



INPUT DOCUMENT

Natura 2000 seminar for the Boreal region

Estonia - Tallinn, 14-15-16 October 2019

3rd Natura 2000 seminar for the Boreal region

Consortium Information:

Wageningen Environmental Research, Wageningen Marine Research, Wageningen UR,
In cooperation with: Estonian University of Life Sciences, Nature Bureau Ltd., Terracogest
and Mãe d'água.

Prepared by	EMU, WENR
Authors	Theo van der Sluis (WENR), Kalev Sepp (EMU), Diana Pungar (EMU), Irene Bouwma (WENR), with contributions from Andris Viesturs Urtāns, Raimo Virkkala, Agu Leivits and Kimmo Syrjänen.
Version	V4.0
Date	September 14 th 2019
Reviewed by	Sophie Ouzet (EC)

Acknowledgement

We would like to express our great appreciation to Sophie Ouzet and Frank Vassen from the European Commission for their advice on the scope and thematic clarifications in the document. We also thank the habitat working groups' coordinators that have shared ideas and topics for the respective ecosystems, as well as Santtu Kareksela.

Disclaimer: The content of this publication does not necessarily reflect the opinion of the European Commission, nor is the European Commission responsible for any use that might be made of information appearing herein.

Copyright: © European Union, 2019

Cover photos: Kalev Sepp, Theo van der Sluis

Reproduction is authorised provided the source is acknowledged.

Event: For more information on this seminar, see the Natura 2000 Communication Platform: http://ec.europa.eu/environment/nature/natura2000/platform/events/third_Boreal_biogeographic_seminar.htm

Relevant documents can be found here:

http://ec.europa.eu/environment/nature/natura2000/platform/knowledge_exchange/28_document_library_en.htm

Citation: Van der Sluis, T., K. Sepp, D. Pungar, I. Bouwma (2019): Input document for the 3rd Natura 2000 Seminar for the Boreal Biogeographical region

Contents

1.	Introduction to the Natura 2000 biogeographical process and the Natura 2000 seminars	4
2.	The biogeographical process in the Boreal region	5
3.	The three themes selected for the third Natura 2000 seminar for the Boreal region.....	8
4.	Background information and issues for consideration in relation to the selected themes	9
4.1.	Theme 1: Stakeholder engagement in Natura 2000	9
4.1.1.	Context	9
4.1.2.	Objectives of the thematic session	9
4.1.3.	Common issues, challenges and approaches.....	10
4.1.4.	Natura 2000, stakeholder engagement and related challenges in the Boreal region ..	13
4.1.5.	Ideas on opportunities for cooperative work and follow-up	14
4.1.6.	Cases and best practices – additional references	14
4.2.	Theme 2: Priorities for action in the Boreal region.....	16
4.2.1.	Context	16
4.2.2.	Objectives of the thematic session	16
4.2.3.	Common issues, challenges and approaches.....	17
4.2.4.	Ideas on opportunities for cooperative work and follow-up	20
4.2.5.	Cases and best practices – additional references	20
4.3.	Theme 3: Natura 2000 and climate change	21
4.3.1.	Context	21
4.3.2.	Objectives of the thematic session	23
4.3.3.	Common issues and challenges.....	23
4.3.4.	Ideas on opportunities for cooperative work and follow-up	24
4.3.5.	Cases and best practices – additional references	25
5.	Habitat working groups	27
5.1.	Freshwater habitat working group.....	27
5.2.	Wetlands habitat working group.....	29
5.3.	Grasslands habitat working group.....	31
5.4.	Forests habitat working group	33
	Useful literature	36
	Annex 1: Boreal biogeographical roadmap	38
	Annex 2: List of follow-up and networking events.....	43
	Annex 3: LIFE projects information	47

1. Introduction to the Natura 2000 biogeographical process and the Natura 2000 seminars

The Natura 2000 biogeographical process was launched in 2011 by the European Commission. The objective of the process is to promote knowledge exchange, networking and cooperation on Natura 2000-related issues at biogeographical region level. At the heart of the process lie the Natura 2000 seminars, a networking programme consisting of the organisation of workshops, events and meetings relevant to the objective of the process as well as by other related actions.

Assuming that Member States in a given region are facing similar challenges in the management of Natura 2000 sites, habitats and species, the Natura 2000 seminars are intended to stimulate transnational exchanges and promote a coherent management of Natura 2000 at biogeographical region level. As the responsibility for implementing Natura 2000 lies with the Member States, the seminars create an opportunity for key actors to exchange information at biogeographical level. In addition, they also stimulate discussions with and involvement of other key stakeholders and expert networks, including non-governmental organisations (NGO).

The strategic orientation of the process is evolving over time. The 'Fitness Check' (2016), an evaluation of the implementation of EU Nature Directives¹, showed that the effectiveness of the Directives has been constrained by a lack and insufficient focus of funding, by limited stakeholder awareness and cooperation as well as by knowledge gaps. The evaluation also highlighted the need to put in place more effective conservation systems, with a view to achieving the Directives' objectives, having full regard of the socio-economic context in which the Directives operate. On that basis, the Commission proposed to refocus the Natura 2000 process to promote the best practices in conservation management, identification of funding opportunities and increased stakeholder involvement. It also aims to deliver:

- strengthened cooperation and exchange of experiences on common challenges, including those related to the specific socio-economic context and to cross-border issues;
- identification of key priorities for common actions; and
- agreement on a biogeographical-level roadmap for these actions.

The Natura 2000 seminars identify the main aims and action of the roadmaps, which also set out a framework for the networking programme. The roadmaps are dynamic work plans that are regularly updated with new actions and projects relating to the objectives of the biogeographical process.

As part of the overall biogeographical process, the Natura 2000 Platform was established as a 'one-stop' online tool for disseminating information to interested stakeholders in all regions.

¹ http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm

2. The biogeographical process in the Boreal region

The Boreal region is the largest biogeographical region of geographical Europe and involves five EU Member States²: Sweden, Finland, Estonia Latvia and Lithuania (Figure 1). The Boreal region is a land of forests and wetlands. To the north, it merges with the taiga and tundra forest of the Arctic, to the west with the Fennoscandian mountains and, to the south, it gradually turns into the deciduous forests of the Continental region. The region has relatively flat lands, mostly below 500 m. Centuries of grazing and haymaking have resulted in typical semi-natural habitats of high conservation value, such as the Boreal Baltic coastal meadows and the Nordic alvars.

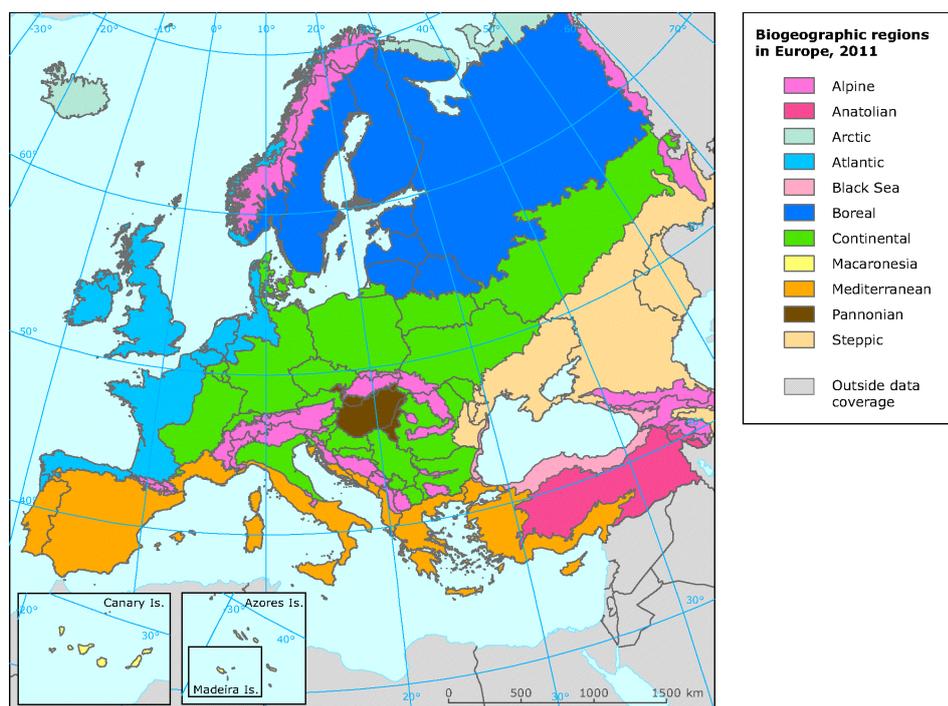


Figure 1: Biogeographical regions in Europe (source: EEA³, last modified October 2012)

The Boreal region is relatively rich in species, considering its latitude. Four mammals occur only here within the EU: the flying squirrel (*Pteromys volans*), the wild forest reindeer (*Rangifer tarandus fennicus*), the freshwater Saimaa ringed seal (*Phoca hispida saimensis*) and the Baltic ringed seal (*Phoca hispida botnica*). Lynx, beaver and brown bear are also typical. Sweden and Finland are the only EU countries to host the highly endangered wolverine (*Gulo gulo*). The dominant forest type, known as

² Note that in terms of pure biogeography the Boreal region is considered to include coastal areas of Norway (see Figure 1), which are not included in the scope of the Nature Directives.

³ https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-1/map_2-1_biogeographical-regions.eps

western taiga, contains both Norway spruce (*Picea abies*) and Scots pine (*Pinus sylvestris*), on a sparse layer of mosses, lichens and ericaceous shrubs on shallow soils.

The region is a land of contrasts, with increasingly large urban areas in the south (Stockholm, Riga, Helsinki) and vast areas in the north with very little population, partly also nomadic. The south averages 40 inhabitants/km² whereas the north counts around 2–3 inhabitants/km².

Commercial forestry is the dominant land use throughout the region, so the forest is mostly of reduced conservation value. Many boreal countries have now introduced national programmes to buy up and preserve the remaining 5–10% of natural old-growth forests (Jonsson et al. 2019). Hunting is a popular recreational activity and can still be practiced within Natura 2000 sites, provided that it is sustainable.

The first Natura 2000 seminar for the Boreal region was held in Hämeenlinna, Finland, 28-29 May 2012. A preparatory workshop with more than 80 experts and practitioners from all 5 Member States (MS) within the Boreal Biogeographic Region took place in Helsinki, January 2012. During the workshop separate working groups discussed the different habitats and management issues and the priority conservation issues facing each of four broad habitat groups were listed:

- Grasslands (issues: CAP, land abandonment and fragmentation, unsuitable management, alternative management);
- Forests (issues: management and restoration, mimicking natural disturbances, non-intervention management, sustainable use issues, connectivity issues outside N2K);
- Wetlands (issues: modification of hydrological functions of mires, lack of knowledge about ecological processes in minerotrophic mires, restoration methodologies);
- Freshwater (issues: catchment approach, ecological functionality e.g. hydropower, cross-sectoral cooperation like synergies with WFD, complexity of habitat).

Also cross-cutting and cross-boundary issues were identified. A list of actions was drawn up, the first Boreal roadmap⁴. A knowledge market was held to exchange information on different projects related to the implementation of the Natura 2000 network in the different countries.

The second Boreal Natura 2000 seminar took place in Vilnius, Lithuania from 5 to 7 October 2016. It brought together 86 Natura 2000 practitioners and expert stakeholders from the Boreal region. Issues of common interest were discussed in the field and during working group discussions. The presentations covered for example innovative approaches implemented in different countries to manage Natura 2000 areas and ways to target resources for restoration priorities and projects. Other presentations covered the Low Hanging Fruit approach, stakeholder engagement, and the LIFE

⁴ https://ec.europa.eu/environment/nature/natura2000/platform/documents/boreal_seminars/boreal-seminar-report-Vilnius-oct-2016-final-draft.pdf

financing programme. The two field visits, respectively on forest and grassland habitats and on freshwater and wetlands habitats, were of high interest. The knowledge market where participants could discuss around information stands concrete examples of habitat management and a large number of relevant cases studies was very relevant too. The roadmap was revised and expanded based on the seminar discussions. Again, this proposed cross-cutting actions as well as habitat-specific projects⁵.

The themes (priority issues) of the second seminar were:

- Integrated management approaches to Natura 2000;
- Approaches to setting restoration priorities;
- Communication and stakeholder engagement;
- Setting conservation priorities.

Some of these issues will be addressed again in the third seminar in Tallinn, with a renewed focus (see next paragraph).



Picture 1: Boreal Baltic coastal meadows (Habitat 1630), Natura 2000 site*

⁵ http://ec.europa.eu/environment/nature/natura2000/platform/documents/Boreal_seminar/Boreal-seminar-report-Ireland-oct-2016-final-draft_en.pdf

3. The three themes selected for the third Natura 2000 seminar for the Boreal region

In addition to sharing knowledge and best practises, the third Natura 2000 seminar for the Boreal region in Estonia, in October 2019, has as its main aim the identification, prioritisation and development of transboundary cooperative actions. Such action can contribute to the operational and effective implementation of the requirements of the Natura 2000 network and ultimately help improve the conservation status of species and habitats of European interest. The discussions should result in an agreement on the proposed collaborative steps to take, as well as – ideally – a series of commitments to deliver on these agreed actions. The agreed actions will be compiled in an update of the roadmap for cooperation in the Boreal region. This roadmap, which is a dynamic action plan with specific, detailed, follow-up events and programmes will then be shared with the steering committee for the Natura 2000 biogeographical process in the Boreal region.

The seminar is organised around the discussion of three major themes, which have been identified and designed through a meeting of the above-mentioned steering committee and pre-seminar expert consultations. The selected themes are:

Theme 1 – Stakeholder engagement: How to develop communication and stakeholder engagement in Natura 2000, targeting in particular private land owners and industries in the forestry sector?

Theme 2 – Priorities for action: How to improve prioritisation and objectives setting for restoration and conservation in the Boreal region, including through the prioritised action frameworks (PAF) and other planning tools?

Theme 3 – Natura 2000 and climate change: How to reconcile nature conservation and climate change in the integrated management of Natura 2000 sites?

Each of these three themes has been identified as being of common interest across Member States, offering opportunities for further exchanges and strengthening of transnational cooperation around Natura 2000. The following section provides introductory information for each theme. This forms the starting point for group discussions.



Picture 2: Extensive grazing management of Boreal Baltic coastal meadows

4. Background information and issues for consideration in relation to the selected themes

4.1. Theme 1: Stakeholder engagement in Natura 2000

4.1.1. Context

Stakeholder engagement is one of the key success factors in the implementation of Natura 2000. By engaging all right holders, landowners as well as users, in the formulation and achievement of Natura 2000 conservation or restoration objectives – in combination with other type of objectives – conflicts can be prevented, and costs reduced. There are different strategies and approaches for stakeholder engagement that can be successful to a greater or lesser extent, depending on the context (which may be different in each Member State, region or site). Lessons can be learnt from one another by establishing learning communities, supported by different types of mechanisms, instruments and tools. The focus will be in particular on private land owners in the forestry sector, considering the large share of forest land in and outside protected areas.

Some common factors which play a role in achieving stakeholder engagement in management are:

- considering the views and concerns of private owners regarding site management;
- pro-actively involving private owners in the development of management plans; and
- the availability of and access to public funding schemes and other incentives for management.

In recent years, through the development of management plans and through LIFE funded projects, considerable experience has been gathered in the field of stakeholder engagement in various Natura 2000 sites. However, at the same time, it is acknowledged that transferring lessons learnt from one site to another, let alone across borders, is not always an easy task. This session will therefore review different ways in which best practices can be transferred between sites and between Member States.

4.1.2. Objectives of the thematic session

The objectives of this thematic session are to:

- exchange knowledge on different strategies and approaches to initiate and develop communication to overcome obstacles and increase stakeholder engagement; and
- share ideas and best practices on the development of learning communities and mechanisms, instruments and tools that seem most successful for this purpose.

This session will identify cooperative actions on how best practices can be shared between the Natura 2000 site managers in various Member States. These actions will be included in the revised roadmap.

4.1.3. Common issues, challenges and approaches

The importance of involving stakeholders in the management of protected areas is apparent, and reasons most often cited for doing so are (Keulartz & Leistra, 2008; Rauschmayer, Van den Hove, & Koetz, 2009; Stoll-Kleemann & Welp, 2006; Young et al., 2013):

1. Democratic necessity: involving landowners and users in the management process acknowledges landowner and citizen rights and recognizes their vital role in the management of Natura 2000 areas. In doing so it also increases the legitimacy of nature policies.
2. To increase efficiency on managing sites: in many Natura 2000 sites the management of habitats is undertaken by private owners, NGO and other non-state organisations. Effective and efficient management requires the co-operation and support of local stakeholders.
3. Sharing of knowledge and understanding: all stakeholders have unique different perspectives as to what the problem is and what constitutes a good solution. It is important to involve all (key) players in order to ensure that the best solutions are found and to build consensus. One of the important aspects of stakeholder involvement is to encourage people to work together, as part of a common effort that is driven by commonly agreed objectives. This is the case in particular with sites owned by various private owners or organisations: the chance of success for the whole site can increase where working jointly on management issues.

However, involving stakeholders in the management of sites requires specific skills, significant investment of time and resources and can increase the complexity of the process of management planning. It also requires a long-term commitment from the various parties and might not always lead to the expected results. Ultimately, the engagement of stakeholders is not without pitfalls.

Best practices or best ways to work together have been identified, based on existing experience (Reed, 2008). This suggests that:

- stakeholder involvement needs to be underpinned by a philosophy that emphasises empowerment, equity, trust and learning;
- involvement of stakeholders should be considered as early as possible and throughout the process;
- relevant stakeholders need to be analysed and represented systematically;
- clear objectives for the participatory process need to be agreed among stakeholders at the outset;
- methods should be selected and tailored to the decision-making context, considering the objectives, type of participants and appropriate level of engagement;
- highly skilled facilitation is essential;
- local and scientific knowledge should be integrated;

- participation needs to be institutionalised, meaning that there should be either formal rules or practices established that make it clear to the stakeholders how they participate throughout the process.

Transboundary networking and capacity building with key stakeholders is a key issue to obtain better information about species and habitats of European importance in Member States. For instance, many LIFE projects are carried out in cooperation between neighbouring countries and aim to increase public and stakeholder awareness on Natura 2000 habitats and species targeted by the Birds and Habitat Directives. More and more decision makers carry out conservation of habitats and management actions in cooperation with stakeholders. For example, one aim of the LIFE project LIFE Baltic MPAs - Marine protected areas in the Eastern Baltic Sea (LIFE05 NAT/LV/000100) was to increase public and stakeholder awareness on Natura 2000, marine protected areas and biodiversity in general in Estonia, Latvia, Lithuania and Russia. Russia is involved due to the close ecological connectivity of the Baltic Sea ecosystem and the potential serious threats originating from the adjacent non-EU territories. This project engaged key stakeholders, including Russian partners, in activities and events to raise their awareness of Natura 2000 in marine environments.

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=2927

The importance of stakeholder engagement is emphasized also in the Swedish LIFE project LIFE Coast Benefit - Restoration of ancient agricultural landscape, natural forests and wetlands at the Baltic coast (LIFE12 NAT/SE/000131), coordinated by the County Administrative Board of Östergötland, who is responsible for the management of protected nature in Sweden. The main objective of this project is to improve the conservation status and habitats of the Natura 2000 sites of the Western Baltic Archipelago, focusing on habitats dependent on traditional agricultural management, natural structures and disturbance regimes in forests and in shallow waters. One key target of the project is to increase species richness in commercial monoculture forest plantations. This can only be achieved in cooperation with local stakeholders, landowners, farmers.

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=4593

Although general lessons can be drawn, at the same time each site is specific and often good cooperation depends on a few individuals who go across established boundaries and find common ground. Participatory management needs to be learnt. Generally, three levels of learning can be identified:

- at the level of individuals, for instance a farmer who has to consider nature in his/her farming methods or a site manager that has to interact with a broad range of stakeholders that might have different views on nature;

- at group level, for instance a committee that develops a management plan and must find new ways of working together or consider new methods for managing sites;
- at institution level, where participatory management in the organisation itself or in decision-making can become embedded in the official procedures. This can also relate to the formal and informal agreements on interdepartmental cooperation of Ministries on plans and projects.

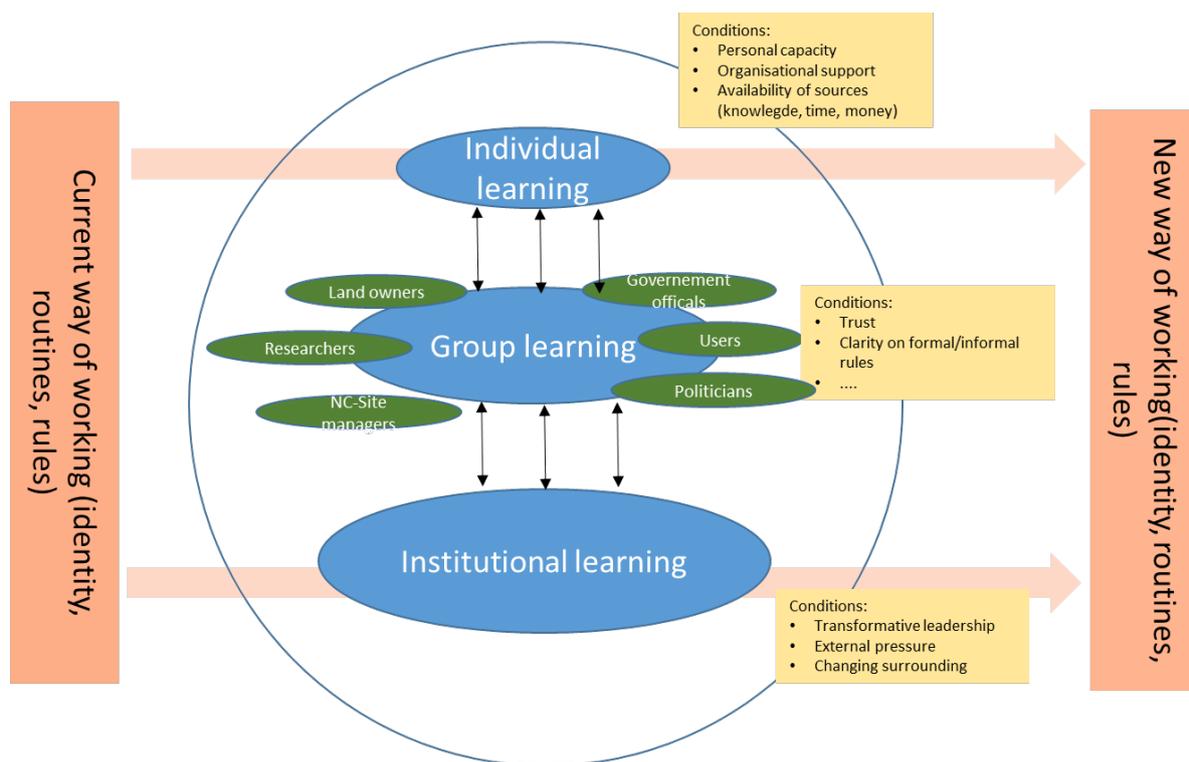


Figure 2: Levels of learning (adapted from van Kunseler et al, in prep)

Participatory management and planning for Natura 2000 sites present challenges and opportunities for all parties involved. In particular, those in charge need training about what to communicate, how to communicate, how to anticipate, mitigate or avoid conflicts and how to negotiate and build consensus. So far, different approaches have been developed within and between Member States to improve the transfer of best practices:

- training (within and between Member States) through different methods, including site visits, summer schools, e-learning, etc.
- developing of handbooks on management planning with stakeholders
- identifying and compiling best practices on Natura 2000 (websites, books or brochures)
- organising workshops on the issue with different stakeholders (within and between Member States)

Another possible method would be the establishment of communities of practice, where practitioners and the other parties involved come together on a regular basis to discuss their issues.

An additional valuable effect of the exchange of best practices between landowners, site users, site managers, interested public, other economic stakeholders and policy makers within and across EU Member States is that it is also the best way to demonstrate the benefits Natura 2000 areas bring at the local level.

4.1.4. Natura 2000, stakeholder engagement and related challenges in the Boreal region

Currently there is not much literature focusing specifically on social aspects of Natura 2000 in the Boreal zone (Blicharska *et al.* 2016). However, some relevant examples can be highlighted:

- In Finland, the designation phase of the Natura 2000 areas generated strong opposition from certain stakeholders, the largest numbers of whom were forest owners (Hiedanpää 2002; Hiedanpää 2005). Since then, specific measures have been implemented to address and prevent conflicts, such as voluntary conservation measures in private forests (Paloniemi *et al.* 2015).
- Estonia has managed to build up a well-designed network of protected forests which would serve as a basis for planning. Still several cases of conflicts between nature conservation objectives, local stakeholders and forestry section emerged. For that reason, a nation-wide campaign to introduce the Natura 2000 network to the public, landowners and other stakeholders was carried out in Estonia during the designation phase. In addition, site-specific public events were organised across the country, to address potential misunderstandings and reach agreements between different stakeholders. Two case studies conducted in North- (Kõnnumaa) and South-Estonia (Otepää) suggested that the campaign and these events functioned rather well as awareness-raising tools, but did not generate sufficient grounds for reaching agreements (Suškevičs and Külvik 2007; Suškevičs and Külvik 2011). Since then, additional efforts have been made to engage with the landowners and other stakeholders: for example, according to the Nature Conservation Act, identifying relevant stakeholder groups and arranging participatory events is required and belongs to the good practice when compiling management plans for the sites. To date, no systematic studies have been conducted to assess their effects.

The communication on forest conservation, or particularly the contribution of protected areas to peoples wellbeing could benefit from the experiences gained in ecosystem services or nature's benefits to people (Angelstam *et al.* 2013; IPBES 2018).

4.1.5. Ideas on opportunities for cooperative work and follow-up

International training events (e.g. summer schools) on Natura 2000 management issues, with experts and policy officers from various countries as trainers for specific topics, could develop the skills of new experts or managers. At the same time the trainees would exchange and learn from each other on approaches. Such summer schools could be supported in practice by the Member States by making staff and experts (and possibly facilities) available for training.

4.1.6. Cases and best practices – additional references

Examples on ways to transfer best practices include:

Training:

- One aim of the LIFE project LIFE NAT-PROGRAMME - National Conservation and Management Programme for Natura 2000 Sites in Latvia (LIFE11 NAT/LV/000371) was to work out a capacity-building training. It involved various seminars and workshops and reached out to 1000 people from stakeholder groups including public authorities, nature conservation experts, NGOs, municipalities, local entrepreneurs, landowners and other stakeholders.
http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4283
- LIFE e-Natura2000.edu: Supporting e-learning and open education for Natura 2000 Managers (2018-2021). This three-year project explores the potential of building new approaches and learning methods to improve knowledge and capacity amongst Natura 2000 managers, in both public and private land, across the EU. Taking a competence-based approach, it will enable peers to connect and learn about what managers need to know and be able to do. The project will analyse training needs and make available new ways of accessing information about the multiple skills required for Natura 2000 management and policy implementation. <https://www.euoparc.org/tools-and-training/life-e-natura2000-edu/>

Handbooks specifically on involvement of stakeholders in Natura 2000/ nature conservation in Europe

- Making Boreal Forests Work for People and Nature (Vanhanen *et al.* 2012).
[file:///C:/Users/meie/Downloads/wfse-pol-brief-boreal-forests%20\(1\).pdf](file:///C:/Users/meie/Downloads/wfse-pol-brief-boreal-forests%20(1).pdf)
- Chapter 2 of the Eurosite manual: Management planning for protected areas – a guide for practitioners and their bosses. <https://portals.iucn.org/library/node/28030>
- Uneven-aged forest management in boreal Sweden: local forestry stakeholders' perceptions of different sustainability dimensions (Axelsson and Angelstam 2011).

Best practice reports on Natura 2000 and stakeholders

- Fact sheet "LIFE-Nature: communicating with stakeholders and the general public": best practice examples for Natura 2000 outlines some of the best practices on stakeholder involvement in LIFE projects (<https://ec.europa.eu/easme/en/section/life/life-programme-publications>)

- Best practice for environmental protection and agriculture: Landcare Associations in Natura 2000 sites (https://www.lpv.de/uploads/tx_ttproducts/datasheet/Natura2000_2019_Erfolgsrezepte_EN_WEB.pdf)
- Eurosite, 2009. Dealing with Conflicts in the Implementation and management of the Natura 2000 Network Best Practice at the Local / Site level. A review of 24 Best Practice case studies (<http://www.ceeweb.org/wp-content/uploads/2015/01/Eurosite2010-Natura-2000-best-practice-case-studies.pdf>)
- Europarc Federation website with some examples: <https://www.europarc.org/toolbox/capacity-building/>

LIFE projects on stakeholder engagement

All LIFE projects require that dissemination activities are undertaken, and that stakeholders are involved. For example, the LIFE BEAR DEFRAGMENTATION project activities helped improve the connectivity of the corridor area targeted in the project, along with the habitat quality for brown bears. Specifically, the project established eight partnership agreements with municipalities within the project areas and the signing of 13 land stewardship agreements covering 15 public estates for the creation of tree plantations. An action plan for habitat improvement in the main bear corridor was drawn up. It includes recommendations and management measures to be taken into account for present and future land use planning and management of the inter-population corridor area. Other examples of projects with specific attention for stakeholder engagement are listed in the below table:

Table 1: Some examples of LIFE projects focussing on inclusion of landowners/users

Project Title	Project Number
LIFE STOP Cortaderia - Urgent measures for controlling the spread of Pampa Grass (<i>Cortaderia selloana</i>) in the Boreal area	LIFE17 NAT/ES/000495
NATUREMAN - The Farmer as a Manager of Nature: aiming at a favourable conservation status for Natura 2000 sites by making nature management a sound branch of farming	LIFE16 IPE/DK/000006
Piloting Natura 2000 communication in Estonia http://elfond.ee/what-we-do/naturallyest	LIFE16-GIE_EE_000665



Figure 3: Väinamere in Estonia, SIC EE0040002, important for migratory birds, in particular Cranes

4.2. Theme 2: Priorities for action in the Boreal region

4.2.1. Context

For certain species and habitat types there is a higher urgency to improve/restore their conservation status. While relevant information is available (EU, national and regional Red Lists, Article 17 data, Article 12 data for bird species, etc.), there is currently no agreed approach for identifying priorities and associated measures at EU or biogeographical region level, nor is there any clear mechanism for agreeing on such priorities, nor is there any process to follow-up on their implementation.

Article 8 of the Habitats Directive sets out the need for strategic planning for financing Natura 2000, requiring a prioritised action framework. The PAF aims to strategically set out Member States' funding needs and priorities, with a view to strengthening the integration of Natura 2000 financial requirements in all relevant EU funding programmes and instruments, so as to secure the necessary resources. In line with the objectives of the EU Habitats Directive, the measures to be identified in the PAF shall mainly be designed "to maintain and restore, at a favourable conservation status, natural habitats and species of EU importance, whilst taking account of economic, social and cultural requirements and regional and local characteristics". By the time of the seminar, all Member States should be well advanced in the preparation of their PAF: a discussion on the implementation of the PAF will therefore be very timely.

In the context of the 6-yearly reporting under the Nature Directives, updated information on the state of nature has been provided over summer 2019 by the Member States. Together with other relevant data sources, this information could be used for establishing, ahead of the next multi-annual financial framework for 2021-2027 (MFF 2021-2027), a list of biogeographical region-level priorities for actions to be implemented during the period 2021-2027.

Whereas such a prioritisation exercise would obviously need to make use of the available data on the status and trends of habitats and species as described above, other criteria (whether scientific, ecological, social or economic) may also deserve attention in this exercise.

The discussions on prioritisation approaches during the first seminars identified scope for concrete and specific actions at biogeographical level. It seems they have not yet been followed-up with enough developments to lead to restoration actions grounded in the results of a biogeographical prioritisation.

4.2.2. Objectives of the thematic session

Through the discussion at the seminar we will try to define shared approaches and actions on:

- prioritisation of conservation actions: where to target the money first for the best positive effect and how to balance short and long-term effects/goals and small (regional, national) and large (biogeographical, EU) scale effects/goals?

- prioritisation tools in the Boreal region: how do we evaluate experiences in the Boreal region so far? What role can they play in conservation planning?
- implementation of the PAF: what kind of cooperation would support their efficient implementation?
- development of further concrete action: what use can we make of experiences with the PAF in the Boreal countries to develop future projects, in particular to frame LIFE projects?

This session will identify best practices on relevant approaches and recommend cooperative actions to tackle prioritisation issues, to be shared and included in the revised roadmap.

4.2.3. Common issues, challenges and approaches

Short-term management objectives and plans with immediate positive effect may be easier to draft and implement, and their achievements may also be easier to monitor. But some crucial conservation and restoration strategies may yield results only in the long term (e.g. 10 years or more). In this context, it is a challenge to find a balance between short-term and long-term goals.

Conservation objectives and targets are defined at different levels, at site, national, transboundary or biogeographical level. At site level there can be very specific objectives which may not always align with the national targets. From the national scale to the biogeographical level there can be marked differences too. For example, if a country sets itself conservation or restoration targets for some locally rare habitat, and this specific habitat is much more common in other countries in the biogeographical region, should this influence national prioritisation? The example of Nordic alvar (Habitat 6280) can illustrate such a question: this habitat is very rare in Finland and the Baltic countries but at the same time rather common in Sweden: would it be acceptable that the features of its distribution within the biogeographical region either lowered or increased the priority for this habitat at biogeographical level? Would it be acceptable that this ranking would in turn influence the national priorities? How should we deal with such issues?

In addition, the varied institutional contexts existing in the different Member States range from rather centralised to more decentralised and the mechanisms for coordination between the different institutional levels vary. This may influence both their approaches to the definition of priorities as well as their international cooperation on this topic. Should these elements of context be factored in the reflection conducted at biogeographical level and how?

Optimisation softwares as MARXAN⁶ can be relevant for Natura 2000 management. MARXAN is a commonly applied tool to inform decision-making in conservation. Through algorithms, a network of priority areas is produced. Selection frequency is a MARXAN output frequently used as an indicator for

⁶ <http://marxan.net/index.php/cplan>

the level of importance of an area and helps identifying areas of higher conservation or restoration importance. The limitation is that any selected set of sites required to achieve targets is usually only one of the many possible sets, all of which differ to some extent in their composition and configuration of individual sites. Therefore, while a single set of sites is a useful indication of the requirements for achieving all targets, it provides no information on the relative importance of unselected sites for achieving targets.

Hermoso *et al.* (2018) used the lists of key species associated with each Natura 2000 site to map the distribution of all priority species covered by the Birds and Habitats Directives. Then the MARXAN software was used to prioritise allocation of conservation funds among all Natura 2000 sites over the period 1992–2013 (Hermoso *et al.* 2018). This approach finally highlighted the Natura 2000 sites and the species within them that should preferably receive funds given their strategic value to the achievement of conservation goals. This analysis is a practical example of how application for LIFE funding or expenditure under a (set of) projects (including LIFE projects) may be spatially prioritised to cover all species prioritised for the achievement of the goals of the Nature Directives.

Another well-established conservation prioritization approach is the Zonation software and toolset, developed in the University of Helsinki. Zonation has been used in Finland in several spatial planning processes considering land use and conservation:

http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/161735/16_19_MetZo%20II%20projekt%20loppuraportti%20EN%20netti.pdf?sequence=1&isAllowed=y

Zonation iteratively builds a continuous ranking (relative priority) across the whole prioritized landscape (e.g. forests in Finland) and produces an effective trade-off evaluation offering information on how the representation of the included social-ecological features (e.g. habitats, species, costs, ecosystem services etc.) change depending on analysis settings and on the other hand the conservation choices (e.g. amount of area protected). In the ecological sense, Zonation balances the (biodiversity) feature representation in terms of feature quality, amount and connectivity. Simultaneously, ecological considerations can be balanced against multiple direct costs, indirect costs and alternative land uses.

To facilitate the discussion on criteria for deciding on biogeographical level conservation priorities and their relevance for Member States, some considerations are listed below as well as examples coming from the Member States where they already used for the development of their PAF:

- New data from the Article 17 reporting are available. In the context of the next multi-annual financial framework, these data provide the latest known information on the conservation status at national and biogeographical level. More important, since the last reporting period the data also show uniformly the recent reported trend at national level of a species or habitat (e.g. in the report this is indicated by +, - or = for each Conservation Assessment). This allows further focus on those habitats and species with an unfavourable conservation status **and**

declining trend. Based on the 2007-2012 Article 17 reporting a review was made of the previously prioritised habitats.⁷ For example, this had considerable consequences for habitat 91E0 (Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*) which it ranked 2nd using 2013 data while it ranked 14th with 2007 data.

- Red list data are available at EU level and the European red list status might be integrated into the prioritisation process, although they are also informed by the reporting under the Nature Directives. Just to mention two recent examples, the European red list for birds was published in 2015 (Ileronymidou *et al.* 2015) and the one for habitats was issued in 2016 (Janssen *et al.* 2016).
- New research information, for example on old growth forests (Jonsson *et al.* 2019), might be used to update priorities.
- Improved knowledge on restoration: some experts in the pre-consultation indicate that the measures needed to improve the status need to be disseminated, realistic and successful. Member States and experts have knowledge on the success of restoring particular habitats or species and take this into account in their prioritisation. The Red List of habitats at EU28 level for instance also indicates the time required for restoring habitats (with or without intervention).
- Costs associated with restoration of specific habitats or species is part of the prioritisation approach in some Member States.
- Migrating or transboundary species (e.g. bats, birds, large carnivores, fish) as well as patches of habitats that extend across country borders and their associated species (e.g. habitats that are located along river systems and associated species such as pearl mussel, beaver and otter) or rare species present in a few Member States might be prioritised at the biogeographical level as they would depend on joint action for a better conservation status (Van der Sluis *et al.* 2018).
- The additional socio-economic benefits of conservation or restoration of specific habitats can be used in the prioritisation. The socio-economic benefits associated to the support to biodiversity conservation besides the pure conservation priorities are described in parts F1 and F2 in the PAF.

⁷ The ranking methodology is based on three criteria, i.e.: A. Number of MS where species/habitat types are present. B. Species and habitat types at unfavourable conservation status. C. Trend information (declining trend).

4.2.4. Ideas on opportunities for cooperative work and follow-up

Possible follow-up mechanisms (for discussion):

- Member States are currently working on their PAF for the period of the multi-annual financial framework for 2021-2027. In the frame of this exercise, it is expected that priorities are established, for improving the status of certain species and habitats or halting their decline. Any agreed mechanism to establish conservation priorities could therefore also be considered in this context.
- The next LIFE programme (2021-2027) could also take account of national, transnational or biogeographical region level priorities, for example through a preferential EU-co-funding rate or through a higher ranking of projects that would fit with an agreed list of priorities.
- For any identified conservation priorities that would require transboundary or transnational implementation approaches, follow-up events could be organised, bringing together the relevant actors for preparing transnational project applications or action plans.

What is new here?

- Establishing such measures at the level of individual Natura 2000 sites is a specific duty for Member States under Article 6.1 of the Habitats Directive, in addition to the non-regression and maintenance measures covered by the legal requirements of Article 6.2 of that Directive. The approach proposed here would have a clear focus on species and habitats in need of urgent measures for restoration or improvement at regional, national or transnational level.
- Prioritisation would lead to a number of priorities “in most urgent need of action”.
- The approach would not only focus on habitats, but also on species including species under the Birds Directive.
- The approach differs from the low-hanging fruit approach insofar as the focus may need to be shifted to those species and habitats in the worst situation, requiring most urgent actions.

The elements proposed for discussion also offer those who were involved in their establishment an opportunity to highlight the challenges in the drafting and implementation of the PAF.

4.2.5. Cases and best practices – additional references

Most recent national-scale uses of Zonation software in Finland have been the spatial prioritization analyses for 100 000 ha addition to the mire protection network, forest protection value -analysis covering all forested landscapes in Finland to facilitate voluntary private protection compensated by the government, and a spatial prioritization analysis to enhance cost-effectiveness of ecosystem restoration and management in the protected N2000 areas in Finland.

Internationally, Zonation has been used extensively in several countries (e.g. Finland, Japan, New-Zealand) and quite recently on European wide analyses on ecosystem services distribution (Verhagen et al. 2016) and priority mapping around Special Protection Areas (SPA) and Important Bird and

Biodiversity Areas (IBA) (Kukkala et al. 2016). Also global scale prioritization analyses using Zonation toolset exist (e.g. Di Minin et al. 2016).

Table 2: Some examples of projects relevant for prioritisation issues

Project title	Project code
Zonation software (Finland)	
LIFE+ NAT-PROGRAMME National Conservation and Management Programme for Natura 2000 Sites in Latvia	LIFE11 NAT/LV/000371

4.3. Theme 3: Natura 2000 and climate change

4.3.1. Context

Climate change can be seen in increasing temperatures, shifting seasons, changing precipitation patterns, the potential increase of weather extremes and sea level rise. In Europe this also triggers such drivers of ecosystem change as larger fluctuations of groundwater table, landscape fires (including peat bog fires), higher incidence of invasive alien species, changes in migration patterns or species' range, accelerated eutrophication and so on. Climate change is a major threat to biodiversity, destroying habitats and causing species to move to new climatically suitable areas, and thus increasing the extinction probability of species inhabiting fragmented landscapes. There is mounting evidence of the impacts of climate change on biodiversity and the need for the European Union to take integrated action to mitigate and adapt to climate change. To assess the vulnerability of the Natura 2000 network to these different aspects of climate change and develop possible adaptation and mitigation strategies, it is necessary to understand how the climate in Europe will change in the 21st century. Although many uncertainties exist in predicting future climate and interpreting its outcomes and current and projected impacts vary considerably across Europe, it is clear that climate change in Europe will have far-reaching consequences for human wellbeing and natural systems and that in particular protected areas in the Alpine and the Boreal biogeographical regions will experience more newly emerged climate conditions (hotter and drier) compared to the climate representation of other biogeographical regions under future climate in Europe (Nila and Hossain 2019).

The EU biodiversity strategy, "Our life insurance, our natural capital: an EU biodiversity strategy to 2020", underlines the importance of addressing climate change. An adaptive climate-informed conservation planning is required to be better prepared for preserving biodiversity in the face of the range of possible changes (Virkkala *et al.* 2019). A well-connected network of protected areas is one of the most important means to support species survival and to facilitate movement of species populations in a changing climate. A representative network of protected areas that includes high cover for key habitats is hence needed in all latitudinal zones (Virkkala et al. 2019). In many habitats major restoration or management measures are needed to ensure the value of the network of protected areas in maintaining biodiversity under a warming climate.

In the second Boreal meeting all habitat groups agreed that it is especially necessary to share knowledge about the effects of climate change on the future development of habitats, as it is not completely understood how it actually influences the Boreal habitats and species. Understanding the mechanisms at work is key to design appropriate management measures. Flexibility within Natura 2000 management is crucial to be able to react to external developments and accommodate change in ecological conditions. To maintain Natura 2000 as a functional network, we must think about integrated management, including green infrastructure and connectivity (corridors and stepping stones and management/restoration of habitats both inside and outside Nature 2000). A more dynamic planning is needed. In this, the key message is that nature holds core resources, which can be harnessed as part of the responses required for climate change.

As knowledge progresses, it is expected that improved integrated approaches will spread across much wider areas and a diverse range of Natura 2000 site locations.

Integrated natural resource management refers to the management of natural resources such as land, water, soil, plants and animals, including multiple aspects of natural resource use (biophysical, socio-political, and economic) and meeting different goals for a wider community. Similar concepts are integrated water management, integrated coastal zone management (see text box) and the ecosystem approach (Secretariat of the Convention on Biological Diversity, 2004). Apart from differences in wording, the underlying philosophy of all these approaches is very similar. They promote the need to approach natural resources in the context of the broader landscape and acknowledge the fact that

Integrated coastal zone management (ICZM)

ICZM is a dynamic, multidisciplinary and iterative process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision making, management and monitoring of implementation. ICZM uses the informed participation and cooperation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. ICZM seeks, over the long-term, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics. 'Integrated' in ICZM refers to the integration of objectives and to the integration of the many instruments needed to meet these objectives. It means integration of all relevant policy areas, sectors, and levels of administration. It means integration of the terrestrial and marine components of the target territory, in both time and space.

The Commission launched on 12 March 2013 a new joint initiative on integrated coastal management and maritime spatial planning. These will help the implementation of several other EU policies relevant for marine and coastal areas. Relevant environment policies include the Marine Strategy Framework Directive, the Water Framework Directive, the Natura and Habitats Directives and the Biodiversity Strategy.

humans are part of that landscape and need to be involved in management and planning processes in an equitable way (Stucky, 2011).

The advantage of integrated site management is that the societal and economic benefits may increase public support and justification for conservation and restoration projects. At the same time integrated approaches might be hindered by legal obstacles (e.g. introducing system dynamics that might lead to the loss of some species while benefitting others) and conflicting interests. Different sectors influencing interventions may result in an outcome which does not meet the requirements from a nature point-of-view, e.g. the favourable conservation status (Stobbelaar et al., 2018).

4.3.2. Objectives of the thematic session

The objectives of this thematic session are to:

- exchange knowledge and best practices of integrated approaches using the Natura 2000 objectives to define and design nature-inclusive projects and management plans:
 - to provide multiple benefits;
 - to strengthen the justification of projects; and
 - to speed up the implementation of management and restoration measures in adopting and mitigating climate change;
- discuss bottlenecks, such as legal obstacles and conflicting interests, that hinder integrated approaches, their causes as well possible solutions or strategies to overcome them;
- discuss opportunities for transboundary cooperation on the integrated management of Natura 2000 objectives in future projects or management plans.

In this session we will identify common actions on how best practices for integrated management can be shared or developed between various Member States. These actions will be included in the revised roadmap.

4.3.3. Common issues and challenges

Cross sectoral cooperation / scale issues

On the European, national and regional levels different sectoral policies are being developed and implemented. Horizontal and cross-sector integration of these sectoral policies is needed. So is vertical integration, understood as a translation from sectoral policies into integrated management plans at regional level or site level (e.g. the management plan of a Natura 2000 site). Sundseth (2015) describes several case studies on creating synergies between the Water Framework Directive, the Marine Strategy Framework Directive and the Habitats and Birds Directives, demonstrating how various elements of the Directives have been coordinated in practice, either at the level of the River Basins or across the different authorities responsible for their respective implementation. Every country operates in a different way depending on their administrative set-ups, and their geographical,

environmental and socio-economic contexts. One cannot therefore simply replicate what was done in one country and expect it to work in another (Sundseth, 2015). Prevailing habitat types also differ between countries and different habitat types require specific management, restoration and protection practices.

Integrated management requires a certain degree of flexibility to ensure that multiple objectives can be met. It can be difficult to combine multiple objectives derived from strict legal requirements. There is also a risk that economic benefits will overrule nature conservation objectives. In addition, there can be conflicting interests even among nature conservation objectives themselves: a situation where the re-introduction of system dynamics leads to some species disappearing while others maintain or enhance their conservation status can illustrate such conflict. Thus, priorities need to be agreed upon. In such contexts, developing stakeholder engagement (also see Theme1) is key to identifying, preventing or solving conflicts.

Transboundary cooperation

Cooperation is important in managing Natura 2000 sites that lie within more than one region or Member State. This holds true for other sectors as well. By means of an integrated approach and cross-border cooperation different goals can be achieved in a more effective and efficient way. The effective implementation of Natura 2000 conservation or restoration objectives at transboundary level also depends on such cooperation.

Transboundary cooperation with non-EU countries is becoming increasingly important, especially in view of climate change and the ecosystems changes it drives: as neighbouring countries' environmental policies and management actions have direct impact on the status of EU ecosystems along the borders, a synchronised approach taken at regional level would be necessary if significant and lasting results are to be achieved in these areas.

4.3.4. Ideas on opportunities for cooperative work and follow-up

Further transboundary cooperation within the Boreal region on integrated management approaches such as integrated coastal zone management, designating green infrastructure as well as integrated river management might be a very effective approach in achieving both Natura 2000 objectives as well as water management objectives. It could be efficient to exchange best practices for example to set up a learning community and seek for possible solutions for the problems in applying such approaches (e.g. the legal obstacles and conflicting interests).

The European Union (2016) published a starter's guide providing a brief overview of the five EU environmental directives that target the protection and management of Europe's freshwater and marine environments. The document aims to give practitioners working in different thematic fields at the Member State level a basic insight into the key aspects of these Directives. It summarises the main objectives and provisions of each and examines their commonalities and differences,

highlighting, in particular potential synergies that should be foreseen when implementing the Directives. This document might be helpful as a starting point for an integrated approach. In the context of the EU Biodiversity Strategy the Commission has published a communication on green infrastructure (COM(2013) 249 final), which provides an enabling framework for nature-based solutions to conservation and adaptation challenges, including to the benefit of the Natura 2000 network.

4.3.5. Cases and best practices – additional references

There are several LIFE projects in the Boreal region developing and implementing integrated approaches.

Sweden's first integrated project (IP), the LIFE IP Rich Waters, can serve as an example. Eutrophication, barriers to fish migration and environmental pollutants are the most serious environmental problems in the Northern Baltic Sea River Basin District. LIFE IP Rich Waters aims at developing new and better methods to combat these problems in a cost-effective way. The overall goal is to improve the aquatic environment in the Northern Baltic Sea River Basin District. The project addresses five main thematic areas: eutrophication from agriculture, waste water and storm water; eutrophication from internal loading; connectivity; environmental pollutants and water planning.

Another good example is the project “Integrated planning tool to ensure viability of grasslands” ([LIFE Viva Grass](#)) aiming to prevent loss of high nature value grasslands and increase effectiveness of semi-natural grassland management by developing the [Integrating Planning Tool](#) in Estonia, Latvia and Lithuania. The tool, based on an ecosystem services approach, helps to strengthen linkages between social, economic, environmental, agricultural fields and policies in grassland management. Results of the tool can guide in planning and decision-making in sustainable grassland management. The project also demonstrates opportunities for multifunctional use of grasslands’ ecosystem services as basis for sustainable development of rural areas.

Co-management of Lake Peipus with Russia is a good example of successful cooperation on achieving common objectives. An Estonian-Russian Commission for water resources as well as many (mostly EU-funded) actions implemented by NGOs and municipalities deliver on the overall objective of better environmental status of Lake Peipus and secure transfer of policy and management innovation in such related fields as sustainable tourism or blue and green infrastructure and nature-based solutions.

Table 3: Some examples of LIFE projects focussing on integrated management approaches

Project Title	Project Number
Development of an integrated water management and its modern tools in Estonia - strategic choices for future	LIFE17 IPE/EE/000007
LIFE Mires Estonia - Conservation and restoration of Mire Habitats	LIFE14 NAT/EE/000126
LIFE HAPPYRIVER - Restoring the integrity of freshwater habitats in Alam-Pedja Natura 2000 area- bringing the River Laeva back to life	LIFE12 NAT/EE/000860
Integrated planning tool to ensure viability of grasslands	LIFE13 ENV/LT/000189
GrassLIFE - Restoring EU priority grasslands and promoting their multiple use	LIFE16 NAT/LV/000262
LIFE IP Rich Waters - Integrated approach to mobilize resources for resilient ecosystems and rich waters in the Northern Baltic Sea River Basin District	LIFE15 IPE/SE/000015
CoastNet LIFE - Restoring the Baltic coastal habitat networks	LIFE17 NAT/FI/000544
Towards Integrated Management of Freshwater Natura 2000 Sites and Habitats	LIFE14 IPE/FI/000023



Picture 3: Restored Nordic alvar habitat (Habitat 6280) at Kurese (SAC EE0040353)

5. Habitat working groups

There are four habitat working groups, which discussed in previous seminars the status of wetlands, freshwater, grasslands and forests. Some of these working groups have been very active, others were almost dormant. Each group has a chair who coordinated activities. We are grateful that they have now kindly provided the input below to report on what has been done and to propose current challenges and topics for the respective working groups to further discuss during the third Boreal seminar.

5.1. Freshwater habitat working group

Chair (temporary): Ms. Lauma Vizule-Kahovska (note: text prepared by Andris Viesturs Urtāns)

Main problems

The main problem identified by the Freshwater working group is insufficient active expert communication to promote, develop and apply already existing synergies between the Water Framework Directive, Floods Directive and Habitats Directive, for more efficient and effective management of Natura 2000 areas.

Challenges

Experts from all MS confirmed that new approaches and sometimes even new coordination structures and networks are needed to promote and develop already existing synergies of the Water Framework Directive, Floods Directive and Habitats Directive. Since the last Boreal seminar, such an approach has been successfully developed through the Life IP concept. Freshwaters, as open systems, benefit also from projects dealing with grassland, forest and wetland restoration and management.

During the last Boreal seminar the need to remove migration barriers in streams and rivers was generally acknowledged, with many practical ongoing or finished initiatives (Sweden, Estonia). After the Vilnius seminar (2016) Estonia has undertaken large scale project of dam removal in the river Parnu, allowing again fish migration. This river is the biggest historical salmon river in the country. There, the potential to improve salmon populations is double of all other rivers. Projects are supported for removal of more than 10 additional dams in the Parnu river system. This has been by far one of the biggest dam removal events in Europe in 2019, which was the reason for the International seminar of Dam removal "Let it Flow" (Parnu, Estonia 2019) gathering together 112 participants from 23 countries. <https://damremoval.eu/portfolio/sindi-dam-estonia/>

After Swedish experts' introduction on their experiences with hydropower and its impacts on the conservation status of watercourses, it was agreed that the topic is relevant for all Boreal countries. There is a joint wish for a workshop or seminar on hydropower.

Sedimentation processes from agriculture and forestry and their impact on the habitat integrity and aquatic biodiversity was discussed, and it was acknowledged that this previously was not fully recognized as impacting the conservation status of watercourses.

Several important issues, like integrated lake management for biodiversity and water resource quality as well the impact of climate change on the quality of the aquatic biodiversity was touched upon but not dealt with fully, due to time constraints.

Improvements of the common agriculture policy (CAP) are needed to harmonise policies, maintain and improve water quality and thus biodiversity. Goals relating to the improvement of freshwater systems' quality and biodiversity as well as the elaboration and introduction of nature friendly management principles for channelled rivers were endorsed by all participants. As a result "Guidelines for maintaining biodiversity in water courses and drainage ditches and reducing flood risks" " was prepared for Latvia (2018) <https://drive.google.com/file/d/1GwOKxmRYhXvrVzWJaUu-OdG77riwZEke/view> or https://drive.google.com/file/d/1FSuYyMoWZ6Gi_rXaGhnMJiOWRPrQ_VIT/view (in Latvian).

Since 2017 a nature census started covering the whole of Latvia, including Freshwaters, with the aim to decrease knowledge gaps and establish appropriate management and protection activities for the future <https://www.skaitamdabu.gov.lv/public/eng/>

Knowledge gaps

The group recognised several knowledge gaps. First, in some Member States there is still insufficient data on the quality of habitats outside protected areas. There is a need for additional expertise in managing and restoring Freshwater habitats. Lack or inappropriate knowledge on adaptation and mitigation activities to respond to climate change was noted as highly important for all habitats groups.

Table 4 presents topics for follow-up proposed in the Freshwater Habitat Group.

Table 4: Activities for collaboration (co-operation priorities) as discussed among experts during Seminar held in Vilnius 2016

State	FIN	SE	LT	LV	EST
WFD + Flood Dir + HabDir + N2000 conflict/synergy	X	X	X	X	X
Migration barriers	X	X	X	X	X
Workshop organized by Sweden on hydropower and its impact to conservation status	X	X		X	X
Changes in CAP (Common Agriculture Policy)	X	X	X	X	X
Channelized rivers (nature friendly management Guidelines)	X	X	X	X	X
Sedimentation	X	X		X	X
Large wooden debris	X – a lack of debris	X – a lack of debris		X – too much	
Dam removal, redesign of culverts for fish/fauna passages	X	X		X	
Beaver				X	X

Freshwater habitats and Low Hanging Fruit (LHF) approach

The Freshwater WG participants discussed the proposed approach of low hanging fruits (LHF). Those LHF identified by the group are listed as recommendation below:

- Removal of migration barriers – improvement of species migration and river functionality. Already 1800 dams have been removed in Sweden and 90 fish passes improved in Estonia (2016);
- Elaboration and introduction of nature friendly management principles for channelled river maintenance (all Member States);
- Artificial wetlands for nutrient removal (Finland), integrated buffer zone management (Sweden),
- Ecosystem function-based lake coastal zone management (all Member States);
- Promoting synergies with the Water Framework Directive and Flood Directive (all Member States).

Possible questions for the seminar

- What are synergies between the Nature Directives and Water Framework Directive?
- How can we identify or improve funding for management activities?

5.2. Wetlands habitat working group

Chair: Agu Leivits

Main problems

The main problem identified by the wetlands working group is peat mining outside the Natura 2000 sites, which influences the sites itself. Also forest and agriculture activities outside the network affect Natura 2000 habitats. These disturbances can act directly and indirectly. Drainage that influences mire hydrology was identified as the greatest threat. Forestry measures on bog woodlands outside Natura 2000 areas may also represent a threat as site managers cannot directly influence them. Other problems listed were nitrogen deposition, the impact of climate change, insufficient buffer zones, and the abandonment of the traditional use or management of mires, especially rich fens.

Challenges

The challenges faced by Natura 2000 site managers are both at management and policy level. There is non-compliance with certain forestry measures outside Natura 2000 sites that do not take ecosystem services and biodiversity into account. Conservation measures to suppress habitat deterioration are not widely agreed or synchronised. Moreover, they are not known for some habitats, such as rich fens. Habitat 7140 '*Transition mires and quaking bogs*' is often misinterpreted, which leads wrong interpretations of the quality of this habitat.

The currently applied forms of management are generally based on traditional knowledge, which is

not always in accordance with the latest scientific knowledge. New, more effective methods should be explored. Acceptance of conservation measures by local stakeholders is still low. There should be more consultation and discussion with landowners on conservation measures. The large-scale catchment approach requires that is looked beyond the site itself. Prioritisation for restoration funding of sites, species, habitats and conservation actions is lacking in the entire Boreal region.

Finally, there are no links between the Natura 2000 directives and other policies, e.g. climate change and water.

Knowledge gaps

There are several knowledge gaps. First, the impact of climate change, which is especially important for wetland habitats specialists. Furthermore, there is insufficient data on distribution of habitats outside protected areas. Expertise in managing and restoring some habitats is lacking, namely: peatlands, alkaline fens, mesotrophic mires, and rich fens. With respect to alkaline fens, the problem of measuring water level and water and soil chemistry is an issue. More recent is the issue of management of newly created wetlands (novel habitats). More specifically, there is a lack of knowledge on how they develop, how they should be managed, and their effect on biodiversity. Finally, priorities for restoration have not always been established.

Different habitat types require different timescales for effective restoration. Effects might not be seen until 2020 as conservation actions need time to fully realise their effects. Mire restoration does not produce a quick-win result. Restoration prioritisation on biogeographical region scale is absent. Priority habitats are decided only on the national scale and this varies greatly between countries.

Topics for follow-up proposed in the Habitat Group on Wetlands

Forest drainage mapping of existing drained areas in the entire Boreal region is required. Finland has a LIFE project on peatland use, which will map the areas; they can share the outcomes. Swedish ADDMIRE project has mapped the drained systems as well. The Swedish Agriculture University project worked on establishment of no-go zones for drainage (buffer zones) from 2017-2020. Harmonisation of monitoring methods in Sweden will share a methodology for measuring wetness of wetlands from SWOS Horizon 2020 project. Lithuanian and Belarusian knowledge exchange LIFE project's outcomes will be shared with the group. Knowledge exchange by the Alkaline fen expert network continues. There is a need for more cooperation with freshwater experts; also a need for more cooperation between biogeographical regions, Continental region, CEE countries. A study trip is required to see outcomes of restoration, in order to overcome reluctance in stakeholders 2017-2020. Finland will share a methodology on cost effectiveness of restoration of certain habitats. Finland may organise a seminar on setting priorities.

Possible questions for the seminar

- Monitoring effectiveness of restoration;
- Restoration versus species protection.

5.3. Grasslands habitat working group

Chair: Morkvenas Zymantas

Main problems

The main problem with regard to grassland conservation is continuation of the management of formerly extensively managed grasslands habitats. Many grasslands have fallen into disuse and there are not enough instruments mobilised to ensure their long-term conservation. In the context of the new CAP, it is necessary that specific instruments are available and mobilised at national level in support of the maintenance of these valuable habitats.

Challenges

Since the last Natura 2000 biogeographical seminar in 2016, grassland conservation moved forward on different scales: the planning of new CAP implementation instruments, new publications and simulating networking, good practice experiences emerging from practical conservation projects.

The countries of the Boreal region are currently facing preparation of national rural development strategies and planning of new measures under the CAP policy. The CAP is the most significant policy instrument which affects the state of agricultural landscapes, including natural and semi-natural grassland habitats. Planned agri-environmental measures with the CAP may help to maintain or even restore valuable grassland habitats, while other measures, on the contrary, deteriorate the habitats e.g. by turning it into the arable land (e.g. app. 13% of Lithuania's mapped grassland habitats are declared as arable land plots (based on IACS data). Most of these agri-environmental measures are so called "management based" (payments paid for certain activities undertaken), they are most commonly used across the whole EU. As such, they have been criticized, among others, for failing to stronger focus on outcomes and not properly addressing collective landscape scale delivery issues. Another shortcoming is the lack of targeting and overall small uptake of agri-environmental measures. E.g. in Lithuania the uptake of agri-environmental measures in the context of all utilized agricultural area is barely 1%. While applied measures within the mapped grassland habitats of EU importance indicated that 73% of total grassland habitats areas are declared only under direct payments and only 8% of the mapped area participates in the agri-environmental measures (would be good to illustrated also situation in the other Boreal countries). This suggest that improvements are needed to stimulate better uptake of measures by farmers, which demands a better targeting and more effectiveness of agri-environmental measures supporting conservation of grassland habitats.

From Latvia is reported that up-to-date information on grassland management is available since the beginning of 2019 for 46 679 ha of highly valuable grasslands (EU habitats) and 4 130 ha of important grasslands for birds (which do not overlap with the grasslands under the habitats directive). However, there are still 37 289 ha of historically known grasslands which must be reassessed.

Currently, 70% of grassland habitats under the Directives are managed, the largest proportion of them are in fields larger than 10 ha or from one to five ha. 30% of the grassland habitats are unmanaged or remote from rural areas. Some 88% of the unmanaged grasslands parcels is larger than one ha. Additional mechanisms must be developed to improve management of these areas.

According to the current provisional figures (the mapping is still ongoing), 40% EU grassland habitats are located within the Natura 2000 network, which means 60% is outside the Natura 2000 network. So CAP funding is very important for EU grassland habitat management and conservation at state level. The CAP, despite some criticism, has prevented grassland conversion into arable land and forest land.

Topics for follow-up

Countries of the region are currently planning and improving agri-environmental measures for the new financing period, as well as improving the whole framework of rural development programmes according to the newly suggested CAP for the forthcoming new cycle. Improvement of CAP instruments for better grassland conservation can be achieved through better coordination of the Member States environmental authorities and experts, whereby the boreal Natura 2000 biogeographic seminar should contribute as well.

Since the last biogeographic seminar held in Vilnius, a network of grassland conservation experts met several times to share experiences, discuss actual topics and update each other on the progress with regard to the grassland conservation. The network remains functioning through established personal contacts and communication on the social networking group.

The European [Habitat Action Plan](#) for semi-natural dry grasslands (Festuco-Brometalia) (priority habitat 6210) is under preparation by an international team of experts nominated by EU Member States. This habitat has an Unfavourable conservation status and declining trends. Main threats and pressures are: cessation or reduction of extensive grazing, overgrazing in some areas, atmospheric nitrogen deposition in some countries, spread of invasive species, and probably climate change. Key conservation measures proposed are: maintenance: regular management through extensive grazing or mowing (and monitoring the impact of this activity), restoration measures: to recover the area, structure and functions where these parameters are unfavourable; and, to ensure ecological connectivity across the range. The plan is very relevant for the conservation of species rich grasslands, since it addresses the conservation of the habitat type across its EU range (7 biogeographical regions). An almost final draft will be circulated to the Member States in the beginning of October 2019.

In Latvia a methodology on setting favourable reference areas for EU habitats has been developed (leading researcher Ainārs Auniņš). This topic can be relevant in the discussion to exchange experiences.

The EU LIFE+ program contributes greatly to the conservation of grasslands in the Boreal region. Within this program, six projects dealing with grassland conservation were finalised since 2016 and four more

projects are ongoing. Implemented projects demonstrate innovation and good practice examples seeking for the effective and new ways to address grassland conservation. Lithuania has started a new LIFE integrated project in 2018, which deals with complex issues addressing Natura 2000 network improvements. Conservation of grasslands are among the strategic targets of this project. An overview of LIFE projects on grasslands is provided in Annex 3.

Possible questions for the seminar

- How to scale grassland restoration, large areas versus small;
- Grasslands agricultural use and incorporation of effective management measures in the CAP.

5.4. Forests habitat working group

Chair: Kimmo Syrjänen

Main problems

Forest habitat types of Annex I of the Habitats Directive face different problems inside and outside of the Natura 2000 network. In commercial forest landscapes the formation and maintenance of high quality habitat types of Annex I habitats is slow or non-existent. The protection of key biotopes is not sufficient to maintain connectivity of habitat types at the landscape level. This requires measures that support connectivity as well as maintain size and quality of these habitat types outside of conservation area network.

Inside protected areas natural succession can change habitat types into unwanted direction. Despite conservation, natural changes in the structural characters of the tree layer (like formation of coarse woody debris) are slow and also species responses are delayed. Ecological restoration and nature management are needed to improve and maintain the quality of the network for most types of Annex I habitats, inside and outside of Natura 2000 network. This also requires new forms of financial support, control means and guidance. Voluntary forest conservation is one way to increase protection and restoration of forest habitat types outside of Natura 2000 network.

Challenges

What is the role of natural dynamics and succession in the development of forest habitat types inside the Natura 2000 network? In certain forest habitats (such as 9010* and 91D0*) natural succession and disturbance dynamics will enhance the structure and function of the habitat. The structure and function of 9010* and 91D0* have already improved a lot inside Natura 2000 since the establishment of the network. Certain structural characteristics are important for this habitat type and threatened species, such as decaying dead wood. For example, the succession of habitat type 91T0 (Central European lichen Scots pine forests) goes hand in hand with an increasing problem of fast growing

grasses (e.g. like *Calamagrostis epigeios*) that quickly take over after forest clear-cut. These types of successional trends may be enhanced by climate warming and increasing precipitation. There are so far no effective management measures to get effectively rid of this grass.

Although there are common habitat definitions, these are not always interpreted in the same manner in different Member States, which may lead to confusion when reporting for the entire Boreal region. Within countries, and even within protected areas, there are differences in how specialists define and evaluate habitats. There is no broad agreement between experts from different Member States on habitat definitions. Several participants proposed ways to improve understanding, for instance through the development of a more comprehensive EU guidance document giving the best example of each habitat type which could be used as a reference when defining these habitat interpretations.

It is sometimes difficult to evaluate the conservation status of habitat types because sizeable portions of them often lie outside Natura 2000 and there is a lack of data on their structure and functions. It is worthwhile to show the success that has been achieved in the quality and connectivity of habitats within and outside the Natura 2000 network. In many cases development inside the network is positive or stable, but the situation outside is mainly or partly negative. This affects the overall assessment of habitat types, which may be considered unfavourable despite the fact that successful conservation measures are applied inside the Natura 2000 network.

Knowledge gaps

It is often difficult to generalise simple actions/measures that are needed to improve the status of a particular habitat. Conservation measures for a certain habitat may vary among Natura 2000 areas within a country and also between countries. Threats and pressures as well as the possibilities to carry out certain conservation measures can be site and country specific (moreover, assumptions of pressures and needed conservation measures can vary according to country). Some valuable habitats may be mainly inside the Natura 2000 network and already managed/restored, but measurable positive trends take a long time. Also social dimensions of management is important, e.g. controlled burning is socially unacceptable in most Baltic countries.

The potential impact of climate change on the Boreal forest habitat types, and in relation to this the management and designation of Natura 2000 sites, should be better understood. Ideas for shared research and exchange of experience/knowledge between experts should be planned and proposed together.

Topics for follow-up

The relation between different actors (governments, managers, forest managers and landowners) should move towards shared responsibilities, shared knowledge, and clarity about objectives and abilities. The LIFE programme offers opportunities for different actors to develop innovative pilot projects. A holistic approach for the implementation of Natura 2000 is needed to achieve good results

together. The relation between nature inside and outside Natura 2000 areas should not be forgotten in this.

Differences in habitat and FCS (and FRV) definitions/interpretations between the Member States are an important issue. These should be better harmonised, or it should at least be possible to 'translate' them to ensure a better biogeographical overview. This harmonisation should address factors such as general quality, structures and functions, distribution and range.

Flexibility within Natura 2000 management to be able to react to external developments is considered an important aspect. Management approaches should be linked better to the way 'nature works' in natural succession and be flexible to accommodate changes.

Several habitats are threatened by factors related to climate change, making it difficult to address them. Climate warming will affect the climatic and vegetation zones and will thus change the whole Natura 2000 network in an irreversible way during coming decades. Thus the whole network should be evaluated in the context of climate change adaptation and mitigation.

Possible questions for the seminar

- How to restore forest connectivity, considering the 'core areas' within the Natura 2000 network, and surrounding areas which are often intensively managed by private land owners?
- How to deal with species protection, transboundary, on private and state land?

Useful literature

- Angelstam, P., Grodzynski, M., Andersson, K., Axelsson, R., Elbakidze, M., Khoroshev, A., Kruhlov, I. and Naumov, V. (2013) 'Measurement, Collaborative Learning and Research for Sustainable Use of Ecosystem Services: Landscape Concepts and Europe as Laboratory', *Ambio*, 42(2), 129-145.
- Axelsson, R. and Angelstam, P. (2011) 'Uneven-aged forest management in boreal Sweden: local forestry stakeholders' perceptions of different sustainability dimensions', *Forestry*, 84(5), 567-579.
- Blicharska, M., Orlikowska, E.H., Roberge, J.-M. and Grodzinska-Jurczak, M. (2016) 'Contribution of social science to large scale biodiversity conservation: A review of research about the Natura 2000 network', *Biological Conservation*, 199, 110-122, available: <http://dx.doi.org/https://doi.org/10.1016/j.biocon.2016.05.007>.
- Di Minin, E., Slotow, R., Hunter, L.T.B., Pouzols, F.M., Toivonen, T., Verburg, P.H., Leader-Williams, L., Petracca, L. and A. Moilanen. 2016. Global priorities for national carnivore conservation under land use change. *Scientific reports*, 6: 23814.
- EEA (2015). State of Nature. Results from reporting under the nature directives 2007–2012. European Environment Agency. EEA Technical report No 2/2015.
- European Union (2016). A Starter's Guide. Overview on the main provisions of the Water Framework Directive, the Marine Strategy Framework Directive, the Birds and Habitats Directives, and the Floods Directive: similarities and differences.
- Hermoso, V., Villero, D., Clavero, M. and Brotons, L. (2018) 'Spatial prioritisation of EU's LIFE-Nature programme to strengthen the conservation impact of Natura 2000', *Journal of Applied Ecology*, 55(4), 1575-1582.
- Hiedanpää, J. (2002) 'European-wide conservation versus local well-being: the reception of the Natura 2000 Reserve Network in Karvia, SW-Finland', *Landscape and Urban Planning*, 61(2-4), 113-123.
- Hiedanpää, J. (2005) 'The edges of conflict and consensus: a case for creativity in regional forest policy in Southwest Finland', *Ecological Economics*, 55(4), 485-498.
- IPBES (2018) Regional assessment report on biodiversity and ecosystem services for Europe and Central Asia. Background document. Available: <https://www.ipbes.net/assessment-reports/eca> [accessed 1 May 2019].
- Janssen, J.A.M., Rodwell, J.S., García Criado, M., Gubbay, S., Haynes, T., Nieto, A., N. Sanders, F., Landucci, J., Loidi, A., Ssymank, T., Tahvanainen, M., Valderrabano, A., Acosta, M., Aronsson, G., Arts, F., Attorre, E., Bergmeier, R.-J. Bijlsma, F. Bioret, C., Biță-Nicolae, I. Biurrun, M. Calix, J., Capelo, A., Čarni, M., Chytrý, J., Dengler, P., Dimopoulos, F., Essl, H., Gardfjell, D., Gigante, G., Giusso del Galdo, M. Hájek, F. Jansen, J. Jansen, J. Kapfer, A. Mickolajczak, J.A. Molina, Z. Molnár, D. Paternoster, A. Piernik, B. Poulin, B. Renaux, J.H.J. Schaminée, K. Šumberová, H. Toivonen, T. Tonteri, I. Tsiripidis, Tzonev, R. and Valachovič, M. (2016) European Red List of Habitats. Part 2, Terrestrial and freshwater habitats, Luxembourg: DG-Environment.
- Jonsson, B.G., Svensson, J., Mikusiński, G., Manton, M. and Angelstam, P. (2019) 'European Union's Last Intact Forest Landscapes are at A Value Chain Crossroad between Multiple Use and Intensified Wood Production', *Forests*, 10(7), 564.
- Keulartz, J., & Leistra, G. (2008). Legitimacy in European nature conservation policy: case studies in multilevel governance. [S.l.]: Springer.
- Kukkala, A., Santangeli, A., Butchart, S. H. M., Maiorano, L., Ramirez, I., Burfield, I. J. & Moilanen, A. 2016. Coverage of vertebrate species distributions by Important Bird and Biodiversity Areas and Special Protection Areas in the European Union. *Biological Conservation* 202: 1-9. doi.org/10.1016/j.biocon.2016.08.010
- Kunseler, Eva, Lisa Verwoerd, Rosalie van Dam; with contributions of Pim Klaassen, Irini Salverda, Barbara Regeer, Rob Folkert. (in prep). Lerend vermogen van provincies over vernieuwende strategieën van natuurbeleid
- Leronymidou, C., Pople, R., Burfield, I. and Ramirez, I. (2015) 'The European Red List of Birds 2015', *Bird Census News*, 28(1), 3-19.

- Nila, U.S, Beierkuhnlein, C., Jaeschke, A., Hoffmann, S. & Hossain, L. (2019). Predicting the effectiveness of protected areas of Natura 2000 under climate change. *Ecological Processes*, 8:13. <https://doi.org/10.1186/s13717-019-0168-6>
- Paloniemi, R., Apostolopoulou, E., Cent, J., Bormpoudakis, D., Scott, A., Grodzińska-Jurczak, M., Tzanopoulos, J., Koivulehto, M., Pietrzyk-Kaszyńska, A. and Pantis, J.D. (2015). Public participation and environmental justice in biodiversity governance in Finland, Greece, Poland and the UK, *Environmental Policy and Governance*, 25(5), 330-342.
- Rauschmayer, F., Van den Hove, S., & Koetz, T. (2009). Participation in EU biodiversity governance: how far beyond rhetoric? *Environment and Planning C-Government and Policy*, 27(1), 42-58. doi: 10.1068/c0703j
- Reed, M. S. (2008). Stakeholder participation for environmental management: a literature review. *Biological Conservation*, 141(10), 2417-2431.
- Secretariat of the Convention on Biological Diversity (2004) *The Ecosystem Approach, (CBD Guidelines)* Montreal: Secretariat of the Convention on Biological Diversity 50 p.
- Stobbelaar, D.J., Janssen, J. and van der Heide, C. (2018) *Geïntegreerd Natuur-en Landschapsbeheer: Succesfactoren voor het Ontwikkelen van Natuur en Landschap*, Westerlaan Publisher.
- Stoll-Kleemann, S., & Welp, M. (2006). *Stakeholder dialogues in natural resources management*: Springer.
- Stucki, V. and M. Smith (2011). Integrated approaches to natural resources management in practice: the catalyzing role of National Adaptation Programmes for Action. *Ambio* 40(4): 351-360.
- Sundseth, K. (2015) *Working towards creating synergies between the WFD, MSFD and the Habitats and Birds Directives: selected case studies*. Ecosystems LTD /N2K GROUP – October 2015.
- Suškevičs, M. and Külvik, M. (2007) 'Assessing the effects of public participation during the designation of Natura 2000 areas in the Otepää Nature Park area, Estonia', *Knowledge, learning and legitimacy in multi-level participatory ecological network governance*, 142.
- Suškevičs, M. and Külvik, M. (2011) 'The Role of information, knowledge, and acceptance during landowner participation in the Natura 2000 designations: the cases of Otepää and Konnumaa, Estonia', in *The European landscape convention*, Springer, 275-294.
- Vanhanen, H., Jonsson, R., Gerasimov, Y., Krankina, O. and Messieur, C. (2012) 'Making boreal forests work for people and nature'.
- Van der Sluis, T., Bouwma, I. and Condé, S. (2018) *Report on a prioritised list of habitats and emblematic species in the framework of Action 12 of the Nature Action Plan*, Paris, France: ETC/BD.
- Van der Sluis, T., Foppen, R., Gillings, S., Groen, T., Henkens, R., Hennekens, S., Huskens, K., Noble, D., Ottburg, F., Santini, L., Sierdsema, H., van Kleunen, A., Schaminee, J., van Swaay, C., Toxopeus, B., Wallis de Vries, M. and Jones-Walters, L. (2016) *How much Biodiversity is in Natura 2000?; The "Umbrella Effect" of the European Natura 2000 protected area network.*, 2730B, Wageningen.
- Verhagen, W., Kukkala, A. S., Moilanen, A., van Teeffelen, A. J. A. & Verburg, P. H. 2017. Use of demand for and spatial flow of ecosystem services to identify priority areas. *Conservation Biology* 31: 860-871. DOI: 10.1111/cobi.12872
- Virkkala, R., Heikkinen, R.K., Kuusela, S., Leikola, N. and Pöyry, J. (2019) 'Significance of Protected Area Network in Preserving Biodiversity in a Changing Northern European Climate' in *Handbook of Climate Change and Biodiversity* Springer, 377-390.
- Virkkala, R., Risto K., Heikkinen, K. R., Kuusela, S., Leikola, N., Pöyry, J. (2019) .Significance of Protected Area Network in Preserving Biodiversity in a Changing Northern European Climate. In: [Handbook of Climate Change and Biodiversity](#), pp 377-390.
- Young, J. C., Jordan, A., Searle, K. R., Butler, A., Chapman, D. S., Simmons, P., & Watt, A. D. (2013). Does stakeholder involvement really benefit biodiversity conservation? *Biological Conservation*, 158, 359-370. doi: 10.1016/j.biocon.2012.08.018

ANNEXES

Annex 1: Boreal biogeographical roadmap

Second Boreal Natura 2000 Seminar took place in Vilnius, Lithuania from 5.-7. October 2016. A significant range of subjects for future development and concrete collaboration were identified during the course of the working groups' discussions. Current document outlines the events that has been arranged in concerns with the follow-up proposed in Second Boreal Seminar. The Roadmap covers the period between previous Boreal Seminar and the next upcoming Third Boreal Natura 2000 Seminar in autumn 2019.

Subjects for follow-up proposed in more than one working group, or not linked to a specific working group:

What?	When?	Where?
<p>A seminar on <i>Low Hanging Fruits</i>:</p> <ul style="list-style-type: none"> The Zonation Software from Santtu Kareksela is explained to other MS in a workshop; Possibly leading to LIFE projects; <p>Habitats and their status:</p> <ul style="list-style-type: none"> Ensuring an equal understanding of habitats and their status; Sharing guidance via the Platform about projects, financial resources and everything that can be useful for other Member States. 	<p>Topic of the Third Boreal biogeographical seminar – “Priorities for action: How to improve prioritisation and objectives setting for restoration and conservation in the Boreal region, including through the PAF and other planning tools?” (14.-16.10.2019).</p> <p>Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017):</p> <ul style="list-style-type: none"> Natura 2000 Biogeographic Process Boreal Region meeting; Workshop “Low Hanging Fruit methodology”. 	<p>Tallinn, Estonia</p> <p>Espoo, Finland</p>
<p>Ways to improve coordination and feedback from Boreal MS representatives in formal EC meeting groups:</p> <ul style="list-style-type: none"> Key role - the Boreal Natura 2000 Biogeographical Process Steering Committee; To enhance the ecological effectiveness of collaboration approaches and to investigate alternative funding mechanisms to support these approaches; Training for experts to deal with the political and financial aspects of their work; Future Boreal coordination plans to discuss ways to share responsibilities; Update the members of the Boreal Working Groups and make sure that they spread information to all relevant actors in their MS and update the Boreal Roadmap and put this on the Natura 2000 Platform. 	<p>Eurosite Annual Meeting: Improving natural sites – join forces and prioritise your conservation actions (25.-27.09.2017):</p> <ul style="list-style-type: none"> Natura 2000 Biogeographical Process (Boreal region) Thematic Networking Event. <p>9th Meeting of the Boreal Steering Committee (04.05.2017).</p>	<p>Espoo, Finland</p> <p>Brussels, Belgium</p>
<ul style="list-style-type: none"> Exchange of experience/knowledge between experts about the effects of Climate Change, including research outcomes on this topic. 	<p>Topic of the Third Boreal biogeographical seminar – “Natura 2000 and climate change: How to reconcile nature conservation and climate change in the integrated management of Natura 2000 sites?” (14.-16.10.2019).</p> <p>9th Meeting of the Boreal Steering Committee (04.05.2017).</p>	<p>Tallinn, Estonia</p> <p>Brussels, Belgium</p>
<ul style="list-style-type: none"> Follow-up event on Large Carnivore Management 	<p>Ministerial Environmental Conference on “Large Carnivore Management” (06.-07.06.2019) .</p>	<p>Bucharest, Romania</p>

	Networking event “Living together” on Large Carnivore Management (12.10.-14.10.2017).	Prealpi Giulie Natural Park, Italy
--	---	------------------------------------

Subjects for follow-up proposed in the thematic group on 'Integrated management approaches to Natura 2000':

What?	When?	Where?
<ul style="list-style-type: none"> An inventory of best and worst practices and examples. A thematic event on integrated management, including relevant stakeholders. Further discussion on integrated management, to promote its understanding. 	Topic of the Third Boreal biogeographical seminar – „Stakeholder involvement: How to develop communication and stakeholder engagement in Natura 2000, targeting in particular private land owners and industries in the forestry sector“ (14.-16.10.2019).	Tallinn, Estonia
	Second HELCOM Marine Protected Areas Workshop (09.-12.09.2019).	Vaasa, Finland
	Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017): <ul style="list-style-type: none"> Natura 2000 Biogeographic Process Boreal Region meeting; Workshop “Low Hanging Fruit methodology”. 	Espoo, Finland
	9th Meeting of the Boreal Steering Committee (04.05.2017).	Brussels, Belgium

Subjects for follow-up proposed in the thematic group on 'Approaches to setting restoration priorities'

What?	When?	Where?
Finland will organise a seminar on setting priorities (2017, again 2019) <ul style="list-style-type: none"> A region-wide nature inventory of habitats and sites to restore. Decide on species and habitats which would help maximise long-term goals, balance between trade-offs and benefits. Find trade-offs and benefits between EU level goals and Member States’ goals. Performing a prioritising exercise using spatial prioritisation tools such as Zonation. Calibration of different methods of inventory, different approaches towards various habitats and species is needed. Collect data at Member State level which would be made available on a single online platform (use EU funding, e.g. Interreg). 	Topic of the Third Boreal biogeographical seminar – “Priorities for action: How to improve prioritisation and objectives setting for restoration and conservation in the Boreal region, including through the PAF and other planning tools?“ (14.-16.10.2019)	Tallinn, Estonia
	Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017): <ul style="list-style-type: none"> Natura 2000 Biogeographic Process Boreal Region meeting; Workshop “Low Hanging Fruit methodology”. 	Espoo, Finland
Use and activate volunteers.	Participation approach will be involved in the Third Boreal biogeographical seminar - „Stakeholder involvement: How to develop communication and stakeholder engagement in Natura 2000, targeting in particular private land owners and industries in the forestry sector“ (14.-16.10.2019)	Tallinn, Estonia

Subjects for follow-up proposed in the thematic group on 'Communication and stakeholder engagement'

What?	When?	Where?
<ul style="list-style-type: none"> Ambassadors in stakeholder groups, as well as professional communicators within stakeholder groups are needed. Engage stakeholders through co-design of the process (common ownership of the process), communication should not be based only on research results, but also on stakeholder values and needs. Development of more knowledge on the issue is needed. 	<p>Topic of the Third Boreal biogeographical seminar – „Stakeholder involvement: How to develop communication and stakeholder engagement in Natura 2000, targeting in particular private land owners and industries in the forestry sector“ (14.-16.10.2019).</p> <p>Second HELCOM Marine Protected Areas Workshop (09.-12.09.2019).</p> <p>Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017):</p> <ul style="list-style-type: none"> Natura 2000 Biogeographic Process Boreal Region meeting. <p>9th Meeting of the Boreal Steering Committee (04.05.2017).</p>	<p>Tallinn, Estonia</p> <p>Vaasa, Finland Espoo, Finland</p> <p>Brussels, Belgium</p>

Subjects for follow-up proposed in the thematic group on 'Setting conservation objectives'

What?	When?	Where?
<ul style="list-style-type: none"> Results from within Natura 2000 areas should be compared with what happens outside Natura 2000, this will provide data that shows the positive developments within Natura 2000 regions. A workshop on differences in FRV's between Member States and how to remove them. Habitat definitions need to be harmonised within a framework of factors such as quality, size, geography, etc. Then experts can understand each other better and make better comparisons. Managers should show the conflicts between CAP and biodiversity, especially where there is evidence of "capital destruction", EC funds being spent in a conflicting manner. 	<p>Topic of the Third Boreal biogeographical seminar - „Priorities for action: How to improve prioritisation and objectives setting for restoration and conservation in the Boreal region, including through the PAF and other planning tools?“ (14.-16.10.2019).</p> <p>A workshop was carried out during the Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017):</p> <ul style="list-style-type: none"> Natura 2000 Biogeographic Process Boreal Region meeting; Workshop "Low Hanging Fruit methodology". 	<p>Tallinn, Estonia</p> <p>Espoo, Finland</p>

Subjects for follow-up proposed in the Habitat Group on Freshwater

What?	When?	Where?
<ul style="list-style-type: none"> Removal of migration barriers – improvement of species migration and river functionality. MS are on the right track, but even more can be done. Elaboration and introduction of nature friendly management principles for channelized river maintenance. Artificial wetlands for nutrient removal (Finland), integrated buffer zone management (Sweden), Guidelines for channelized river maintenance in progress in Latvia. Ecosystem functionality based lake coastal zone management should be applied. New approaches and sometimes new coordination structures and networks are needed to promote and develop existing synergies of the WFD, Floods Directive and 	<p>The Third Boreal biogeographical seminar (14.-16.10.2019):</p> <ul style="list-style-type: none"> A separate Habitat Working Group – discussion of the outcomes, case studies, LIFEs. <p>Boreal freshwater catchment field trip (03.-04.10.2018).</p>	<p>Tallinn, Estonia</p> <p>Helsinki, Finland</p>

<p>Habitat Directives. All participants noted that improvements in the Common Agriculture Policy (CAP) are needed to balance different policy segments, to maintain and improve water quality and biodiversity.</p> <ul style="list-style-type: none"> • Workshop organised by Sweden on hydropower and its impact on conservation status. 		
---	--	--

Subjects for follow-up proposed in the Habitat Group on Wetlands

What?	When?	Where?
<p>Forest drainage:</p> <ul style="list-style-type: none"> • Mapping existing drainage systems in entire Boreal region: <ul style="list-style-type: none"> ✓ Finland has a LIFE project on peatland use, which will map the areas; they can share the outcomes; ✓ Swedish ADDMIRE project has mapped the drainage systems; ✓ Swedish Agriculture University Project; • Establishment of no-go zones for drainage (buffer zones). <p>Harmonisation of monitoring methods:</p> <ul style="list-style-type: none"> • Sweden will share methodology for measuring wetness of wetlands from SWOS Horizon 2020 project; • Lithuanian and Belarusian knowledge exchange LIFE project's outcomes will be shared with the group. • Seminar on harmonising collection of data for Art. 17. <p>Knowledge exchange:</p> <ul style="list-style-type: none"> • Alkaline fen expert network continues; • Need for more cooperation with freshwater experts; • Need for more cooperation between biogeographical regions, Continental region, CEE countries; • Study trip to see outcomes of restoration, in order to overcome reluctance in stakeholders. <p>Prioritisation of restoration:</p> <ul style="list-style-type: none"> • Finland will share methodology on cost effectiveness of restoration of certain habitats; Finland to organise a seminar on setting priorities. 	<p>The Third Boreal biogeographical seminar (14.-16.10.2019):</p> <ul style="list-style-type: none"> • A separate Habitat Working Group – discussion of the outcomes, case studies, LIFEs. <p>Boreal freshwater catchment field trip (03.-04.10.2018).</p> <p>Eurosite annual meeting: Improving natural sites – join forces and prioritise your conservation actions (25.09.-27.09.2017):</p> <ul style="list-style-type: none"> • Natura 2000 Biogeographic Process Boreal Region meeting; • Workshop “Low Hanging Fruit methodology”. 	<p>Tallinn, Estonia</p> <p>Helsinki, Finland</p> <p>Espoo, Finland</p>

Subjects for follow-up proposed in the Habitat Group on Forests

What?	When?	Where?
<ul style="list-style-type: none"> • Workshop on controlled forest burning. • Creation of management tools to get rid of fast growing grasses need to be developed and/or communicated to the forestry sector. • Understanding and interpretation of habitats should be harmonised. • Show the success that has been achieved in the quality and connectivity of habitats within and outside the Natura 2000 network. 	<p>The Third Boreal biogeographical seminar (14.-16.10.2019):</p> <ul style="list-style-type: none"> • A separate Habitat Working Group – discussion of the outcomes, case studies, LIFEs. <p>Workshop: best practices and challenges in restoration burning (25.-27.04.2017)</p>	<p>Tallinn, Estonia</p> <p>Lammi, Finland</p>

<ul style="list-style-type: none"> • All involved actors (policymakers, managers and landowners) should work together even though they might have different objectives. • Data on Natura 2000 should be available and communicated towards private forest owners. • Flexibility within Natura 2000 management to be able to react to external developments is considered an important aspect. 		
--	--	--

Subjects for follow-up proposed in the Habitat Group on Grasslands

What?	When?	Where?
<ul style="list-style-type: none"> • Eurasian Grassland Conference 2019: • Rules and subsidies to stimulate proper use of grassland are welcome but Member States themselves have to be willing to apply all available schemes of the RD programme (i.e. Lithuania is not using "non profit investments" subscheme). • Cooperation and discussion on how to manage the valuable grasslands in hardly accessible places: which programme is supporting building the needed infrastructure? • Information sharing and learning about measures applied within different Boreal MSs to address rural depopulation and use of agricultural development schemes • - particularly of benefit to Boreal grasslands, for example, Estonia is supporting the economic viability of small holdings, using approaches which may be of benefit to Lithuania, which is encountering severe rural depopulation issues. • The cooperation between agricultural and environment ministries has to be improved, especially the common understanding of goals enabling the good use of all financial resources. • Negative cases in relation to reporting on grasslands should be shared. 	<p>The Third Boreal biogeographical seminar (14.-16.10.2019):</p> <ul style="list-style-type: none"> • A separate Habitat Working Group – discussion of the outcomes, case studies, LIFEs. <p>14th Eurasian Grassland Conference “semi-natural grasslands across borders” (04.-11.07.2017)</p> <p>LIFE Viva Grass (June 2014 to April 2019) https://vivagrass.eu/category/pasakumi/</p> <ul style="list-style-type: none"> • Cooperation events. 	<p>Tallinn, Estonia</p> <p>Riga, Latvia</p> <p>The Baltic States</p>

Annex 2: List of follow-up and networking events

Wetlands group - Roadmap 2017 – 2019

Issue	Actions done
Forest drainage	Catchment approach FRESHABIT IP project (study trip in Finland) Restoration projects in natura 2000 areas (all countries)
Harmonization of monitoring methods	Hydrology LIFE workshop “Remotely sensed indicators for peatland restoration success” 2019 (seminar in Finland) SWOS Horizon 2020 project (test sites in Sweden, Estonia, Lithuania test) report
Knowledge exchange	Seminars, workshops, study trips, guidelines Alkaline fen expert network keeps ongoing (seminar + Facebook group communication) Communication between boreal MS about reporting art 17
Prioritisation of restoration	No special actions

Knowledge exchange (seminars, workshops, study trips, guidelines) 2017-2019

2017

International Conference “**Conservation and Management of Wetland Habitats**” 11-12.07.2017 Riga (Latvia). <http://www.mitraji.lv/conference-on-conservation-and-management-of-wetland-habitats-july-11-12-2017/?lang=en>

NorBalWet workshop: **The ecosystem services of the Nordis and Baltic wetlands** in Liminganlahti 18.-20.9.2017 (Finland). <https://www.norbalwet.org/news-and-events/ecosystem-services-of-wetlands-are-evaluated/>

NorBalWet **Peatlands- climate regulation and biodiversity video and the new language versions**. Translations to Estonian, Finnish, Swedish and Chinese languages. <https://www.norbalwet.org/news-and-events/peatlands-climate-regulation-and-biodiversity-video-and-the-new-language-versions/>

Priede A. (ed.) 2017. **Protected Habitat Management Guidelines for Latvia. Volume 4. Mires and springs**. Nature Conservation Agency, Sigulda
https://www.daba.gov.lv/upload/File/Publikacijas_b_vadlinijas/Hab_Manage_Guidelines_2017_4_Mires_Springs.pdf

2018

Nordic alkaline fen seminar 2.07-4.07. 2018 in Norway - follow-up to seminars in Sweden (2015), Finland (2015) and Estonia (2016).

LIFE Platform meeting “Volunteering for nature conservation” 19-21.09.2018 Tartu (Estonia). Including full day of voluntary demonstration work in Soosaare mire - building dams in a mire by volunteers. https://soo.elfond.ee/life_platvorm_meeting2018/

FRESHABIT boreal freshwater catchment field trip. 3-4.10.2018 in Finland. https://ec.europa.eu/environment/nature/natura2000/platform/events/boreal_freshwater_catchment_field_trip_en.htm

2019

Satellite-based Wetland Observation Service (SWOS) report “Enhanced wetland monitoring, assessment and indicators to support European and global environmental policy”

https://www.swos-service.eu/wp-content/uploads/2019/03/SWOS_Report_web.pdf Demonstration sites in Sweden, Estonia and Lithuania (<https://www.swos-service.eu/demonstration/wetland-sites/>)

Hydrology Life workshop “Remotely sensed indicators for peatland restoration success” on developing remote sensing tools for monitoring effects of peatland restoration. 23-25. 09.2019, Oulu, Finland. The meeting is part of the Natura 2000 Biogeographical Process enhancing the implementation, management and monitoring of Natura 2000. http://www.metsa.fi/documents/10739/13849743/Remote+sensing_workshop2019_program_2019_0923.docx/3ce07437-0143-48ce-b0d2-d7bb7d6001d7

Wetland habitat conservations and restoration projects in boreal region 2017-2019

Hydrology LIFE - Restoring the hydrological integrity of wetland habitats in Finland (LIFE16 NAT/FI/000583) 2017- 2023 (**Finland**). Target habitat types: 7110, 7140, 7160, 7230, 7310, 91D0; <http://www.metsa.fi/fi/web/en/hydrologylife;>

FRESHABIT - Towards integrated management of freshwater Nature 2000 sites and habitats (LIFE14 IPE/FI/000023) 2026-2022 (**Finland**). Target habitat types: retain water in catchment areas and to

restore natural hydrological regime of drained peatlands and former peat extraction areas. Mire landscape buffers for mire habitats (7110, 7140, 7160, 7230, 7310, 91D0).

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=5437; <http://www.metsa.fi/web/en/freshabit>; <http://www.metsa.fi/web/en/freshabit/water-protection-in-catchment-areas>

LIFE Peat Restore - Reduction of CO2 emissions by restoring degraded peatlands in Northern European Lowland (LIFE15 CCM/DE/000138) 2016-2021 (**Latvia, Lithuania, Estonia**). Theme: Climate change Mitigation - Carbon sequestration and GHG reduction. Target habitat types: 7110, 7140, 7160, 7230, 91D0.

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=5686

LIFE REstore - Sustainable and responsible management and re-use of degraded peatlands in Latvia

(LIFE14 CCM/LV/001103) 2015-2019 (**Latvia**) Theme: Climate change Mitigation - Carbon sequestration and GHG reduction. Target habitat types: degraded peatland areas http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=5255; <http://restore.daba.gov.lv/>

LIFE_Wetlands - Conservation and Management of Priority Wetland Habitats in Latvia (LIFE13 NAT/LV/000578) 2013-2018 (**Latvia**). Target habitat types: : 7110, 7120, 7140, 7150, 7160, 7220, 91D0. http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=4993; <http://www.mitraji.lv/>

HYDROPLAN - Restoring the hydrological regime of the Kemer National Park (LIFE10 NAT/LV/000160) 2011- 2019 (**Latvia**). Target habitat types: 7110, 7120, 91D0.

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=4073; <http://hydroplan.daba.gov.lv/public/>

WETLIFE 2 - Restoration of proper hydrological conditions in Amalva and Kamanos bogs (LIFE13 NAT/LT/000084) 2014-2019 (**Lithuania**). Target habitat types: 7110, 7120, 7140, 91D0.

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=5097; <http://www.wetlife2.gpf.lt/>

LIFE Mires Estonia - Conservation and restoration of Mire Habitats (LIFE14 NAT/EE/000126) 2015 – 2020 (Estonia). Target habitat types: 7110, 7140, 7230, 91D0. http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_pr oj_id=5318; <https://soo.elfond.ee/en/projektist/ulevaade/>

Restoration of mire habitats in Estonia (Implementation of the action plan for protected mire habitat). Implemented by State Forest Centre and supported by Cohesion Fund 2014-2020. (**Estonia**) <https://www.rmk.ee/organisatsioon/el-fondid-1/uhtekuuluvusfond/soode-seisundi-parandamine>

Restoration of drained, depleted and abandoned peatlands. Implemented by State Forest Centre and supported by Cohesion Fund 2016-2020. (**Estonia**). <https://rmk.ee/organisatsioon/el-fondid-1/uhtekuuluvusfond/kuivendatud-ammendatud-ja-huljatud-turbaalade-korrastamine>

Annex 3: LIFE projects information

Some highlights of the completed and ongoing Boreal region's LIFE+ program projects for grasslands are listed below.

The project LIFE to alvars (LIFE13 NAT/EE/000082) besides good practices in conservation of alvar habitats in Estonia, was also chosen as Natura 2000 award winner in the category of socio-economic benefits category. The project gained a definite good practice to involve local communities in alvar conservation, improving marketing and organising high added value products, which as a whole contributes to the self-sustaining and community engaging grassland conservation model.

The project LIFE Vivagrass (LIFE13 ENV/LT/000189) delivers support tool for decision making and planning sustainable use and management of grasslands. It enables integration of grassland ecosystem services into planning and decision making by linking biophysical grassland data with expert estimates of the ecosystem services as well as socio-economic context. The tool has proven to be a good source in strategic planning, e.g. planning of green network in Estonia, setting conservation priorities in targeted Lithuanian protected areas or advising special planning processes in Latvia's municipalities assessing supply and trade-offs of grassland ecosystem services. The tool can be accessed online following the link: <https://vivagrass.eu/integrated-planning/integrated-planning-tool/>

The project GrassLIFE (LIFE16 NAT/LV/000262) is performing restoration 1320 ha of grassland habitat in Latvia involving innovative approaches and testing new methods. One of the project's innovation is mobile grazing units (cattle herds), which are deployed in less accessible areas, where are no other management possibilities. The animals within "mobile grazing units" graze targeted area contribute to the habitat restoration/maintenance. The project has a strong socio-economic component, planning to promote higher added value products from grasslands.

The project LIFE MagniDucatusAcrola (LIFE15 NAT/LT/001024) acting in Lithuania and Belarus (project area more than 20 000 ha) primarily targeted to the conservation of globally threatened Aquatic warbler, however is closely related to grassland conservation. One of the project's activities is setting up a late-cut biomass processing facility, which transforms collected grass biomass into pellets offered mainly as bedding material for horses and cattle. The product's marketing strategy is closely linked with conservation activities and promotion of green marketing will be a good show case of creating added value to the grassland products.

The strategic project Nat-Programme (LIFE11 NAT/LV/000371) focused on preparation of Priority Action Framework (PAF) for Natura 2000 and performed concrete conservation measures. One of the deliverables of this project has key contribution for the grassland habitat conservation. The project prepared and published a comprehensive handbook "Protected habitat management guidelines for Latvia: Semi-natural grasslands", in a series handbook targeted for all habitat groups. This handbook is

an excellent source for scientists and practitioners in Boreal region designing and implementing grassland conservation activities.

Lithuania has started its first integrated project focused on nature conservation. The project LIFE Naturalit (LIFE16 IPE/LT/016) from habitats groups perspective is mostly focused on forest and grassland habitats. The project is working on improving management-based agri-environmental schemes as well as designing pilots for the result-based payment system. Outcome based agri-environmental schemes will be tested in Lithuania's grasslands and following its results, will be proposed to be introduced into the RDP package of the measures. The project is also working to improve administrative framework of agri-environmental measures involving innovative approach in surveillance and integrating protected areas administrations in the administrative process. Special activities will be focused to stimulate animal grazing in the protected areas as well as promoting business & biodiversity cases.