat is protected in 99 Natura 2000 sites, with highest coverage in Latvia (88.5 %) and high in Estonia (68 %) and Finland (40-60%).

Natura 2000 sites			
Country	Area / km ²	Coverage %/	Number of sites
Estonia	3.40	68.0	27
Finland	0.40-0.60	40.0-60.0	28
Lithuania			
Latvia	0.23	88.5	8
Sweden	0.38	8.6	36
BOR Region	4.41-4.61	41.3-43.2	99

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports															
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	
EE	15199	19.9	0	≈15199	5	46.9	0	≈5	FV	FV	FV		FV		
FI	34400	45	0	≈34400	1	9.4	0	≈1	U1	U1	U1	=	U1	nc	
LV	9	0	0	≈9	0.26	2.4	-	>0.26	U1	U1	U1	=	FV	b1	
SE	26900	35.2	0	26900	4.41	41.3	0	4.41	U1	U1	U1	=	U1		

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	76508	1	0	76508	11	1	0	>11	2XA	2XA	MTX	=	U1	nc	D	=

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV Favourable	U1 Unfavourable - inadequate	U2 Unfavourable - bad	XX Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown			
Qualifier	= stable; + positive; - negative; x unknown			
Nature of change	a – genuine change; b1 – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change			
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.			

The overall conservations status in unfavourable–inadequate due to assessment of Structure & Function and future prospects poor in three countries (Finland, Latvia, Sweden). Estonia assessed all parameters as favourable what is important taken into account high proportion (47%) of the habitat area occurring in this country. What is also positive, the habitat area was assessed favourable in all countries except Latvia (however, Latvia shares quite small part of the habitat area in the Boreal region - ca 2.5%). The situation of the habitat type in the Boreal region seems stable – the only change of the overall conservation status against previous assessment did Latvia, but this change in not genuine, it is result of better data.

Pressures, threats and proposed measures

The reported pressures are related especially to water pollution (surface waters, marine water), recreational activities (walking, horse-riding, trampling) and cleaning of beaches (e.g. in Latvia because extraction of amber).

Several management measures were proposed, especially by Finland. Most of measures are related to legal protection of sites, habitats and species, the urban and industrial waste management is addressed as well.

Code	Pressure name	EE	FI	LT	LV	SE
G01.02	walking, horseriding and non-motorised vehicles				M	
G05.01	Trampling, overuse				H	
G05.05	intensive maintenance of public parks /cleaning of beaches				M	M
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)		H			
H03.03	marine macro-pollution (i.e. plastic bags, styrofoam)					M
Code	Measure name	EE	FI	LT	LV	SE
1.2	Measures needed, but not implemented					M
2.0	Other agriculture-related measures		M			
6.1	Establish protected areas/sites	M	M			
6.2	Establishing wilderness areas/ allowing succession		M			
6.3	Legal protection of habitats and species		M		M	
8.1	Urban and industrial waste management		M			
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 1210 reached the LHF score 9.48. This habitat type was classified as LHF especially because to reach improvement, the change from stable to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the improvement of trend of only one parameter (Structure & Functions) in one country (Sweden) is needed to reach the overall improvement.

Priority conservation measures needed

Probably most important measures for protection of this habitat type are those focused to maintenance of natural dynamics of coastal areas and to control and reducing direct human disturbance of any type, but mostly those linked to recreation and leisure activities in coastal zone. From this aspect the proposals for legal protection and establishment of wilderness areas are logical. Probably the largest space for improvement in this aspect is in Sweden – this country hosts around 41% of the area of the habitat type in the Boreal region, but low part of it (ca 9%) is located inside Natura 2000 sites. The aim should be to reach improving trend in structure and function. Also measures aiming in the habitat area decrease in Latvia could improve the conservation status of the habitat type and taking into account small area of the habitat in Latvia, probably it could be feasible to stop or reverse the trend.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Coastal+habitats&subject=1210®ion=BOR>

1220 Perennial vegetation of stony banks

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable-inadequate due to assessment of habitat area by Latvia and parameters Structure & function and Future Prospect by Sweden and Latvia. Estonia and Finland assessed the conservation status in their territories as favourable. Habitat 1220 is shared by four Member States in the Boreal biogeographic region (it does not occur in Lithuania), with the highest proportion being in Finland and Sweden. The improvement of the conservation status of the habitat requires the human impact reducing or eliminating especially by establishment of protected areas in Finland and Sweden. The elimination of reed and other species alien to this habitat type as well as removal of organic litter represent main maintenance and restoration measures. The restoration of degraded habitats is needed in Latvia to stop the decreasing trend of the habitat area, but also in degraded sites in other countries. The measures improving the water quality of the Baltic Sea are highly needed, but clearly beyond measures for this habitat type.

Habitat description

Perennial vegetation of the upper beaches of great shingle banks, formed by *Crambe maritima*, *Honkenya peploides* and other perennial species. A wide range of vegetation types may be found on large shingle structures inland of the upper beach - from almost bare rocky shores to stony shore meadows and bare sandy moraine. On more mature, stable, shingle coastal forms of grassland, heath and scrub vegetation may develop. Some areas of unusual vegetation dominated by lichens and bryophytes are found on more mature shingle.

Distribution in the Boreal region and coverage by Natura 2000 network



This habitat is widespread along the coast of Baltic Sea, the continuous and broad distribution is along the coast of Finland. The habitat type absent in Lithuania and it is rare in Latvia. Scattered distribution is in south Sweden and southwest Sweden in coast of North Sea. About 70% of the EU area of this habitat is in the Boreal region. Also widespread in the Atlantic region.

Finland hosts largest habitat area, but it is not well specified – the country reported broad range of values. Significant part of the habitat area is located in Sweden. The habitat is protected in quite high number of Natura 2000 sites in Boreal region (180), most of them (134) in Sweden. High part of the habitat area is protected in Natura 2000 sites in Estonia (94%) and Latvia (93%).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	4.7	94.0	28
Finland	10.0-50.0	4.0-20.0	43
Lithuania			
Latvia	0.4	92.7	3
Sweden	11.1	9.8	134
BOR Region	26.2-66.2	7.1-18.0	180

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	10799	10.6	0	≈10799	5	1.4	0	≈5	FV	FV	FV		FV		10800	10.8	6400	9
FI	53600	52.6	0	≈53600	250	67.9	0	≈250	FV	FV	FV		FV		50300	50.5	44800	63
LV	1	0	0	≈1	0.41	0.1	-	>0.41	U1	U1	U1	=	U1	nc	1600	1.6	1100	1.5
SE	37500	36.8	0	37500	113	30.7	0	113	U1	U1	U1	=	U1		36900	37	18800	26.4

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	101900	1	0	101900	368	1	0	368	2XA	2XA	MTX	=	FV	no	D	=

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status is "unfavourable - inadequate" due to assessment of habitat area by Latvia and parameters Structure & function and Future Prospect by Sweden and Latvia as unfavourable – inadequate. Estonia and Finland assessed all parameters as favourable. The situation of the habitat type in Boreal biogeographic region seems to be stabilised – the overall conservation status is unchanged against the previous assessment (2001-2006) and also individual countries assessed the conservation status in the same category as in the previous assessment.

Pressures, threats and proposed measures

There are no pressures of high intensity reported. Pollution of Baltic Sea and freshwater, human impacts (trampling and overuse) as well as natural processes (storms) were reported as pressures of medium intensity. As indicated by Finland, pressures and threats are related to eutrophication of the Baltic Sea, which in consequence leads to increasing of the common reed and accumulation of organic litter on the stony shore line. However, in the northern parts of the Baltic Sea water quality is better and good quality stony banks are still common

Establishment of protected areas are considered as the most important measure, this measure could be implemented especially in countries having low proportion of the habitat area protected (Finland, Sweden). Sweden proposed the restoration of coastal areas – this could be beneficial for this and also other coastal habitat types. The maintenance of open habitats proposed by Finland could be focused especially to measures against the succession of tall grasses, including reed.

Code	Pressure name	EE	FI	LT	LV	SE
G05.01	Trampling, overuse				M	
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)		M			
H03.03	marine macro-pollution (i.e. plastic bags, styrofoam)					M
L07	storm, cyclone				M	
Note:						
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats		M			
4.4	Restoring coastal areas					M
6.1	Establish protected areas/sites	H	M			M
6.2	Establishing wilderness areas/ allowing succession		M			
6.3	Legal protection of habitats and species				M	
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 1220 reached the LHF score 28.67. This habitat type was classified as LHF especially because to reach improvement, the change from stable to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Sweden) is needed to reach the overall improvement. No high threats were reported for this habitat type.

Priority conservation measures needed

The establishment of protected areas is considered as the most important conservation measures needed. There is potential for increase of area of protected sites especially in Finland and Sweden - in Latvia and Estonia the proportion of the habitat area inside the Natura 2000 sites is already high (more than 90%). The establishment of protected areas could reduce or eliminate direct human impacts. The eutrophication of the Baltic Sea water that is considered as a reason for increase of reed cover and accumulation of organic litter represents a serious, complicated problem and it is probably unrealistic to expect significant improvement in a short time. Therefore the measures should be focused to control and removal of reed and other plants not typical for this habitat type and removal of organic litter as well. These measures could be used also for restoration of disturbed and damaged habitats and to increase of the habitat area in Latvia to stop the decreasing trend. Because of small habitat area in Latvia, the restoration of relatively small extent could improve the habitat conservation status in this country.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Coastal+habitats&subject=1220®ion=BOR>

1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable - bad due to assessment of the habitat area and the future prospect in this category by Sweden. The habitat 1330 occurs only in very restricted area of south-western Sweden in the Boreal region. The improving the conservation status of the habitat requires measures for maintenance of existing salt marshes and for restoration of damaged ones. For the maintenance management, it is crucial to determine the most suitable management for a particular place – it often depends on the historical levels of grazing intensity that varied from the place to place. The management could be focused to maintenance of historical levels of grazing, returning of abandoned stages to moderately or heavily grazed salt meadows or restoration of abandoned salt meadows. For the salt meadows exposed to high tidal pressures, the erosion control measures should be taken. Several measures exist for support of salt marsh accretion and they could be used for the habitat restoration. The difference between actual habitat area and its reference values indicates need for restoration of this habitat.

Habitat description

Salt meadows of Baltic, North Sea, English Channel and Atlantic shores. Atlantic salt meadows are communities of herbaceous halophytic (salt-tolerant) plants growing on the margins of tidally inundated shores. They lie at the upper end of a succession between the early colonising species such as *Salicornia europaea* and transitions to vegetation where tidal influence is limited. *Aster tripolium* can be present or abundant in most subdivisions.

Distribution in the Boreal region and coverage by Natura 2000 network



Atlantic salt meadows represent very rare habitat in the Boreal biogeographic region (80% of the EU area is in the Atlantic region. The habitat type is present only in Sweden, where it is restricted to a small zone of a westernmost Atlantic coast (It also occurs in the adjacent Continental region of Sweden, but only on the Atlantic coast).

The habitat is represented in 13 Natura 2000 sites what seems sufficient number taking into account the small distribution and habitat rarity in the Boreal region. However, only 10 % of the habitat area is located inside Natura 2000 sites.

habitat is relatively rare in BOR with >80% of area in ATL, in the BOR only occurs on the Atlantic coast of SE, it also occurs in the adjacent CON region of SE, again only on the Atlantic coast (no tides & low salinity in the Baltic)

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland			
Lithuania			
Latvia			
Sweden	0.8	10	13
BOR Region	0.8	10	13

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
SE	3800	100	0	3800	8	100	0	20	U1	U2	U2	=	U2	nc	3300	100	2400	100
EU Biogeographical assessment and proposed corrections																		
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1			
															Contrib.	Type		
EU27	3800	00	0	3800	8	00	0	20	00	00	MTX	=	U2	nc	D	=		
Conservation status		FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown									
Trend		0 = stable; + = increase; - = decrease; x = unknown																
Qualifier		= stable; + positive; - negative; x unknown																
Nature of change		a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change																
Target 1 contribution		A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.																

Although the range is considered favourable, the habitat area is far below the reference value and both habitat area and future prospect were evaluated as unfavourable-bad, which gives an overall conclusion "Unfavourable Bad", with stable qualifier. The previous conservation status was unfavourable-bad and it is thus not changed.

Pressures, threats and proposed measures

The level of grazing pressure has a profound impact on the nature of the vegetation. These range from short, species-poor swards associated with heavily, often sheep-grazed salt marshes to lightly or historically ungrazed ones. The habitat could be significantly influenced by erosion or marsh accretion (Doody 2008).

For centuries salt meadows have been utilised for grazing and/or mowing resulting in low growing and species-rich vegetation. The intensity of grazing by domestic livestock or mowing is particularly significant in determining the structure and species composition of the habitat type. Both intensive grazing and abandonment of pastoral systems and lack of grazing are reported as the main pressures. Besides them, the marine water pollution is considered as a serious pressure.

Sweden proposed the maintaining of grasslands and other open habitats as main measure. In this respect, the grazing intensity should be low, it is crucial to apply the management of suitable intensity because both too intensive grazing and too low intensity of grazing could damage the habitat type. Sweden consider highly important to establish protected areas and there is sufficient space for improving of situation, because currently is only 10% of the habitat area located inside of the Natura 2000 sites.

Code	Pressure name	EE	FI	LT	LV	SE
A04.01	intensive grazing					M
A04.03	abandonment of pastoral systems, lack of grazing					H
H03	Marine water pollution					M
Note:						
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats					H
6.1	Establish protected areas/sites					H
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 1330 reached the LHF score 30.00. This habitat type was classified as LHF especially because to reach improvement, the change from stable to improving trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Area) in one country (Sweden) is needed to reach the overall improvement. In practical term it means restoration of damaged or degraded habitat areas.

Priority conservation measures needed

The correct decision about grazing and its intensity is crucial for the conservation management. Introduction of grazing by domestic stock on formerly ungrazed or lightly grazed salt marshes can have a deleterious effect on Atlantic salt meadows. Several of the typical and rare plants are susceptible to grazing and may be eliminated from the community. Conversely reduction or cessation of grazing on historically heavily grazed salt marshes and coastal meadows results in a dense overgrown, species-poor sward unsuitable for the grazing ducks and geese, as well as for wader birds belonging to the breeding bird fauna of these habitats. Thus, the key to assessing the need for intervention lies in understanding the historical pattern of management (Doody 2008). The suitable management measures could be focused to maintenance of historical levels of grazing or to returning of abandoned stages to moderately or heavily grazed salt meadows. The management of *Spartina* species should be considered as an integral part of the management plans. Several measures exist to prevent the salt marshes loss and for their restoration. Atlantic salt marshes that are highly influenced by tidal pressure could be damaged by erosion and in such case, the erosion control is needed. On the other hand, several different techniques promote salt marsh accretion and they could be used for the habitat restoration. Taking into account the difference between current habitat area and its reference value, there space for the habitat restoration is quite large.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Coastal+habitats&subject=1330®ion=BOR>

Doody J.P. 2008. Management of Natura 2000 habitats. 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae). European Commission, Technical Report 2008 02/24, 31 pp.

1640 Boreal Baltic sandy beaches with perennial vegetation

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable - bad mostly due to the situation in Finland that assessed unfavourable-bad all parameters except range and indicated also decreasing trend of the habitat area. Habitat 1640 is shared by four Member States in the Boreal biogeographic region (not occurring in Lithuania), with the highest proportion being in Sweden, followed by Finland and Estonia. The improving the conservation status of the habitat requires stopping of decreasing trend of the habitat area in Finland. Especially control of recreation activities and measures against vegetation succession (including alien species elimination) could bring improvement of the situation in Finland, the latter one could be used as a restoration measure for damaged habitats. The same measures could improve the habitat conservation status also in other countries with potential to assess the parameters “Structure and function” and “Future prospect” better in the future.

Habitat description

Sheltered to exposed, gently sloping sand beaches influenced by wave action, but less influenced by tides than on the Atlantic coast, giving a higher representation of perennial plant species. Sand beaches along the Finnish and Swedish Baltic coast are relatively uncommon and usually small. Occasional stones or boulders may be scattered along the beach. The vegetation is often sparse and large areas of bare sand are common especially in the part closest to the shore. Sand-binding plants are common. The insect fauna on sand beaches is conspicuous. Drift belts of organic matter are often present.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is restricted to Boreal biogeographic region as it is less influenced by tides than on the Atlantic coast. It is widespread along the Baltic coasts of all Member States except Lithuania. It exhibit almost continuous distribution along the coast of Finland with centre of distribution in south Finland. Quite often in north coast of Estonia, along the Riga Bay and in island Gotland. Sweden reported the largest habitat area (12 km²) followed by Finland (8 km²) and Estonia (7 km²).

Estonia reported largest habitat area located in Natura 2000 sites, representing almost 86% of national habitat area. The highest number of Natura 2000 sites with presence of this habitat type indicated Sweden (63) and Finland (39).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	6.0	85.7	27
Finland	2.0-3.0	25.0-37.5	39
Lithuania			
Latvia	0.2	33.8	6
Sweden	3.2	26.6	63
BOR Region	11.4-12.4	41.3-44.9	135

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	11000	14.3	0	≈11000	7	25.3	0	≈7	FV	FV	FV		FV		11000	13.9	7500	15.4
FI	44500	57.8	0	≈44500	8	28.9	-	>8	U2	U2	U2	-	U2-		43400	54.9	29100	59.6
LV	13	0	0	≈13	0.71	2.6	0	≈0.71	U1	U1	U1	=	U1	nc	3100	3.9	2500	5.1
SE	21500	27.9	0	21500	12	43.3	0	12	U1	U1	U1	=	FV	b1	21500	27.2	9700	19.9

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	77013	0	0	77013	28	1	-	>28	2XA	2XA	MTX	-	U1	no	C	-

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status was assessed as unfavourable-bad for the region mostly due to the situation in Finland that assessed unfavourable-bad all parameters except range. The overall trend is declining – this assessment also follows assessment of Finland, the situation in other countries is stable. In the opinion of experts, the habitat area in Finland is declining. Structure and function were assessed by Finland as bad because of human induced eutrophication, impact of recreation, alien species, and accumulation of algal masses on sandy shore. The habitat area in other countries (Estonia, Latvia, and Sweden) is favourable with the actual surface corresponding to reference values. While Estonia reported all parameters favourable, Latvia and Sweden assessed Structure and function as well as Future prospect as unfavourable-inadequate.

Pressures, threats and proposed measures

In Finland the habitat is threatened because of human induced eutrophication, overgrowth of open sandy beaches - substitution of sand beach vegetation by reed, trees and bushes including alien species *Rosa rugosa* and accumulation of algal masses on sandy shores. Some sandy beaches are recreation areas suffering from trampling and off-road vehicles. Other countries reported similar pressures, in addition abiotic natural processes (erosion) are indicated.

Most of the proposed measures are related to the legislative protection, establishing of protected and wilderness areas. The measures for maintenance of open habitats and specific single species or species group management measures are proposed as well.

Code	Pressure name	EE	FI	LT	LV	SE
D03.01.02	Piers / tourist harbours or recreational piers					M
G01*	Outdoor sports and leisure activities, recreational activities		H		M	
G05.01	Trampling, overuse		M		M	
G05.05	intensive maintenance of public parcs /cleaning of beaches					M
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)		H			
H03.03	marine macro-pollution (i.e. plastic bags, styrofoam)					M
H04.02	Nitrogen-input		H			
I01	invasive non-native species		M			M
K01*	abiotic (slow) natural processes	M			M	
K02	Biocenotic evolution, succession		H			
L07	storm, cyclone				M	
Note: G1 – Latvia reported G01.02 Walking, horseriding, G01.03.02 Non-motorised vehicles and off-road motorized driving, and K01.01 Erosion – all of them with medium intensity						
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats		M			M
6.1	Establish protected areas/sites	H	H			M
6.2	Establishing wilderness areas/ allowing succession		H			
6.3	Legal protection of habitats and species		H		M	
7.4	Specific single species or species group management measures					H
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 1640 reached the LHF score 13.99. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Area) in one country (Finland) is needed to reach the overall improvement. In practical terms it means stopping of the area decrease in Finland.

Priority conservation measures needed

For improvement of the overall conservation status, the improvement of the habitat area trend in Finland is needed. This means measures against direct damage of the habitat type and against the succession. Because of character of threats, needed are especially recreation and leisure activities and measures for stopping succession and measures against invasive species are needed. Different methods could be used for the recreation impact control, one of them is establishment of protected areas – measure proposed as highly needed by Finland and Estonia. The measures against invasive species could be applied also as the restoration measures and they could contribute to stopping or re-directing currently decreasing trend in the habitat area in Finland. In other countries, they could improve structure of habitat and could lead to better assessment of the parameter “Structure and function” in the future.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Coastal+habitats&subject=1640®ion=>

3130 Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

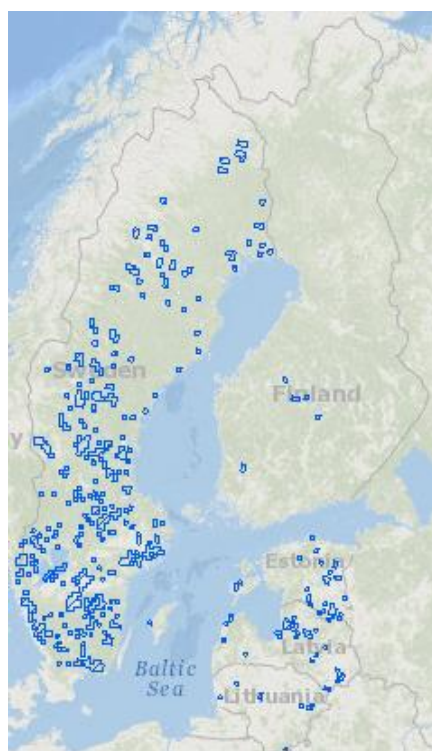
Summary

The overall conservation status in the Boreal region is unfavourable-inadequate (and deteriorating) due to assessment of four countries; Latvia assessed the conservation status as unfavourable–bad. Habitat 3130 is distributed in all Member States in the Boreal biogeographic region, with the highest proportion being in Sweden (more than 90%). The improving the conservation status of the habitat requires quite demanding measures in many sites in Sweden, namely to restore or improve the water quality, hydrological regime, coastal areas, to establish protected areas, legal protection of habitats and species, regulation of fishery and species-oriented management measures. Because of their complexity and expected extent, probably this habitat should be not considered as the “low-hanging fruit”.

Habitat description

Aquatic to amphibious vegetation of lakes, ponds and pools with low to moderate levels of nutrients and their land interface zone. The habitat type includes two sub-types: 1. Short perennial vegetation, oligotrophic to mesotrophic, of lake, pond and pool banks and water-land interfaces belonging to the *Littorelletalia uniflorae*. 2. Amphibious short annual vegetation, pioneer of land interface zones of lakes, pools and ponds with nutrient poor soils, or which grows during periodic drying of these standing waters: *Isoëto-Nanojuncetea*. These two units can grow together in close association or separately. Characteristic plant species are generally small short lived species.

Distribution in the Boreal region and coverage by Natura 2000 network



This habitat type is widespread in Sweden, but less common in the other countries of the Boreal region. The habitat is noted as being poorly known in Finland. More than 90% of the habitat area in the Boreal region is reported to be located in Sweden. Overall 45% of the EU extent of this habitat is in the Boreal region.

The representation of the habitat type in Natura 2000 sites is high, all localities of this habitat type in Estonia and Lithuania are inside of the Natura 2000 sites. It is protected in 160 Natura 2000 sites throughout the Boreal region with highest number of sites (109) in Sweden.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	422.0	100.0	23
Finland	6.6	x	5
Lithuania	3.3	100.0	5
Latvia	33.4	60.0	18
Sweden	2,574.0	53.6	109
BOR Region	3,039.3	57.6	160

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	6800	2.6	+	≈6800	422	8	+	≈422	U1	XX	U1	-	U2-	c1	6700	2.5	3100	5.7
FI	1300	0.5	0	≈1300	N/A	N/A	0	≈	U1	FV	U1	+	U1	nc	1300	0.5	700	1.3
LT	64700	24.9	0	≈64700	3.30	0.1	-	≈3.30	U1	U1	U1	-	U1-	nc	73000	27.3	900	1.7
LV	173	0.1	-	173	55.70	1.1	-	55.70	U2	U2	U2	-	U1	b1	8000	3	3600	6.7
SE	187100	71.9	0	187100	4800	90.9	0	4800	U1	U1	U1	-	U1-		178800	66.8	45800	84.7

EU Biogeographical assessment and proposed corrections																	
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1		
															Contrib.	Type	
EU27	260073	1	0	≈260073	5281	2GD		5281	2GD	2GD	MTX	-	U1	nc	C	-	

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservations status was assessed as unfavourable-inadequate (and deteriorating) in the Boreal biogeographical region. Four countries assessed the conservation status in their territories in this category; Latvia assessed it as unfavourable–bad. The trend is decreasing in all countries except Finland. The overall conclusion in countries follows assessment of Structure & function and mostly also assessment of Future prospect except Finland that assessed it as favourable and Estonia (unknown). The habitat area is decreasing in Lithuania and Latvia, but the actual values still correspond to the reference values. No value for area was reported by Finland but this would not have influenced the EU regional assessment. Although there have been changes of national Conservation Status and parameters due to better data and different methods, there is no change in the regional Conservation Status comparing with period 2001-2006.

Pressures, threats and proposed measures

Quite long list of pressures was reported by member states. Pollution of surface waters, modification of hydrographic functioning, abandonment of pastoral systems and lack of grazing, outdoor sport and recreational activities, urbanised areas, succession and eutrophication were reported as pressures of high intensity. Other 13 pressures with medium intensity were reported. Diffuse pollution to surface waters due to agricultural and forestry activities causes by far the biggest threat for the habitat. It causes gradual eutrofication and weakens the state of the typical species. Lack of grazing weakens the state of the typical vegetation of the habitat. Many factors affect water quality negatively e.g., acidification, pollutants, and, brownification (leakage of humus from the surrounding ground that make the water brown and less transparent).

Code	Pressure name	EE	FI	LT	LV	SE
A03.03	abandonment / lack of mowing	M				
A04.03	abandonment of pastoral systems, lack of grazing	H				
A08	Fertilisation				M	
B02	Forest and Plantation management & use				M	
B02.02	forestry clearance				M	
E01	Urbanised areas, human habitation				H	
E01.04	other patterns of habitation	M				
E03.01	disposal of household / recreational facility waste	M				
F02.03	Leisure fishing				M	
G01	Outdoor sports and leisure activities, recreational activities			M	H	
H01*	Pollution to surface waters (limnic & terrestrial, marine & brackish)	H	M	H		M
I02	problematic native species				M	
J02.05	Modification of hydrographic functioning, general			H	H	
J02.06	Water abstractions from surface waters					M
J02.11.02	Other siltation rate changes	M				
K01	abiotic (slow) natural processes					M
K02**	Biocenotic evolution, succession			H	H	
K02.02	accumulation of organic material	M			M	
K02.03	eutrophication (natural)				H	
M02.03	decline or extinction of species				M	
Note: * - H01.05 Finland reported diffuse pollution to surface waters due to agricultural and forestry activities and Estonia H01.08 diffuse pollution to surface waters due to household sewage and waste waters; ** - Latvia reported K02.01 species composition change (succession).						
Code	Measure name	EE	FI	LT	LV	SE
2.0	Other agriculture-related measures		M			
2.2	Adapting crop production		H			
3.2	Adapt forest management		M			
4.0	Other wetland-related measures				H	
4.1	Restoring/improving water quality				H	H
4.2	Restoring/improving the hydrological regime					H
4.4	Restoring coastal areas					H
6.1	Establish protected areas/sites	M				H
6.3	Legal protection of habitats and species				H	H
7.2	Regulation/ Management of fishery in limnic systems					M
7.4	Specific single species or species group management measures					H
8.1	Urban and industrial waste management	M				
Legend:	L Low intensity	M Medium intensity	H High intensity			

The Member States proposed mostly measures related to the water regime and quality: restoring/improving water quality, restoring/improving the hydrological regime, restoring coastal areas, other wetland-related measures. Management of water levels are of importance and many lakes have been lowered historically. The second group of measures contains legal protection of species and habitats as well as establishment of protected sites. The changes in use of surrounding land are needed as well: adaptation of crop production, forest management, urban and industrial waste management. The specific species-oriented measures and regulation of fishery are considered important as well.

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 3130 reached the LHF score 15.66. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because of quite high representation of the habitat in Natura 2000 sites (57 %). Due to the high dominance of the habitat distribution in Sweden, the improvement of trend of only one parameter (Structure & Functions) in Sweden is needed to reach the overall improvement. On the other hand, quite high number of pressures was reported.

Priority conservation measures needed

When focusing to improvement of Structure & function in Sweden only, it is necessary to address three pressures reported by Sweden (all of them of medium intensity): surface water pollution, water abstraction from surface waters and abiotic natural processes. Sweden consider highly needed several measures: restoring or improving of water quality, hydrological regime, coastal areas, establishment of protected areas, legal protection of habitats and species, regulation of fishery and species-oriented management measures. Taking into account the complexity of issues of water regime and water quality in relation to high number of sites to be improved, it is quite complicated task. The improvement of the conservation status in other countries requires also significant effort due to variety of pressures of high intensity affecting this habitat type and relative large habitat area. In summary, probably this habitat type does not belong to “low hanging fruit” group.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Freshwater+habitats&subject=3130®ion=BOR>

3180 Turloughs

	Selected for first round of Biogeographical Seminar
x	Selected using "Low hanging fruit" approach

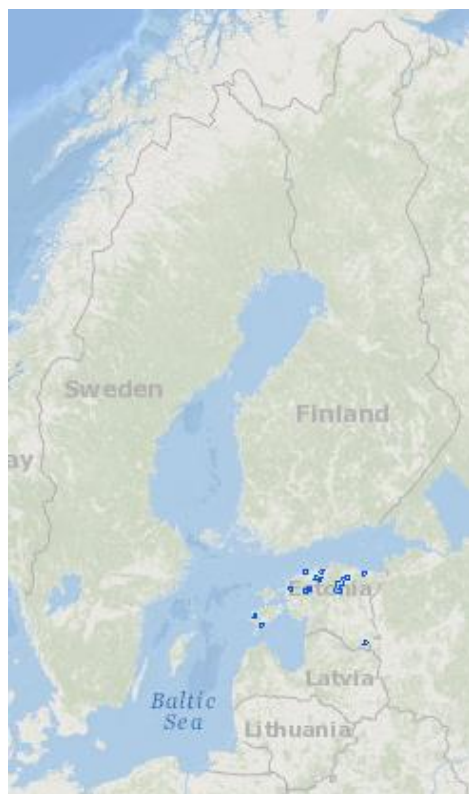
Summary

The overall conservation status in the Boreal region is unfavourable-inadequate due to assessment of both parameters Structure & function and Future prospect by Estonia. Habitat 3180 occurs in the Boreal biogeographic region only in Estonia, where is quite rare and scattered across the country. The improving the conservation status of the habitat requires measures for improvement of water quality, control of water abstraction and activities contributing to water pollution (fertilisation in agriculture, waste management).

Habitat description

Temporary lakes principally filled by subterranean waters and particular to karstic limestone areas. Most flood in the autumn and then dry up between April and July. However, some may flood at any time of the year after heavy rainfall and dry out again in a few days; others, close to the sea, may be affected by the tide in summer. These lakes fill and empty at particular places. The soils are quite variable, including limestone bedrock, marls, peat, clay and humus, while aquatic conditions range from ultra oligotrophic to eutrophic. The vegetation mainly belongs to the alliance *Lolio-Potentillion anserinae* Tx. 1947, but also to the *Caricion davallianae* Klika 1934.

Distribution in the Boreal region and coverage by Natura 2000 network



In the Boreal biogeographic region, this habitat type occurs in Estonia only. It is scattered across the country - both in mainland and in the Saaremaa island

Only 2% of the EU habitat area is in the Boreal region, it is mostly represented in the Atlantic region (66% of the area).

The habitat area is ca 1.1 km², 55% located in nine Natura 2000 sites.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	2.0	55.0	9
Finland			
Lithuania			
Latvia			
Sweden			
BOR Region	2.0	55.0	9

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	3000	100	+	≈3000	2	100	0	≈2	U1	U1	U1	x	U2	b1	3000	100	1800	100
EU Biogeographical assessment and proposed corrections																		
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1			
EU27	3000	1	+	≈3000	2	1	0	≈2	0	0	MTX	x	U2	no	D	=		
Conservation status		FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown									
Trend		0 = stable; + = increase; - = decrease; x = unknown																
Qualifier		= stable; + positive; - negative; x unknown																
Nature of change		a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change																
Target 1 contribution		A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.																

The overall conservation status was assessed as unfavourable-inadequate, because both parameters Structure and function and Future prospects. The qualifier indicates the unknown trend. Both Range and Area are favourable, the habitat area corresponds approximately to the reference values and it is stable. The change in conservation status against previous reporting period (2001-2006) is due to better data and is not considered genuine.

Pressures, threats and proposed measures

The groundwater pollution is noted as highly important while the fertilisation and groundwater abstraction belong to pressures of medium intensity. Underground mining is noted as a highly important threat.

Estonia proposed as highly needed improving of the water quality, urban and industrial waste management and establishment of protected areas.

Code	Pressure name	EE	FI	LT	LV	SE
A08	Fertilisation	M				
H02.08	diffuse groundwater pollution due to urban land use	H				
J02.07.04	groundwater abstractions by quarries/open cast (coal)sites	M				
Note:						
Code	Measure name	EE	FI	LT	LV	SE
4.1	Restoring/improving water quality	H				
6.1	Establish protected areas/sites	H				
8.1	Urban and industrial waste management	H				
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 3180 reached the LHF score 1.82. This habitat type was classified as LHF especially because to reach improvement, the change from unknown to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because high representation of the habitat type in Natura2000 sites and the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Estonia) is needed to reach the overall improvement.

Priority conservation measures needed

It is necessary to implement the set of measures for improvement of the water quality and water regime in a local scale, in individual sites of the habitat distribution. In this aspect, it is possible to use synergy effect as these measures are contributing to general quality of underground water important also for human supply. In this respect, the regulation of groundwater abstraction will become very important. The establishing of protected sites and protection zones of water sources should contribute to improvement of the conservation status of this habitat. Because of the habitat rarity, not big extent of these measures is expected and thus the improvement of conservation status of this habitat type seems feasible.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Freshwater+habitats&subject=3180®ion=BOR>

3210 Fennoscandian natural rivers

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable-inadequate due to assessment of both parameters Structure & function and Future prospect by Finland and Sweden. Habitat 3210 is in the Boreal biogeographic region distributed in Finland and Sweden only, with the high dominance in Finland (more than 80%). The improving the conservation status of the habitat requires quite demanding measures focused to removal of barrier effect of river dams, improvement of the water quality and water regime. Some other measures like legal protection, establishment of protected areas are useful and can help to reach the main targets.

Habitat description

Boreal and hemiboreal natural and near-natural river systems or parts of such systems containing nutrient-poor water. The water level shows great amplitude, up to 6 m during the year. Especially during the spring, the water level is high. The water-dynamics can vary and contain waterfalls, rapid streams, calm water, and small lakes adjacent to the river. The water erosion causes a higher amount of nutrients towards the river-mouth, where sedimentation starts. In higher levels the rivers are characterized by great, very cold water flows, coming from glaciers, deep snow beds and large snow-covered areas in mire- and woodlands. In addition the water surface in placid river sections is frozen to ice every winter. These circumstances create ecosystems unique to this part of Europe.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is widespread in Finland and Sweden and does not occur in other countries of the Boreal biogeographical region.

Finland reported larger habitat area as Sweden.

The habitat only occurs in the Boreal region (although the separation from habitat 3260, which is widespread in other regions, is not clear).

The habitat type is represented in quite high number of Natura 2000 sites (166; 95 in Sweden and 71 in Finland. In Sweden, whole habitat area lies in Natura 2000 sites.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland	250.0	31.3	71
Lithuania			
Latvia			
Sweden	190.0	100.0	95
BOR Region	440.0	44.4	166

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
FI	292600	55.7	0	≈292600	800	80.8	0	≈800	U1	U1	U1	=	U1	nc	289000	57	159000	66.3
SE	232300	44.3	0	232300	190	19.2	0	190	U1	U1	U1	-	U1-		218400	43	80900	33.7

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	524900	1	0	524900	≈990	1	0	≈990	0	0	MTX	=	U1	nc	D	=

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

Assessed as unfavourable-inadequate (and stable) because of assessment of both parameters Structure & function and Future prospect by both countries. Parameters Range and Area are favourable both in Finland and Sweden and the actual habitat area corresponds approximately to the reference one. There have been no changes in conservation status against the previous assessment (2001-2006).

Pressures, threats and proposed measures

A wide range of threats and pressures are reported, the only one noted as highly important is barriers to migration (Finland). To pressures of medium intensity belong water pollution from agricultural or forestry practices, changes to hydrology, lack of flooding, water abstraction. Changes in hydrology and migration barriers, mainly due to building of hydroelectric power plants, have drastically changed most of the major rivers that would belong to this habitat type.

Number of measures were proposed, highly needed are restoring/improving water quality and hydrological regime, managing water abstraction, crop production adaptation, establishing of protected areas and legal protection of habitats and species. However, restorability and capacity to recover are assessed to be poor.

Code	Pressure name	EE	FI	LT	LV	SE
F02.01	Professional passive fishing		M			
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)					M
H01.05	diffuse pollution to surface waters due to agricultural and forestry activities		M			
J02.03	Canalisation & water deviation					M

Code	Pressure name	EE	FI	LT	LV	SE
J02.04.02	lack of flooding		M			
J02.05	Modification of hydrographic functioning, general		M			
J02.06	Water abstractions from surface waters					M
J02.10	management of aquatic and bank vegetation for drainage purposes					M
J03.02.01	reduction in migration/ migration barriers		H			
Note:						
Code	Measure name	EE	FI	LT	LV	SE
2.0	Other agriculture-related measures		M			
2.2	Adapting crop production		H			
3.2	Adapt forest management		M			
4.1	Restoring/improving water quality		H			H
4.2	Restoring/improving the hydrological regime		M			H
4.3	Managing water abstraction					H
6.1	Establish protected areas/sites		M			H
6.3	Legal protection of habitats and species		H			H
7.2	Regulation/ Management of fishery in limnic systems		M			M
7.3	Regulation/ Management of fishery in marine and brackish systems		M			
7.4	Specific single species or species group management measures					M
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 3210 reached the LHF score 4.50. This habitat type was classified as LHF especially because to reach improvement, the change from stable to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the improvement of trend of only one parameter (Structure & Functions) in one country (Finland) is needed to reach the overall improvement.

Priority conservation measures needed

The improvement of the conservation status in Finland means to address especially the high intensity pressure reported by this country, i.e. migration barriers. The measures to restore the connectivity in places of hydroelectric power plants exist but they are quite expensive. Also other measures focused to water quality and restoration of hydrological regime are quite complex and demanding. In addition, Finland indicated that restorability and capacity to recover are poor. The proposal for legal protection and declaration of protected areas can be implemented more easily, but the necessity to resolve other mentioned pressures will remain.

Links to measures under the WFD?

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Freshwater+habitats&subject=3210®ion=BOR>

4030 European dry heaths

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

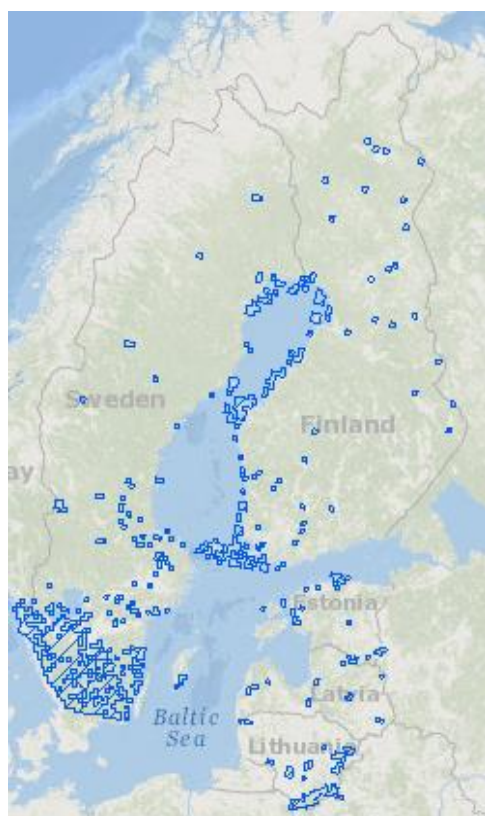
Summary

The overall conservation status in the Boreal region is unfavourable-bad with deteriorating trend due to assessment of Finland, Latvia and Sweden. Habitat 4030 is distributed in all Member States in the Boreal biogeographic region, with the highest proportion being in Sweden. The improving the conservation status of the habitat requires stopping of the habitat area decrease in Finland and Sweden. This requires regular grazing of the sites and where applicable, returning of traditional fire management. The grazing could be funded from the measures of the Common Agricultural Policy. Further improvement of the conservation status could be reached by restoration of damaged and overgrown by shrubs habitats.

Habitat description

Mesophile or xerophile heaths on siliceous, podsolic soils in moist Atlantic and sub-Atlantic climates of plains and low mountains of Western, Central and Northern Europe. This habitat type contains several sub-types: Sub-montane *Vaccinium-Calluna* heaths, Sub-Atlantic *Calluna-Genista* heaths, Sub-Atlantic *Calluna-Genista* heaths, Ibero-Atlantic *Erica-Ulex-Cistus* heaths, and Boreo-Atlantic *Erica cinerea* heaths.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type distribution is concentrated especially in south part of Sweden and along west coast of Finland including archipelago and Aland islands and in south Lithuania. In rest of the Boreal biogeographic region is the habitat scattered in all countries.

More than half of the habitat area in the Boreal region is located in Sweden, quite significant areas are also in Lithuania and Finland.

Overall the habitat is more typical of the Atlantic and the Continental region, as only 1% of its EU extent is in the Boreal region. In upland areas it is replaced by habitat 4060.

Whole habitat area in Latvia is located in 8 Natura 2000 sites, high proportion of national habitat area is in Natura 2000 sites also in Estonia and Finland.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	11.0	94.8	12
Finland	9.8-11.0	65.3-73.3	12
Lithuania	4.5	22.5	7
Latvia	0.2	100.0	8
Sweden	18.1	30.8	88
BOR Region	43.6-44.8	41.2-42.3	127

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	5100	2.4	x	≈5100	11.60	11	x	≈11.60	U1	U1	U1	=	XX	b1	5100	3.6	3000	3.8
FI	32900	15.7	0	>32900	15	14.2	-	>15	U2	U2	U2	-	U2-		32300	22.7	15800	20.1
LT	64700	30.9	0	≈64700	20	18.9	x	≈20	XX	XX	XX		XX	nc	N/A	N/A	7500	9.5
LV	2013	1	x	>>2013	0.18	0.2	x	>>0.18	U1	U2	U2	x	U1	b1	2200	1.5	1700	2.2
SE	104800	50	0	104800	59	55.8	-	230	U2	U2	U2	-	U2-		102400	72.1	50800	64.5

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	209513	1	0	>209513	106	1	-	>277	2XA	2XA	MTX	-	U2	nc	C	-

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The conservation status in the Boreal biogeographical region is unfavourable-bad with deteriorating trend. All parameters were assessed unfavourable-bad except range that is unfavourable-inadequate. Finland, Sweden and Latvia consider the conservation status as unfavourable-bad, Estonia as unfavourable-inadequate and Lithuania as unknown. The previous conservation status was unfavourable-bad.

Pressures, threats and proposed measures

The habitat is threatened mostly by abandonment of pastoral systems, lack of grazing, reduction or loss of specific habitat features, succession and species composition change, biotic evolution (succession), forest planting, lack of managed burning, fragmentation, sand and gravel extraction. Finland reported that dry heaths which are situated often far in the archipelago are poorly managed and traditional burning is almost totally ceased. Because of lack of management and especially lack of fires, the shrubs have started to dominate while the lower grass and herb species are decreasing. The vegetation mosaic is also declining and the number of species as well. Overgrown by juniper has radically increased in the archipelago. The dry heaths are disappearing. The maintaining agricultural activities and especially grazing represents the most important measure for conservation of this habitat type. The establishment of protected areas, legal protection and species and adaptation of the forest management are other measures considered by countries as highly needed.

Code	Pressure name	EE	FI	LT	LV	SE
A03.03	abandonment / lack of mowing			M		
A04.03	abandonment of pastoral systems, lack of grazing		H		H	H
A05	livestock farming and animal breeding (without grazing)	H				
A05.03	Lack of animal breeding			M		
B01	forest planting on open ground	M		H		M
C01.01	Sand and gravel extraction			H		
H04.02	Nitrogen-input					M
J01.03	lack of fires		M		M	H
J03.01	reduction or loss of specific habitat features				H	
J03.02	anthropogenic reduction of habitat connectivity				H	
K02*	Biocenotic evolution, succession			H	H	
Note: *Latvia reported K02.01 - species composition change (succession)						
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats	M	H	H	M	H
3.2	Adapt forest management			H		
6.1	Establish protected areas/sites	H	H		H	
6.3	Legal protection of habitats and species				H	
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 4030 reached the LHF score 40.72. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Area) in two countries (Finland and Sweden) is needed to reach the overall improvement.

Priority conservation measures needed

Grazing represents the most important measure for maintenance of this habitat type, where suitable, combined with the traditional way of fire management. These measures should be sufficient to stop the habitat area decrease and they could be funded from the Rural Development Programme (CAP), where several instruments are applicable – agri-environmental measures, Less Favourable Areas scheme, greening measures, high nature value farming. For further improvement of the conservation status the habitat restoration measures should be applied. They include removal of shrub and trees and start of grazing. The habitat restoration is needed especially in Sweden and in Latvia (both countries indicated much higher reference value than actual habitat area). Other measures proposed by countries could help to maintain recent habitats: stopping of afforestation of this habitat, establishing of protected sites (applicable especially in Sweden and Lithuania), and legal protection of this habitat type.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Heath+%26+scrub&subject=4030®ion=BOR>

4060 Alpine and Boreal heaths

	Selected for first round of Biogeographical Seminar
x	Selected using "Low hanging fruit" approach

Summary

The overall conservation status in the Boreal region is unfavourable-inadequate due to assessment of parameters Structure & function and Future prospect in Finland. Habitat 4060 is in the Boreal biogeographic region shared BY Finland and Sweden, with high proportion (78.6 %) being in Finland. The improving the conservation status of the habitat requires regulation of intensive grazing (especially by reindeer) in Finland. Because of high representation of the habitat in Natura 2000 sites, it should be feasible to implement such regulation.

Habitat description

Small, dwarf or prostrate shrub formations of the alpine and sub-alpine zones of the mountains of Fennoscandia dominated by ericaceous species, *Dryas octopetala*, dwarf junipers, *Salix herbacea* and *S. polaris*. The habitat has several sub-units, in the Boreal region occur especially Boreo-alpine heaths with *Juniperus communis* var. *nana*, *Loiseleuria procumbens*, *Empetrum nigrum* subsp. *hermaphroditum*, *Arctostaphylos uva-ursi*, *Arctostaphylos alpina* and other elements of the Fennoscandian Mountain flora.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat 4060 occurs in the Boreal biogeographical region in Finland and Sweden only. It is abundant in north Finland and mountain part of north and central Sweden.

Finland hosts around 79% of the habitat area of the Boreal region, the rest is in Sweden.

The EU extent of this habitat is mainly in the Alpine region (90% of the area)

Very high proportion of the habitat area lies in the Natura 2000 sites in both countries (84-97 %).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland	920-1,000	83.6-90.9	22
Lithuania			
Latvia			
Sweden	290	96.7	50
BOR Region	1,210-1,290	86.4-92.1	72

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
FI	46600	54.4	0	≈46600	1100	78.6	0	≈1100	U1	U1	U1	=	U1-	c1	44500	59.7	19000	61.3
SE	39100	45.6	0	39100	300	21.4	0	300	FV	FV	FV		FV		30000	40.3	12000	38.7

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	85700	0	0	≈85700	1400	0	0	≈1400	2XA	2XA	MTX	=	U1	nc	D	=

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The conservation status of this habitat type is unfavourable-inadequate due to assessment of parameters Structure & function and Future prospect in Finland in this category. Sweden reported all parameters and overall conservation status as favourable. The previous conservation status was unfavourable-inadequate, there is no change against previous reporting period (2001-2006).

Pressures, threats and proposed measures

No pressure of high intensity was reported, the habitat is threatened mostly by intensive grazing that Finland classified as a pressure of medium intensity. Intensive reindeer grazing weakens the structure and function of the habitat, especially the amount of reindeer lichens. Construction/extension of skiing complexes can destroy single alpine and boreal heath areas.

Both countries consider necessary to establishing protected sites for better protection of this habitat type. The allowing succession and maintaining open habitats are other measures proposed.

Code	Pressure name	EE	FI	LT	LV	SE
A04.01	intensive grazing		M			
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats					H
6.1	Establish protected areas/sites		H			H
6.2	Establishing wilderness areas/ allowing succession		H			
Legend:	L	Low intensity	M	Medium intensity	H	High intensity

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 4060 reached the LHF score 1.12. This habitat type was classified as LHF especially because to reach improvement, the change from stable to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because of high representation of the habitat in Natura 2000 sites (89%) and the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Finland) is needed to reach the overall improvement. No high threats were reported for this habitat type.

Priority conservation measures needed

This habitat type represents the natural vegetation of subalpine and alpine zone. Thus, for its maintenance is sufficient to protect it against disturbance and damage or to maintain the low intensity of grazing. Because the main reported pressure is the intensive grazing, the regulation of grazing especially by reindeer in Finland is needed. Because of high representation of the habitat in Natura 2000 sites, it should be feasible to implement such regulation.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Heath+%26+scrub&subject=4060®ion=BOR>

Zaghi, D. 2008. Management of Natura 2000 habitats. 4060 Alpine and Boreal heaths. European Commission, Technical Report 2008 09/24, 28 pp.
http://ec.europa.eu/environment/nature/natura2000/management/habitats/pdf/4060_Alpine_Boreal_heaths.pdf

6110 Rupicolous calcareous or basophilic grasslands of the *Alyso-Sedion albi*

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

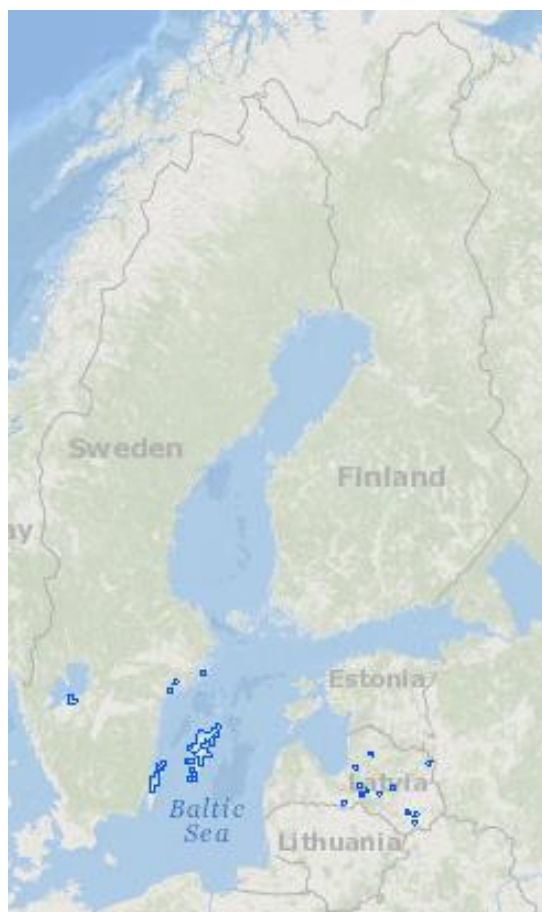
Summary

The overall conservation status in the Boreal region is unfavourable - bad and deteriorating due to assessment of structure and function as well as future prospect in Sweden. Habitat 6110 is shared by two Member States in the Boreal biogeographic region (Latvia, Sweden), with the highest proportion being in Sweden (99.9%). The improving the conservation status of the habitat requires to resolve issue of abandonment. The control of natural succession either by removal of woody vegetation and/or low-intensity grazing are considered as the most suitable measures. The designation of protected areas in Sweden could be beneficial for access to funds for habitat management – currently quite low proportion of the habitat area in Sweden is located in Natura 2000 sites

Habitat description

Open xerothermophile pioneer communities in warm and dry localities on superficial calcareous or base-rich soils, dominated by annuals and succulents of the alliance *Alyso alyssoidis-Sedion albi*.

Distribution in the Boreal region and coverage by Natura 2000 network



Almost whole area of the habitat in the Boreal biogeographic region is reported from Sweden (99.9%), the distribution in Latvia is small in area (0.01 km²) and sparsely distributed in Central and Eastern part of the country. It is not reported in EE nor LT (but possibly linked to Alvar grasslands -6280). In Sweden, the habitat type is most abundant in Baltic islands of Gotland and Öland, further it occurs scattered in a few places along the Baltic coast north of Gotland. One isolated area is also close to the lake Vänem near to Lidköping.

While in Latvia the whole habitat area is covered by the Natura 2000 network (4 sites), in Sweden only 9% of the habitat area is protected in the Natura 2000 sites (37 sites).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland			
Lithuania			
Latvia	0.01	100	4
Sweden	10.00	9	37
BOR Region	10.01	9.09	41

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
LV	11579	58.2	0	≈11579	0.01	0.1	-	>0.01	U1	U1	U1	-	FV	a	11800	59	1200	19
SE	8300	41.8	0	8300	10	99.9	0	11	U2	U2	U2	-	U2-		8200	41	5100	81

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	19879	0	0	≈19879	10	0	0	>11	2XA	2XA	MTX	-	U2	nc	C	-

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The conservation status in the Boreal region is unfavourable-bad and deteriorating due to such status of the structure and functions of the habitat and its future prospects in Sweden, in spite that the range is favourable in both countries and the area is improving in Latvia. Almost whole area of the habitat is reported from Sweden (99.9%) what determined the conclusions. The previous overall conservation status was also unfavourable-bad. In Latvia the status deteriorated from favourable to unfavourable-inadequate with the negative qualifier and this change is reported by the country as a genuine one. For improvement of the overall conservation status, the improvement of Structure and functions in Sweden is needed.

Pressures, threats and proposed measures

Main pressures and threats are mostly abandonment of pastoral systems (lack of grazing), modifying structures of inland water courses and erosion, with less intensity diffuse pollution to surface waters due to agricultural and forestry activities and problematic native species.

The grassland management – maintaining grasslands and other habitats – seems to be the most important measure for improvement of the conservations status of this habitat type. The legal protection is proposed by Latvia, however in this country whole habitat area is already now included in the Natura2000 network.

Code	Pressure name	EE	FI	LT	LV	SE
A04.03	abandonment of pastoral systems, lack of grazing				H	M
H01.05	diffuse pollution to surface waters due to agricultural and forestry activities				M	
I02	problematic native species				M	
J02.05.02	modifying structures of inland water courses				H	
K01.01	Erosion				H	

Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats					H
6.3	Legal protection of habitats and species				H	
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 6110 reached the LHF score 55.00. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Sweden) is needed to reach the overall improvement.

Priority conservation measures needed

The improvement of conservation status in Sweden is crucial for overall improvement of the conservation status in the Boreal region. As mentioned in the country reports, abandonment of pastoral systems, lack of grazing represents the main pressure that should be addressed. The control of natural succession is crucial for the maintenance of this habitat type. The habitat is usually developed in low-productive sites with shallow, stony soils and rocks, therefore the low-intensity grazing by sheep and/or goats represents the optimal management. The vegetation succession in these places is usually slow and sometimes the removal of shrub and trees could be sufficient for its control. The removal of woody vegetation represents also the main measure to restore damaged habitat, it should be ideally followed by the low-intensity grazing.

In Sweden, the increase of proportion of this habitat in the Natura 2000 sites could be beneficial and it could also facilitate the access to funds for the habitat maintenance and restoration.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Grasslands&subject=6110®ion=BOR>

7140 Transition mires and quaking bogs

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

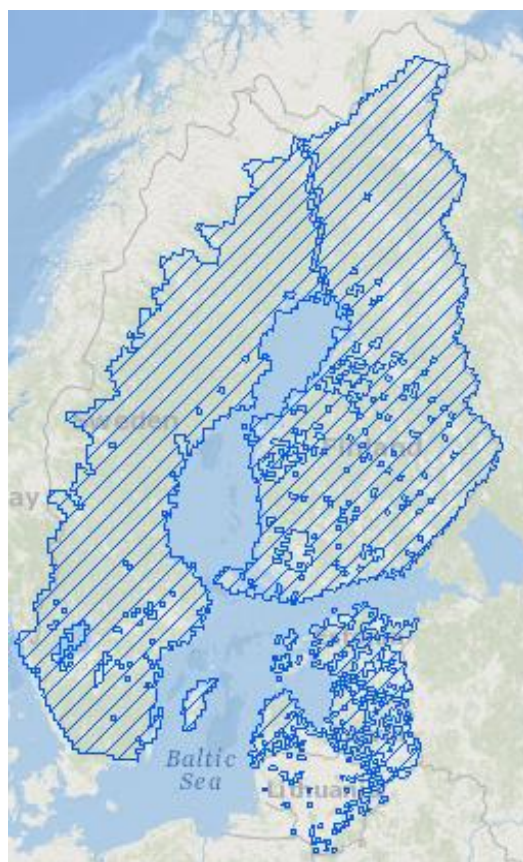
Summary

The overall conservation status in the Boreal region is unfavourable - inadequate due to assessment of all countries. Habitat 7140 occurs in all Member States in the Boreal region, with the highest proportion (83.5 %) being in Sweden. The improving of conservation status of the habitat requires improvement of parameter Structure and function in Sweden: improvement/restoration of hydrologic regime in and around sites (eventually in whole catchment) and/or measures for removal of biomass from the sites. The establishment of protected sites could contribute to these measures.

Habitat description

Peat-forming communities with characteristics intermediate between soligenous and ombrogenous types. They present a large and diverse range of plant communities - swaying swards, floating carpets or quaking mires formed by medium-sized or small sedges, associated with sphagnum or brown mosses. They are sometimes accompanied by aquatic and amphibious communities. In the Boreal region this habitat type includes minerotrophic fens that are not part of a larger mire complex, open swamps and small fens in the transition zone between water (lakes, ponds) and mineral soil. These mires and bogs belong to the *Scheuchzerietalia palustris* order (oligotrophic floating carpets among others) and to the *Caricetalia fuscae* order (quaking communities). Oligotrophic water-land interfaces with *Carex rostrata* are included.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is broadly distributed in the Boreal region. It is quite abundant in all countries except Lithuania where it is concentrated to north and eastern part. Finland indicated that data of habitat type is insufficient especially outside protected areas and Natura 2000 sites, Latvia also mentioned need of country-wide habitat inventory and monitoring in order to get more precise data on habitat distribution, quality and diversity.

The habitat is most abundant in Sweden (more than 83 % of the habitat area of the Boreal region). In Finland is around 14% of the habitat area, other countries host smaller areas.

Almost 70% of the EU extent of this habitat is in the Boreal region. It often occurs as part of mire complexes with 7110 and 7310.

Large proportion of the national habitat is located in the Natura 2000 sites in Estonia (86 %) and in Latvia (more than 60%).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	241	86.1	88
Finland	670-750	22.3-25.0	538
Lithuania	46	38.3	71
Latvia	51-55	60.0-64.7	125
Sweden	550	3.1	951
BOR Region	1,558-1,642	7.4-7.8	1,773

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	48097	5.2	0	≈48097	280	1.3	0	>280	U1	U1	U1	+	U1-	b1	47200	5.2	33000	4.3
FI	360000	39.1	0	≈360000	3000	14.2	0	>3000	U1	U1	U1	-	U1	nc	355500	39	323200	42.2
LT	64700	7	0	≈64700	120	0.6	-	≈120	U1	U1	U1	-	U1-	nc	71000	7.8	8100	1.1
LV	61378	6.7	0	≈61378	85	0.4	-	>85	U1	U1	U1	x	FV	c1	65500	7.2	45900	6
SE	386700	42	0	386700	17700	83.5	0	17700	U1	U1	U1	-	U1	b1	371200	40.8	355600	46.4

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	920875	0	0	920875	21185	2XA	0	21185	0	0	MTX	-	U1	nc	C	-

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status assessed as "unfavourable-inadequate" by all Member States, the overall trend is negative. Range is assessed as favourable everywhere and area in Sweden; all other parameters are unfavourable-inadequate. The habitat area is decreasing in Lithuania and Latvia and stable elsewhere. The overall conclusion did not change against the previous assessment, the only change on the country level (Latvia) is not genuine, it is caused by different assessment method used. Finland informed about regional differences in conservation status due to differences in pressures: it is unfavourable in hemi-, southern and middle boreal zones, but favourable in northern boreal zone.

Pressures, threats and proposed measures

The drainage and modification of hydraulic conditions (including groundwater abstraction) seems most important pressures to this habitat type. Changes in hydrological functioning can cause overgrowing and altered species composition. Finland reported hydrological effects affecting the habitat structure and function caused by drainage for forestry (including the effects of old ditches, and clearing of old ditches in the surroundings of the site and in the catchment area) - the habitat type has been deteriorated especially in southern Finland. Peat extraction and afforestation represent human activities directly damaging or destroying the habitat. Sweden mentioned that increased nutrient levels and/or drier conditions have negative effects on the typical species. Nitrogen deposition induces growth of shrubs and trees and negatively affects the open mires. In addition, ceased cultivation for forage purpose (haymaking), which was more frequent historically, has or risks to increase the overgrowth by tufts, shrubs and trees, so succession is also an issue here.

The countries see potential for improvement especially in protection – legal protection of sites, habitats and species and establishment of wilderness areas. The restoration or improvement of hydrological regime, adaptation of forest management and specific species-oriented measures are considered important, too.

Code	Pressure name	EE	FI	LT	LV	SE
B01.01	forest planting on open ground (native trees)	H				
B07	Forestry activities not referred to above		H			M
C01.03	Peat extraction			H		
E03.01	disposal of household / recreational facility waste				M	
F04.02	collection (fungi, lichen, berries etc.)				M	
G05.01	Trampling, overuse				M	
H04.02	Nitrogen-input					M
J02	human induced changes in hydraulic conditions		H	H		
J02.03.02	Canalisation			H		
J02.05	Modification of hydrographic functioning, general			H	H	
J02.07	Water abstractions from groundwater					M
K02*	Biocenotic evolution, succession			M	H	
Note: *Latvia reported K02.01 species composition change (succession)						
Code	Measure name	EE	FI	LT	LV	SE
3.2	Adapt forest management		H			
4.2	Restoring/improving the hydrological regime	H		H		H
6.1	Establish protected areas/sites	H	H		H	H
6.2	Establishing wilderness areas/ allowing succession		H			
6.3	Legal protection of habitats and species				H	H
7.4	Specific single species or species group management measures					H
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 7140 reached the LHF score 119.25. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Sweden) is needed to reach the overall improvement.

Priority conservation measures needed

To reach improvement in the conservation status, especially improvement of parameter Structure and function in Sweden is needed. The fact that Sweden did not report any pressure of high intensity is good for feasibility of improvement, but on the other hand, three pressures of medium intensity were reported. The most important measures needed should restore hydrologic conditions: removal of effect of drainage ditches and other activities modifying the natural water regime in and around sites and (if relevant) in the broader catchment area, including control of groundwater extraction. The measures against secondary succession should reduce biomass in the habitat sites – this can include removal of scrub and restoring haymaking practices that were more frequent in the past. The measures reducing nitrogen deposition from atmosphere are beyond scope of this Seminar; they should be agreed and implemented in broader context and in other policy level. The declaration of protected sites could help implement above mentioned measures and prevent further pressures.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Bogs%2C+mirres+%26+fens&subject=7140®ion=BOR>

7160 Fennoscandian mineral-rich springs and springfens

x	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable-bad due to assessment of parameter Structure & function in Finland. Habitat 7160 is distributed in all Member States in the Boreal biogeographic region, with the highest proportion being in Sweden (48 %) and Finland (32 %). The improving the conservation status of the habitat requires change in trend of parameter Structure & functions in Sweden by removal of the drainage effect of ditches, restoration of water regime and control of groundwater extraction. Application of the same measures in Finland could improve also the category of the overall conservation status from unfavourable-bad to unfavourable-inadequate. The legislative measures in both countries could support such improvement.

Habitat description

Springs and associated fens typical of the Boreal region, also found in the adjacent Alpine and Continental regions in Finland and Sweden. Springs and springfens are characterized by continuous flow of groundwater. The water is cold, of even temperature, and rich in oxygen and minerals, due to the rapid percolation. Springs may have a basin where the water wells up and an adjacent outflow with typical vegetation. In springfens the water seeps up through the ground and the accumulated peat, enhancing the growth of specialized vegetation. Since the water originates from deeper layers, these springs often have running water during the winter even if the surrounding areas are frozen and snow-covered. The invertebrate fauna is often very specific to this habitat and the flora rich in species with demands on high mineral content.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is widespread throughout the Boreal biogeographic region except for Lithuania where it is less common.

The largest part of the habitat area lies in Sweden (ca 48 %) followed by Sweden (ca 32 %), lower representation in Lithuania (2.7 %).

80% of the EU extent of this habitat is in the Boreal region. The rest is adjacent parts of the Alpine and Continental regions in FI and SE.

The large part of the habitat area is located in Natura 2000 sites in Estonia (ca 80 %) and Lithuania (65 %). The highest number of Natura 2000 sites with presence of this habitat type is in Finland (274) and Sweden (139).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	5.8	79.5	50
Finland	3.4-5.0	12.1-17.9	274
Lithuania	5.2	65.0	27
Latvia	1.2-1.5	50.0-62.5	59
Sweden	4.0	9.5	139
BOR Region	19.6-21.0	22.3-24.5	549

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	47497	5.3	0	≈47497	7.30	8.3	0	≈7.30	FV	U1	U1	=	U1-	b1	46600	5.3	30900	5.1
FI	349200	39	0	≈349200	28	31.9	0	>28	U2	U1	U2	+	U2+		345800	39	319200	52.7
LT	64700	7.2	0	≈64700	8	9.1	-	>8	U1	U1	U1	-	U1-	nc	71100	8	3400	0.6
LV	61136	6.8	0	≈61136	2.40	2.7	x	>2.40	XX	U1	U1	x	U1-	c1	63300	7.1	38100	6.3
SE	373100	41.7	0	373100	42	47.9	0	42	U1	U1	U1	-	U1-		359200	40.5	213900	35.3

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	Type
EU27	895633	0	0	895633	88	1	0	>88	2XA	0	MTX	-	U2	nc	C	-

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status is "unfavourable-bad" and stable due to bad Structure & function in Finland - although this is shown as improving. Other countries assessed the conservation status as unfavourable-inadequate with a negative trend in Lithuania and Sweden. Range is considered favourable by all countries while the habitat area is lower than the reference value in Finland, Lithuania and Latvia and thus assessed as unfavourable-inadequate.

Pressures, threats and proposed measures

The conservation status of the habitat is not favourable, mainly due to massive past pressures. A variety of threats and pressures have been reported but most countries mentioned changes to the water regime, inappropriate forestry management, mining, pollution/fertilisation/eutrophication and secondary succession. The major threats to this habitat are changes in hydrological conditions due to various human activities (e.g. drainage for forestry) but also natural processes. Sweden informed that many mires were subject to hydrological alteration (i.e. ditching), with the purpose to increase the productivity of forestry or to increase agricultural areas. Even today, ditches and other hydrological alterations affect the mires negatively.

The Member Countries consider restoration or improvement of the hydrological regime and the conservation measures (establishing protected sites, legal protection of habitats and species) as highly needed. Sweden considers highly important species-oriented measures as well. Finland informed that springs still generally suffer from past and present land use practises, especially those related to forestry. Springs have, however, capability for self-restoring the structure, function and species composition in the timescale of decades. Thus, improving practises and implications of improved legislation, and restoration slowly improve the structure and function of springs.

Code	Pressure name	EE	FI	LT	LV	SE
A08	Fertilisation	H				
B02*	Forest and Plantation management & use		M		H	
B07	Forestry activities not referred to above		H			M
C01.01	Sand and gravel extraction		M			
C01.04.01	open cast mining	H				
J02	human induced changes in hydraulic conditions		H	M		
J02.03.02	Canalisation			H		
J02.05	Modification of hydrographic functioning, general			H	H	
J02.05.02	modifying structures of inland water courses	H				
J02.07	Water abstractions from groundwater		M			M
J02.15	Other human induced changes in hydraulic conditions	H				
K02*	Biocenotic evolution, succession			H	H	
L08	inundation (natural processes)				M	
Note: * Latvia reported B02.02 forestry clearance and K02.01 species composition change (succession)						
Code	Measure name	EE	FI	LT	LV	SE
4.2	Restoring/improving the hydrological regime	H		H		H
6.1	Establish protected areas/sites	H	M		H	H
6.2	Establishing wilderness areas/ allowing succession		M			
6.3	Legal protection of habitats and species		H		H	H
7.4	Specific single species or species group management measures					H
Legend:	L	Low intensity	M	Medium intensity	H	High intensity

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 7160 reached the LHF score 34.29. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & functions) in one country (Sweden) is needed to reach the overall improvement. However, improvement of parameter Structure & function from unfavourable-bad to unfavourable-inadequate in Finland is probably feasible as well and this improvement should result in change of the overall conservation status in the Boreal region to unfavourable-inadequate.

Reason of selection for the first Boreal seminar

The habitat type was selected for the first Boreal seminar because of its high value of the Priority index. The habitat 7160 reached score 60 because of high values in both criteria B and C. Finland reported unfavourable-bad overall conservation status while all other countries indicated unfavourable-inadequate status. In addition, Finland and Lithuania indicated decreasing habitat area and all countries except Finland also negative qualifier for Structure and function.

The Priority Index was calculated using information from the reports of Member States based on requirements of the Article 17 of the Habitats Directive for period 2001-2006. It is based on three parameters: A) Number of Member States where habitat type is present; B) Unfavourable conservation status of the habitat type (U2 – 2 points; U1 & XX – 1 point each), and C) Trend information: number of negative trends for parameters “Area of the habitat type” and qualifiers for “Structure & functions”. The index is then calculated using formula: $A*(B+C)$.

Priority conservation measures needed

The change in trend of parameter Structure & functions in Sweden is needed. Sweden did not report any pressure of high intensity and only two pressures of medium intensity: forestry activities (related to drainage) and water abstraction from groundwater. Thus, the most important measures needed are removal of the drainage effect of ditches, restoration of water regime and control of

groundwater extraction. The eventual improvement of the conservation status category from unfavourable-bad to unfavourable-inadequate requires improvement of the parameter Structure & functions in Finland. Besides expected improvement due to habitat self-restoring capability, also an active implementation of the same measures as indicated above for Sweden is needed. In all countries the legal protection (declaration of protected sites, legal protection of habitats and species) could support the above mentioned measures and prevent some pressures in the future – e.g. avoid land use changes, afforestation, peat extraction.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Bogs%2C+mires+%26+fens&subject=7160®ion=BOR>

8210 Calcareous rocky slopes with chasmophytic vegetation

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

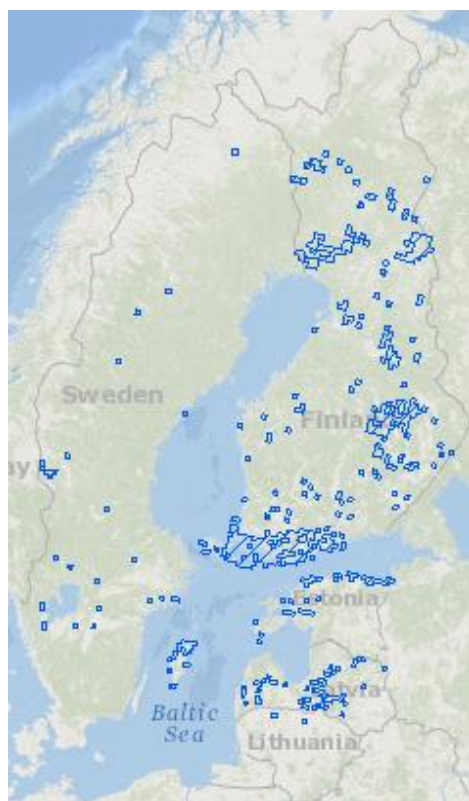
Summary

The overall conservation status in the Boreal region is unfavourable-inadequate due to assessment of Finland. Habitat 8210 occurs in all Member States in the Boreal biogeographic region, with the highest proportion being in Finland (81 %). The improving the conservation status of the habitat requires stopping of the habitat area decrease in Finland (especially in its south part), mainly by removal of shrub and trees from overgrown sites. The legislative measures could prevent disturbance and damage (especially afforestation of the habitat) in the future and facilitate the restoration measures funding.

Habitat description

This is very variable habitat type consisting of numerous different sub-types of vegetation of fissures of limestone cliffs. The habitat range is broad - from the Mediterranean region and Euro-Siberian plain to alpine level. The vegetation belongs essentially to the *Potentilletalia caulescentis* and *Asplenietalia glandulosi* orders. This habitat type is typical by a great regional diversity, with many endemic plant species. For Boreal region are typical calcareous cliff crevice and rock communities of the alpine belt of boreal Fennoscandia formed by *Asplenium trichomanes*, *Woodsia ilvensis* and many xerophytes.

Distribution in the Boreal region and coverage by Natura 2000 network



The main distribution of this habitat type in Boreal region is in southwest Finland (including archipelago), smaller areas are in some other parts of Finland and in central part of Latvia. In other parts of the Boreal region is less represented, it is very scattered in Lithuania and Sweden.

Finland hosts more than 80% of the habitat area of the Boreal region, Sweden around 11 %), in other countries is the habitat rarer.

Only 1% of the EU extent of this habitat is in the Boreal region. It is more common elsewhere, especially in the Alpine region, including SE.

Whole habitat area in Sweden is protected in 39 Natura 2000 sites, high proportion of the national habitat area is in Natura 2000 sites in Estonia (90 %) and Latvia (75%).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	0.2	90	17
Finland	1.0-2.0	20-40	46
Lithuania	x	x	2
Latvia	0.2	75	17
Sweden	0.7	100	39
BOR Region	2.0-3.0	32.9-49.0	121

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	7200	3.9	0	≈7200	0.20	3.2	0	≈0.20	FV	FV	FV		FV		7200	3.8	4000	7.4
FI	84900	46.3	0	≈84900	5	80.9	-	>5	U1	U1	U1	-	U1	nc	84400	44.5	39200	72.7
LT	64700	35.3	0	≈64700	0.08	1.3	0	≈0.08	U1	U1	U1	=	U1	a	72900	38.4	600	1.1
LV	14879	8.1	0	≈14879	0.20	3.2	0	≈0.20	FV	FV	FV		FV		14900	7.9	5300	9.8
SE	11600	6.3	0	11600	0.70	11.3	0	0.70	FV	FV	FV		FV		10400	5.5	4800	8.9

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1	
															Contrib.	T
EU27	183279	0	0	≈183279	6.18	1	-	>6.18	2XA	2XA	MTX	-	U1	nc		C

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status is “unfavourable-inadequate” and declining in the Boreal region, due to the assessment of Finland that have more than 80% of the habitat area in the region. Lithuania reported unfavourable-inadequate status as well, other countries assessed all parameters as favourable. No changes in the overall conservation status between 2001-06 and 2007-12 reports occurred.

Pressures, threats and proposed measures

Main reasons for deteriorating of structure and function of the habitat type are overgrowing and forestry measures. Calcareous rock areas are very small especially in southern Finland, and changes in surrounding tree canopy affect easily on rock vegetation. According to expert opinion the surface area has slightly decreased in reality because of overgrowing of open rocky areas especially in southern Finland. This is due to secondary succession, but the nitrogen input could contribute to this process as well. Vandalism is reported as an important pressure by Lithuania, Latvia reported opposite trend: decreased area of anthropogenic damages (scratches) is attributed to public education activities. Mining, recreation and sport activities and erosion are mentioned as the pressures of medium intensity.

Code	Pressure name	EE	FI	LT	LV	SE
B02	Forest and Plantation management & use		H			
C01.04.01	open cast mining		M			
C01.07	Mining and extraction activities not referred to above			M		
E01.03	dispersed habitation		M			
G01	Outdoor sports and leisure activities, recreational activities			M		
G05.04	Vandalism			H		
H01	Pollution to surface waters (limnic & terrestrial, marine & brackish)			M		
H04.02	Nitrogen-input		M			
K01.01	Erosion				M	
K02	Biocenotic evolution, succession			M		
Code	Measure name	EE	FI	LT	LV	SE
6.1	Establish protected areas/sites	M	H		M	H
6.2	Establishing wilderness areas/ allowing succession		H			
6.3	Legal protection of habitats and species				M	
8.0	Other measures			M		
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 8210 reached the LHF score 7.60. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Area) in one country (Finland) is needed to reach the overall improvement. In practical terms it means to stop the decrease of the habitat area in Finland.

Priority conservation measures needed

Because the stopping of the habitat area decrease is needed in Finland, especially removal of shrub and trees from overgrown sites are necessary and – as Finland indicated – these measures should be implemented especially in south Finland. The legal protection of the habitat or species and declaration of protected sites could be supportive measures preventing especially afforestation of the habitat and facilitating the restoration measures funding. Taking into account small habitat area in Lithuania, implementation of similar measures should be feasible. The knowledge transfer from other countries of the Boreal region in which the habitat has favourable status could be beneficial for improvement of the conservation status in Sweden and Lithuania.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Rocky+habitats&subject=8210®ion=BOR>

8230 Siliceous rock with pioneer vegetation of the *Sedo-Scleranthion* or of the *Sedo albi-Veronicion dillenii*

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

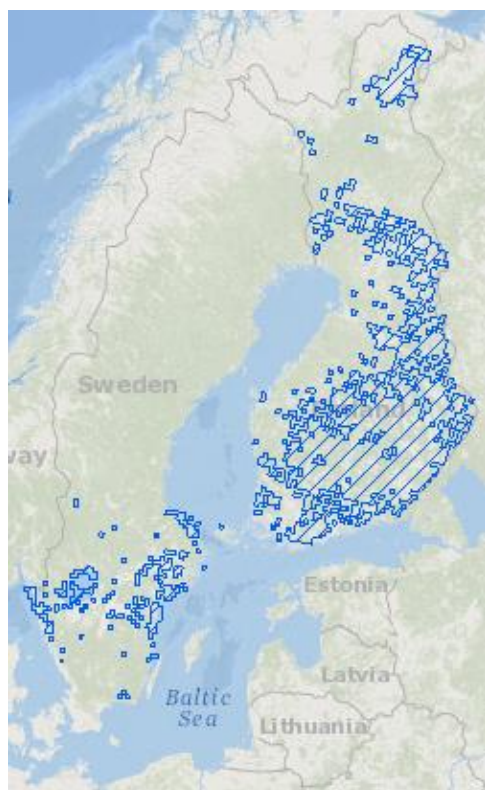
Summary

The overall conservation status in the Boreal region is unfavourable-bad and declining due to the assessment of Sweden caused by much lower habitat area than the reference value. Habitat 8230 is shared by two Member States in the Boreal biogeographic region, with the higher proportion being in Finland (54.5 %) than in Sweden (45.5 %). The improving the conservation status of the habitat requires restoration of the habitat in Sweden by removal of scrub; where appropriate it should be followed by low-intensity grazing. The restoration feasibility support also high proportion of the habitat area located in Natura 2000 sites in Sweden (70 %).

Habitat description

Pioneer communities of the *Sedo-Scleranthion* or the *Sedo albi-Veronicion dillenii* alliances, colonising superficial soils of siliceous rock surfaces. As a consequence of drought, this open vegetation is characterised by mosses, lichens and *Crassulacea*. The plant communities comprise various stonecrops such as (*Sedum* spp.), mosses and lichens. The habitat occurs mostly in small patches and often together with grazed habitats and/or arable fields.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type occurs in the Boreal biogeographic region in Finland and Sweden only. It is widely distributed in large parts of south and eastern Finland, in Sweden it is restricted to south part of the Boreal region.

The habitat area is approximately equally divided between Finland (54.5 %) and Sweden (45.5 %).

Only 3% of the EU extent of this habitat is in the Boreal region, it is more typical of the Atlantic and the Mediterranean regions. The relatively large area in FI raises question on whether the interpretation of the habitat is the same than elsewhere.

Relatively large part of the habitat area (70 %) is protected in 164 Natura 2000 sites in Sweden.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland	20.0	33.3	70
Lithuania			
Latvia			
Sweden	35.0	70.0	164
BOR Region	55.0	50.0	234

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																	
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(k		
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.
FI	222500	78.6	0	≈222500	60	54.5	0	≈60	FV	FV	FV	FV		222500	79	140900	
SE	60400	21.4	0	60400	50	45.5	-	100	U1	U1	U2	-	U1-	b1	59100	21	21100

EU Biogeographical assessment and proposed corrections																	
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1		
															Contrib.	T	
EU27	282900	0	0	≈282900	110	1	-	>160	2XA	2XA	MTX	-	FV	no	C		

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessment; B – improved assess.; C - deteriorated assessment; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status has been assessed as “unfavourable-bad” and declining in the Boreal region due to the assessment of Sweden. The actual habitat area that is 50% of the reference value and its declining trend are reasons for that assessment in Sweden. Finland reported favourable conservation status for the habitat. Changes in overall conservation status between 2001-06 and 2007-12 reports are not genuine - they are caused by different methodical approach, clearer definitions and better data from Sweden.

Pressures, threats and proposed measures

Main threats are abandonment of grazing resulting in shading and overgrowth of the habitat - the habitat often occurs in small patches that can be overgrown quickly if the management ceases. Sweden reported besides abandonment also the plant competition. Finland did not report any pressure of high or medium intensity, to pressures of low intensity belong dispersed habitation on rocky lakeshores and recreational activities with trampling.

The maintenance of grasslands and other open habitats and establishing the protected sites are the main measures proposed by countries. The measure “establishing of wilderness/allowing succession could be counterproductive as it could support the habitat overgrowth by scrub.

Code	Pressure name	EE	FI	LT	LV	SE
A02	modification of cultivation practices					M
A04.03	abandonment of pastoral systems, lack of grazing					M
K04.01	competition (flora)					M
Code	Measure name	EE	FI	LT	LV	SE
2.1	Maintaining grasslands and other open habitats					H
6.1	Establish protected areas/sites		H			M
6.2	Establishing wilderness areas/ allowing succession		H			
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 8230 reached the LHF score 6.00. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because of his quite high representation in the Natura 2000 sites (50 %) and the fact that the improvement of trend of only one parameter (Area) in one country (Sweden) is needed to reach the overall improvement. In practical terms it means stopping of the habitat area decrease in Sweden.

Priority conservation measures needed

The improvement of the conservation status requires stopping the habitat area decrease in Sweden. Because the main threat is the secondary succession, the relevant measure is the habitat restoration by removal of scrub and trees from overgrown part of the habitat. In sites suitable for grazing, the scrub removal should be followed by low-intensity grazing. It is not difficult to implement this measure and the stopping of the trend or its reversing is feasible. In addition, quite high part of the habitat area (70%) is located in Natura 2000 sites and thus the habitat restoration should be included to the management plans of Natura 2000 sites.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Rocky+habitats&subject=8230®ion=BOR>

9040 Nordic subalpine/subarctic forests with *Betula pubescens* ssp. *czerepanovii*

	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

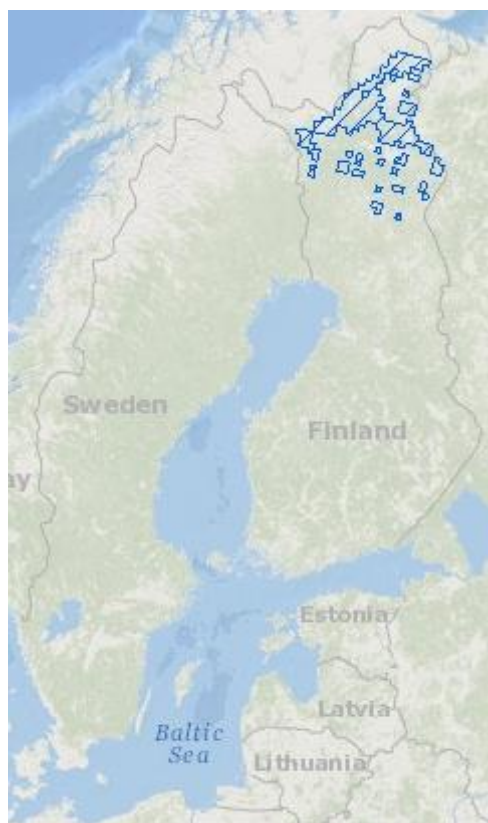
Summary

The overall conservation status in the Boreal region is unfavourable - inadequate due to assessment of unfavourable–inadequate due to assessment of parameters Structure & function and Future prospect in Finland. Habitat 9040 is reported in the Boreal biogeographic region from Finland only; in Sweden should only occur in the Alpine region. The improving the conservation status of the habitat requires control of intensive grazing and if feasible – control of moths – pests of the birch. The proposed declaration of protected sites and wilderness areas in addition to already high representation of the habitat in Natura 2000 sites could be beneficial for the habitat protection.

Habitat description

Forests dominated by *Betula pubescens* ssp. *czerepanovii* (mountain birch), occurring and often dominating the subalpine belt of the Scandinavian mountain chain (“Fjällen”). Occur also in isolated northern Fennoscandian mountains and in gently sloping or flat subarctic uplands, particularly in northern Finland. Due to different ecological characteristics, vegetation varies from poor lichen and dwarf shrub dominated types to those rich in tall herbs.

Distribution in the Boreal region and coverage by Natura 2000 network



This habitat type is reported in the Boreal biogeographic region only from north Finland. Despite quite large habitat area (1,200 km²), high proportion of the habitat area (84.5 %) is located in 16 Natura 2000 sites.

Sweden did not report this habitat in Article 17 report, but it is indicated in the Natura 2000 database from three sites located in Boreal biogeographical region and from several additional transboundary sites with the Alpine region. The reference list indicates for this habitat the Scientific Reserve. The occurrence of the habitat in SE/BOR should be clarified.

The habitat mostly occurs in the Alpine region of Sweden and Finland (93%, mostly Sweden).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland	1,200	84.5	16
Lithuania			
Latvia			
Sweden			3 ?
BOR Region	1,200	84.5	19 ?

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
FI	37900	100	0	≈37900	1420	100	0	≈1420	U1	U1	U1	=	U1-	c1	35800	100	16900	100
EU Biogeographical assessment and proposed corrections																		
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1			
EU27	37900	00	0	≈37900	1420	00	0	≈1420	00	00	MTX	=	U1	nc	D	=		
Conservation status		FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown									
Trend		0 = stable; + = increase; - = decrease; x = unknown																
Qualifier		= stable; + positive; - negative; x unknown																
Nature of change		a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change																
Target 1 contribution		A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.																

The overall conservation status is “unfavourable–inadequate” due to assessment of parameters Structure & function and Future prospect. Other two parameters – Range and Area – are favourable. The overall trend is stable - the conservation status is unchanged against previous (2001-2006) assessment.

Pressures, threats and proposed measures

Finland reported only one pressures of medium intensity – intensive grazing (mostly by reindeer). To main threats belong rising temperature, damage by moths and intensive reindeer grazing. The crucial factor is the combined effect of these three threats. Rising temperature increases the risk of moth invasions and after that, intensive grazing prevents regeneration of birches and the habitat turns into heaths. All these factors affect also mountain birch forests in protected areas. However, the risk of moth invasion and the intensity of grazing are lower in boreal area than in alpine area. Finland proposed measures related to legal protection – establishing of protected areas and wilderness areas allowing succession.

Code	Pressure name	EE	FI	LT	LV	SE
A04.01	intensive grazing		M			
Note:						
Code	Measure name	EE	FI	LT	LV	SE
6.1	Establish protected areas/sites		H			
6.2	Establishing wilderness areas/ allowing succession		H			
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 9040 reached the LHF score 1.18. This habitat type was classified as LHF especially because to reach improvement, the change from stable to positive trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because of high representation of the habitat in Natura 2000 sites (85 %) and the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Finland) is needed to reach the overall improvement. No high threats were reported for this habitat type.

Priority conservation measures needed

For the improvement of the trend from stable to positive the improvement of parameter Structure & function is necessary. The main measure is control of grazing, i.e. exclusion of (intensive) grazing from the habitat sites. Possibly also measures for moths control could be implemented, it is not possible to address in the level of the Biogeographic Seminar the third mentioned threat – climate change. The proposed establishing of protected sites and wilderness areas could improve the ability to control the grazing and it could be beneficial despite already high proportion of the habitat area in Natura 2000 sites.

Links

[http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=For ests&subject=9040®ion=BOR](http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=For%20ests&subject=9040®ion=BOR)

9060 Coniferous forests on, or connected to, glaciofluvial eskers

x	Selected for first round of Biogeographical Seminar
x	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable-bad and decreasing due to Structure & functions and future prospects in Finland, Latvia and Sweden. Habitat 9060 is distributed in all Member States in the Boreal biogeographic region, with the highly dominant occurrence in Finland (98.4 % of the habitat area). The improving the conservation status of the habitat requires improvement of the trend in Structure & function from negative to stable in Finland. However, the main pressures are mostly natural processes and it is possible to agree with the conclusion of Finland that it will be difficult to tackle sufficiently factors affecting the structure and function of this habitat type and probably the declining trend will continue in the future. Based on this conclusion, this habitat is probably not “low hanging fruit”.

Habitat description

Eskers are glaciofluvial gravel and sand formations which consist of relatively well sorted sediments, often forming ridges over 20 meters high. The forest consists of *Pinus sylvestris* on the upper parts and *Picea abies* on the lower wetter parts of the slopes. An important factor is sun exposed slopes and trees, that gives a flora mainly consist of species from the *Fabaceae* family.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type occurs only in the Boreal region, where it is distributed in all countries. The centre of distribution lies in Finland where the habitat type has almost continuous distribution in the whole country except extreme north areas (Maybe a different interpretation of the habitat-type in Finland?). In other countries is scattered, in Sweden restricted to south part.

The dominance of Finland is even more visible if the habitat area is taking into account – 98.4 % of the habitat area lies in Finland.

The habitat type is protected in 286 Natura 2000 sites (148 sites in Finland). In Estonia, 94 % of the national habitat area is located in Natura 2000 sites, more than half of the national habitat area is in Natura 2000 sites also in Latvia.

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	32.0	94.1	35
Finland	200.0-380.0	2.9-5.4	148
Lithuania	3.9	20.5	8
Latvia	8.0	57.1	12
Sweden	18.0	38.3	83
BOR Region	261.9-441.9	3.7-6.2	286

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																	
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(k		
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.
EE	10700	2.2	0	≈10700	34	0.5	0	≈34	U1	U1	U1	=	U1	nc	10700	2.1	5400
FI	332800	67.9	0	≈332800	7000	98.4	0	≈7000	U2	U2	U2	-	U2-		332800	66.5	241800
LT	64700	13.2	0	≈64700	19	0.3	0	≈19	U1	U1	U1	=	U1	a	71700	14.3	6500
LV	43542	8.9	0	43542	14	0.2	0	14	U2	U2	U2	-	U1-	a	46900	9.4	1900
SE	38600	7.9	0	38600	47	0.7	-	300	U2	U2	U2	-	U2-	nc	38600	7.7	9800

EU Biogeographical assessment and proposed corrections																
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target Contrib.	
EU27	490342	0	0	490342	7114	1	0	7367	2XA	2XA	MTX	-	U2	nc	C	

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The overall conservation status is "unfavourable-bad" and decreasing due to Structure & functions and future prospects in Finland, Latvia and Sweden. Estonia and Lithuania assessed these parameters as unfavourable-inadequate. Range and Area are favourable, except the area in Sweden (unfavourable-bad). The overall assessment did not change against previous reporting period (2001-2006), Lithuania is the only country that changed the assessment of the conservation status in its territory (from unfavourable-inadequate to unfavourable-bad) and this change is genuine.

Pressures, threats and proposed measures

Finland reported lack of forest fires, thickening litter layer and gradual eutrophication as the most important negative factors affecting structure and function of the habitat and this negative impact is operating in protected areas as well. Forest management can have medium severity effects on structure and composition of the vegetation through closing canopy layer and decline in the amount of deadwood. Factors affecting the structure and function will be difficult to tackle sufficiently. Most probably, this declining trend will continue in the future. Sweden reported similar pressures: the lack of fires, the reduced regeneration of deciduous trees plus the lack of habitat connectivity and thereby reduced colonization rate of typical species. Sand and gravel extraction, forest management and succession are other pressures of high intensity.

The establishment of protected areas is the main measure proposed by the Member Countries. The restoring of the forest habitats and adaptation of the forest management are considered highly important as well.

Code	Pressure name	EE	FI	LT	LV	SE
A04.03	abandonment of pastoral systems, lack of grazing					M
B02	Forest and Plantation management & use		M	H		H
B02.02	forestry clearance	M				
C01.01	Sand and gravel extraction			H	H	
H04.02	Nitrogen-input				H	
J01.03	lack of fires		H		M	H
J03.02	anthropogenic reduction of habitat connectivity					H
K02	Biocenotic evolution, succession			M		
K02.01	species composition change (succession)	M			H	M
K02.02	accumulation of organic material		H			
K02.03	eutrophication (natural)		H			
Code	Measure name	EE	FI	LT	LV	SE
3.1	Restoring/improving forest habitats			H		H
3.2	Adapt forest management			H		
6.1	Establish protected areas/sites	H	M		H	H
6.2	Establishing wilderness areas/ allowing succession		M			
9.1	Regulating/Management exploitation of natural resources on land		M			
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 9060 reached the LHF score 25.24. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Finland) is needed to reach the overall improvement.

Reason of selection for the first Boreal seminar

The habitat type was selected for the first Boreal seminar because of its high value of the Priority index. The habitat 9060 reached score 55 especially because of its unfavourable-bad conservation status, decreasing habitat area and negative qualifier for Structure and function in both Finland and Sweden.

The Priority Index was calculated using information from the reports of Member States based on requirements of the Article 17 of the Habitats Directive for period 2001-2006. It is based on three parameters: A) Number of Member States where habitat type is present; B) Unfavourable conservation status of the habitat type (U2 – 2 points; U1 & XX – 1 point each), and C) Trend information: number of negative trends for parameters “Area of the habitat type” and qualifiers for “Structure & functions”. The index is then calculated using formula: $A*(B+C)$.

Priority conservation measures needed

The improvement of the overall trend from negative to stable is necessary, this is related to parameter Structure & function. The main pressures are mostly natural processes and the controlled burning seems to be probably the only measure that could improve the situation significantly. However, it is questionable if this measure could be implemented safely on relative large areas and if the side effects are acceptable. The mechanical removal of the litter layer is probably too labour-demanding and thus expensive measures and it cannot be applied in larger scale. Partial improvement of current situation could be achieved by forest management measures, it is possible also take measures for improving connectivity and to establish new protected sites. But the habitat

decline continues also in current protected areas. It is possible to agree with the conclusion of Finland that it will be difficult to tackle sufficiently factors affecting the structure and function of this habitat type and probably the declining trend will continue in the future. Based on this conclusion, this habitat is probably not “low hanging fruit”.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Forests&subject=9060®ion=BOR>

91D0 Bog woodland

x	Selected for first round of Biogeographical Seminar
x	Selected using "Low hanging fruit" approach

Summary

The overall conservation status in the Boreal region is unfavourable - inadequate due to the assessment of parameters Area, Structure & function and Future prospect by Finland. Habitat 91D0 has broad distribution in all Member States in the Boreal biogeographic region, with the highest proportion being in Finland (46.6 %) and Sweden (46.1 %). The improving the conservation status of the habitat requires improvement of the structure and function of the habitat in Finland, mainly by restoration of the hydrological regime of sites and their surroundings, adaptation of forest management and exclusion/reduction of peat extraction. The declaration of protected areas and transfer of knowledge from countries reporting favourable conservation status could be beneficial for protection of this habitat in the Boreal region.

Habitat description

Coniferous and broad-leaved forests on deep peat where the water level is at or close to the surface'. The ground or surface water is acidic and poor in nutrients. Downy birch (*Betula pubescens*), alder buckthorn (*Frangula alnus*), pines (*Pinus sylvestris*, *P. rotundata*) or spruce (*Picea abies*) form the tree layer which is often low with many stunted trees while *Vaccinium* spp., bogmosses (*Sphagnum* spp) and sedges (*Carex* spp) form the undergrowth. The habitat sometimes hosts hygrophytic vascular plant species of orchids (*Corallorhiza trifida*, *Dactylorhiza maculata*, *D. fuchsii*). This habitat is often found in association with other bog habitats such as 7110, 7140 and 7310

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is broadly distributed in all countries of the Boreal biogeographic region with the largest habitat area in Finland (46.6 %) and Sweden (46.1 %).

Although widespread in other regions the EU habitat extent of this habitat is 90% in the Boreal region

The habitat is protected in high number (2,234) Natura 2000 sites, but the overall coverage of the habitat area in Natura 2000 sites is quite low, around 10 %. The highest proportion of the national habitat area located in Natura 2000 is in Estonia (90.9 %).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia	400	90.9	152
Finland	2,200-3,500	11.6-18.4	883
Lithuania	255	50.2	83
Latvia	320	16.0	184
Sweden	153	0.8	932
BOR Region	3,328-4,628	8.2-11.4	2,234

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
EE	48197	5.2	x	≈48197	440	1.1	0	x	U1	U1	U1	-	U1	nc	47200	5.2	35000	4.7
FI	360200	39.1	0	≈360200	19000	46.6	0	>19000	U1	U1	U1	-	U1	nc	356100	39	348700	46.9
LT	64700	7	0	≈64700	508	1.2	+	≈508	FV	FV	FV	-	FV	nc	69800	7.7	41000	5.5
LV	64589	7	0	64589	2000	4.9	-	2000	U2	U2	U2	-	FV	c1	69800	7.7	69100	9.3
SE	383700	41.6	0	383700	18800	46.1	x	18800	FV	FV	FV	-	FV	nc	369100	40.5	250000	33.6

EU Biogeographical assessment and proposed corrections																	
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1		
															Contrib.	Type	
EU27	921386	1	0	≈921386	40748	2XA	0	>40308	2XA	2XA	MTX	-	U1	nc	C	-	

Legend: MS – Member State; Overall asses- Overall assessment; % MS – percentage of the surface area in the respective Member State compared to whole Biogeographical Region; Ref. – reference value; Struct & func. - structure and functions; Future prosp. – future prospect; Curr. CS – current conservation status; Prev. CS – previous conservation status; Nat. of ch. – nature of change; EU27: assessment on the level of all EU Member Countries; Concl. – conclusion; Target 1: - target 1 of the EU 2020 Biodiversity Strategy.

Conservation status	FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown
Trend	0 = stable; + = increase; - = decrease; x = unknown							
Qualifier	= stable; + positive; - negative; x unknown							
Nature of change	a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change							
Target 1 contribution	A - favourable assessments; B - improved assess.; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.							

The conservation status is “unfavourable - inadequate” with negative trend in the Boreal region, mainly due to the assessment of three parameters (Area, Structure & function and Future prospect) by Finland. Similar assessment provided Estonia (but Area is favourable), while Sweden and Lithuania reported favourable status. Latvia assessed the conservation status as unfavourable – bad, but corrections proposed by number of experts and three organisations dealing with forest indicate that the status of this habitat type in Latvia is probably better. Taking into account corrections for Latvia, it is possible to say that there are no changes in the overall conservation status between 2001-2006 and 2007-2012 reports. Finland informed about regional differences in conservation status of bog woodlands: it is unfavourable-bad in hemi-, southern and middle boreal zones, but favourable in northern boreal zone. There are also differences in conservation status between different mire site types – the conservation status is most critical in spruce mires and spruce-birch fens.

Pressures, threats and proposed measures

This habitat is threatened through whole Europe. The major threats to this habitat are changes in hydrological conditions due to various human activities (mostly connected with forest management, drainage - including the effects of old ditches, and clearing of old ditches in the surroundings of the site and in the catchment area), but also by natural processes, like secondary succession. The forest management and peat extraction represent other important pressures. Finland informed that the structure and function of this habitat type are deteriorating especially in southern Finland mainly because of forest management activities and hydrological changes caused by ditching and other land use in the surroundings of the site and in the catchment area.

The restoration of forest habitats, adaptation of the forest management, restoration or improvement of the hydrological regime and establishing protected and wilderness areas are main measures proposed by Member Countries.

Code	Pressure name	EE	FI	LT	LV	SE
B02	Forest and Plantation management & use		M			
B02.02	forestry clearance				H	
B02.06	thinning of tree layer				H	
B07	Forestry activities not referred to above	M	H			
C01.03	Peat extraction		M		M	
J02	human induced changes in hydraulic conditions		H		H	
J02.03	Canalisation & water deviation			H		
J02.05	Modification of hydrographic functioning, general	H		H		
K02	Biocenotic evolution, succession			H		
Code	Measure name	EE	FI	LT	LV	SE
3.1	Restoring/improving forest habitats	H		H	H	
3.2	Adapt forest management		M	H		
4.2	Restoring/improving the hydrological regime	H				
6.1	Establish protected areas/sites	H	H		H	
6.2	Establishing wilderness areas/ allowing succession		H			
6.3	Legal protection of habitats and species		M			M
Legend:	L Low intensity	M Medium intensity	H High intensity			

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 91D0 reached the LHF score 73.08. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U1 (unfavourable-inadequate) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Structure & Functions) in one country (Finland) is needed to reach the overall improvement.

Reason of selection for the first Boreal seminar

The habitat type was selected for the first Boreal seminar despite of low value of the Priority index because of interest of the Member States in cooperation for protection of this habitat type. The habitat reached score 15 due to unfavourable-inadequate conservation status in Estonia and Finland and decreasing habitat area in Finland.

The Priority Index was calculated using information from the reports of Member States based on requirements of the Article 17 of the Habitats Directive for period 2001-2006. It is based on three parameters: A) Number of Member States where habitat type is present; B) Unfavourable conservation status of the habitat type (U2 – 2 points; U1 & XX – 1 point each), and C) Trend information: number of negative trends for parameters “Area of the habitat type” and qualifiers for “Structure & functions”. The index is then calculated using formula: $A*(B+C)$.

Priority conservation measures needed

The improvement of parameter Structure & function in Finland is needed. The structure and functions of this habitat are closely connected to the oligotrophic character of the peat and its water regime. Thus, the most important is to restore hydrologic conditions: removal of effect of drainage ditches and effect of other activities modifying the natural water regime in and around sites and (if relevant) in the broader catchment area. Further measures should ensure the forestry management of this habitat that supports the maintenance and protection of the habitat type. It is also needed to

exclude or significantly reduce the peat extraction in the habitat sites. The declaration of protected sites is for this habitat type very relevant as it could help implementation of the above mentioned measures and prevent further pressures. The experience of countries where the conservation status is favourable could be beneficial for improvement of the conservation status in the whole Boreal region.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Forests&subject=91D0®ion=BOR>

91T0 Central European lichen Scots pine forests

	Selected for first round of Biogeographical Seminar
X	Selected using “Low hanging fruit” approach

Summary

The overall conservation status in the Boreal region is unfavourable-bad and declining due to assessment of Area in Lithuania. The habitat 91T0 is distributed in the Boreal region marginally, it occurs in the south and eastern parts of Lithuania only. The improving the conservation status of the habitat requires stopping of the habitat area decrease. It is necessary to adapt forestry management in the habitat sites in order to maintain the habitat structure. The declaration of protected areas could help significantly especially when taking low proportion of the habitat represented in the Natura 2000 sites. The disturbed and damaged sites should be restored.

Habitat description

Natural lichen-rich acidophilous *Pinus sylvestris* forests belonging to the alliance Dicrano-Pinion occurring on inland nutrient poor sands of the north-eastern plains and hills of Central Europe and of the nemoral belt of the middle and southern Sarmatic region. The trees are low growing as the soils are nutrient deficient and subject to drought stress. Lichens are represented by species *Cladonia furcata*, *Cladonia gracilis* and *Cladonia sylvatica*.

Distribution in the Boreal region and coverage by Natura 2000 network



The habitat type is in Boreal region in marginal position within its distribution range in Europe. It occurs only in Lithuania, its distribution is mainly in south and east part of the country, in the transition from Continental to Boreal (‘hemiboreal’). Pine woods rich in *Cladonia* spp occur elsewhere in the region but are considered part of 9010 Western Taiga

The overall habitat area in Lithuania is ca 130 km².

About 40% of the EU extent of this habitat is in the Boreal region (possibly overestimated). It mainly occurs in the in northern part of the Continental region. In three Natura 2000 sites is protected very low proportion of the national habitat area (3.9 %).

Natura 2000 sites			
Country	Area /km ² /	Coverage /%/	Number of sites
Estonia			
Finland			
Lithuania	5.0	3.9	3
Latvia			
Sweden			
BOR Region	5.0	3.9	3

The table above shows size of the habitat area in Natura 2000 sites and its proportion compared to habitat area in the whole biogeographic region („coverage“) as reported by MS in the 2013 Article 17 report.

Biogeographical conservation status assessment

Treated data from Member States reports																		
MS	Range (km ²)				Area				Struct & func.	Future prosp.	Overall asses.				Areas from gridded maps(km ²)			
	Surface	% MS	Trend	Ref.	Surface	% MS	Trend	Ref.			Curr. CS	Qualifier	Prev. CS	Nat. of ch.	Range	% MS	Distrib.	% MS
LT	24000	100	0	≈24000	130	100	-	≈130	U1	U1	U1	-	U1-	nc	30000	100	4500	100
EU Biogeographical assessment and proposed corrections																		
MS/EU27	Surface	Range Concl.	Trend	Ref.	Surface	Area Concl.	Trend	Ref.	Struct. func.	Future prosp.	Curr. CS Concl.	Qualifier	Prev. CS Concl.	Nat. of ch.	Target 1			
EU27	24000	00	0	≈24000	130	00	-	≈130	00	00	MTX	-	U1	no	C	-		
Conservation status		FV	Favourable	U1	Unfavourable - inadequate	U2	Unfavourable - bad	XX	Unknown									
Trend		0 = stable; + = increase; - = decrease; x = unknown																
Qualifier		= stable; + positive; - negative; x unknown																
Nature of change		a – genuine change; b – change due to more accurate data or improving knowledge; b2 – change due to taxonomic review; c1 – due to different methods to measure or evaluate; c2 - due to the use of different thresholds; d- no information about nature of change; e - due to less accurate or absent data; nc - no change																
Target 1 contribution		A - favourable assessments; B - improved assessments; C - deteriorated assessments; D - unfavourable and unknown assessments that did not change; E - assessments that became unknown.																

The overall conservation status is "unfavourable-bad" and declining due to assessment of Area in Lithuania. Based on the country report, there is no change against previous (2001-2006) report that indicated the overall conservation status as "unfavourable-inadequate".

Pressures, threats and proposed measures

To the most important threats belong forest and plantation management & use and biocenotic evolution. The pressures related to sport and recreation (motorised vehicles and trampling, overuse) were reported as medium-intensity pressures.

Lithuania considers highly needed adaptation of forest management, this is the only measure proposed.

Code	Pressure name	EE	FI	LT	LV	SE
B02	Forest and Plantation management & use			H		
G01.03	motorised vehicles			M		
G05.01	Trampling, overuse			M		
K02	Biocenotic evolution, succession			H		
Note:						
Code	Measure name	EE	FI	LT	LV	SE
3.2	Adapt forest management			H		
Legend:	L	Low intensity	M	Medium intensity	H	High intensity

Reason for selection as “Low Hanging Fruit” (LHF) habitat in the Boreal region

Applying the methodology to identify LHF habitats in the Boreal region, habitat 691T0 reached the LHF score 78.00. This habitat type was classified as LHF especially because to reach improvement, the change from negative to stable trend within the category U2 (unfavourable-bad) is sufficient. It is normally much easier to improve a trend than to reach change in category. The habitat type was included to LHF also because the fact that the improvement of trend of only one parameter (Area) in one country (Lithuania) is needed to reach the overall improvement.

Priority conservation measures needed

For the improvement of the conservation status, stopping of the habitat decrease in Lithuania is needed. To achieve this aim, the adaptation of forest management practices are needed, especially important is to avoid planting of other tree species, not typical for this habitat type. The declaration of protected areas could be very useful for protection of this habitat, especially when taking into account current small representation of the habitat type in Natura 2000 sites. The actual habitat area approximately corresponds to the reference value and thus the habitat restoration is not crucial, but it should be applied in case of the habitat type damage or disturbance.

Links

<http://bd.eionet.europa.eu/article17/reports2012/habitat/summary/?period=3&group=Forests&subject=91T0®ion=BOR>

3 Template for reporting on Member States perspectives

Each descriptive fact should be completed by a report compiled by Member States, answering questions according to the below template

Member States perspectives (to be filled by MS, experts; length not restricted)

Situation of the habitat (conservation status and main problems)
Is the habitat considered a good candidate for the 'Low Hanging Fruit' approach
Could an intensified cooperation with other MS be considered in practical terms?
What changed since last seminar? (cons. status, measures undertaken and planned, other)
Conservation objectives
Conservation measures undertaken and planned
Specialist species linked to the habitat type
Other comments