







Niedersächsisches Ministerium für Umwelt, Energie und Klimaschut



Natura 2000 Seminar for the Atlantic Region



4 - 6 September 2023 Hannover, Germany

Background Document 4th Atlantic Biogeographical seminar













Background document for the Fourth Atlantic Seminar

Prepared by	WENR, NatureBureau					
Authors	Richard White (NatureBureau), Theo van der Sluis , Lian Grabijn, Rene Henkens, Irene Bouwma (WENR), Jan Sliva (ELMEN) with contributions of Erik Kleyheeg (Sovon) and Sylvia Barova (CINEA)					
Version	V4					
Date	V4, 20 August 2023					
Reviewed by	Frank Vassen (European Commission), Paul Goriup (NatureBureau)					

Acknowledgements

We would like to express our great appreciation to Frank Vassen from the European Commission for his advice on the scope and thematic clarifications in the document, as well as input from Sylvia Barova (CINEA) and Jan Sliva (ELMEN).

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, 2023

Photo's cover: IP-Sandlandschaften

Reproduction is authorised provided the source is acknowledged.

Event: For more information on this seminar, see the Natura 2000 Communication Wiki:

Atlantic region (biogeoprocess.net)

Scan the QR code for the latest documentation



Background document for the Fourth Atlantic Seminar

Contents

1.	Intr	roduc	tion to the Natura 2000 biogeographical process and the Natura 2000 seminars	1
	1.1.	Biod	diversity Strategy 2030	1
	1.2.	Plec	lge and review	2
	1.3.	Biog	geographical Process and Natura 2000 seminars	2
2.	The	e Atla	ntic region	4
	2.1.	The	biogeographical process in the Atlantic region	4
	2.2.	Curi	rent conservation status	5
	2.2	.1.	Habitats	5
	2.2	.2.	Species	6
	2.3.	Curi	rent Protected Area coverage	7
	2.4.	Stat	us of pledges in the Atlantic region	10
	2.4	.1.	Preliminary analysis of the protected area pledge	10
	2.4	.2.	Preliminary analysis of the restoration pledge	10
3.	The	emes	selected for the fourth Natura 2000 seminar for the Atlantic region	12
	3.1.	The	me 1: Protection and conservation of meadow birds	12
	3.1	.1.	Context	12
	3.1	.2.	Objectives of the thematic session	. 14
	3.1	.3.	Common issues, challenges, and examples for national approaches	14
	3.1	.4.	Ideas on opportunities for cooperative work and follow-up	16
	3.1	.5.	Cases and best practices – additional references	17
	3.2.	The	me 2: Measures for peatland restoration in view of climate change	. 19
	3.2	.1.	Context	. 19
	3.2	.2.	Objectives of the thematic session	20
	3.2	.3.	Common issues, challenges, and approaches	21
	3.2	.4.	Ideas on opportunities for cooperative work and follow-up	23
	3.2	.5.	Cases and best practices – additional references	23

Background document for the Fourth Atlantic Seminar

<i>3.3.</i> The	me 3: Added values of Integrated Projects for nature conservation	25
3.3.1.	Context	25
3.3.2.	Objectives of the thematic session	26
3.3.3.	Common issues and challenges	27
3.3.4.	Ideas on opportunities for cooperative work and follow-up	28
3.3.5.	Cases and best practices – additional references	28
3.4. The	me 4: Implementation of pledges on the ground	30
3.4.1.	Context	30
3.4.2.	Objectives of the thematic session	31
3.4.3.	Common issues, challenges and approaches	31
3.4.4.	Ideas on opportunities for cooperative work and follow-up	32

Jseful Literature

Annex 1 – Atlantic Biogeographical Roadmap	. 38
Annex 2 – Follow-up and networking events	. 38
Annex 2 – Follow-up and networking events since the previous Atlantic seminar	. 38
Annex 3 - List of LIFE IPE projects	. 40

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, coupled with a networking programme consisting of workshops, events, or meetings relevant to the objective of the process as well as by other related actions.

On the assumption that Member States in a given biogeographical 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 coherent management of Natura 2000 at the region level.

As the responsibility for implementing Natura 2000 lies with the Member States, the seminars create an opportunity for the competent authorities to exchange information and coordinate conservation actions as well as discuss and involve other key stakeholders and expert networks, including NGOs.

1.1. Biodiversity Strategy 2030

The strategic orientation of the process is evolving over time. On 20 May 2020 the European Commission adopted the EU Biodiversity Strategy for 2030 "Bringing nature back into our lives" ¹. It is a comprehensive, ambitious and long-term plan for protecting nature and reversing the degradation of the ecosystems services they provide. Among the high number of the Strategy targets to be achieved by 2030, the two most relevant for the biogeographical process are:

- **Protected areas**: protecting 30% of EU land and 30% of EU marine areas, designating part of them as 'strictly protected', and
- **Conservation status**: having clear conservation objectives and measures in place, taking measures to stop deterioration, and improving the status of at least 30% of all species and habitats not currently in favourable condition.

These targets are not legally binding and do not replace the legal obligations on Member States under the Birds² and Habitats³ Directives. Rather, they represent a political agreement for action to drive their delivery through a new and over-arching context for the Natura 2000 process.

¹ <u>https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380</u>

² <u>https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0147</u>

³ <u>https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01992L0043-20130701</u>

1.2. Pledge and review

As part of the initiative to meet the objectives set out within the Biodiversity Strategy 2030, the European Commission has requested that Member States make pledges to show how they will meet the protected area and conservation status targets. These should follow the format and contents agreed^{4,5} with the Commission and the European Environment Agency (EEA), using the Excel file template developed by the EEA and the European Topic Centre for Biodiversity (ETC-BD) for pledge submission to the EEA's Reportnet platform. Commission Guidance documents have been produced that provide further clarifications for each of the targets^{6,7}. Pledges will be peer reviewed by the Commission, the EEA, and the other Member States. A short summary of the pledges received so far is in included in chapter 2. The Natura 2000 seminar programme is expected to be a central element of the review process for the pledges (see below).

1.3. Biogeographical Process and Natura 2000 seminars

To provide additional support to Member States for the pledge and review process, the scope of the Natura 2000 biogeographical process has been expanded. In addition to helping Member States to implement their legal obligations under the EU Birds and Habitats Directives, the process will also help them to implement the targets under the EU Biodiversity Strategy for 2030.

Natura 2000 seminars will therefore support key players in:

- achieving a common understanding on processes and objectives of the targets under the Biodiversity Strategy,
- presenting national pledges related to these targets for a peer review by the Commission, the EEA and the other Member States,
- achieving a common understanding on relevant topics, particularly in relation to Natura 2000, to improve and standardise what is done at national level in terms of implementation and management, financing, and monitoring and reporting, to ensure coherence and effectiveness of implementation at supranational levels,
- sharing good practices in regulation, supervision, conservation, restoration with a view to promoting and upscaling them, and

⁴ Format for the protected areas target: <u>https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-</u> <u>1feb66201929/library/55ebe353-e369-49ab-92b1-4ddab67424b0/details</u> Format for the status improvement target: https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dd

Format for the status improvement target: <u>https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-1feb66201929/library/395c7cde-e2c4-40b0-9afc-638a214d6b39/details</u>

⁵ The reference page on the Central Data Repository which includes all supporting documents and guidelines <u>https://cdr.eionet.europa.eu/help/pledge</u>

⁶ Commission guidance on the protected areas targets:

https://ec.europa.eu/environment/publications/criteria-and-guidance-protected-areas-designations-staffworking-document_en

⁷ Commission guidance on the status improvement targets: <u>https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-1feb66201929/library/bd8a2cd4-f774-4574-bd88-0b1fa012b725/details</u>

• facilitating setting up joint projects to support delivery of these objectives, including on management/restoration.

Biogeographical process in the marine regions

The EU Biodiversity Strategy applies equally to the terrestrial and marine environment. A new contract has been put in place to provide better, more focused, support to Member States working in marine regions⁸. The two biogeographical processes are complementary, which is essential as the 30% conservation status improvement target does not distinguish between habitats and species in marine and terrestrial regions. There is a strong level of liaison between the two projects, including a joint communications platform and shared wiki⁹.

⁸ Support for the Natura 2000 Biogeographical Process in the Marine Regions ENV/2022/OP/0006

⁹ https://biogeoprocess.net/

2. The Atlantic region

The terrestrial Atlantic region (figure 1, darker blue) makes up about one fifth of the land area of the EU, includes eight Member States¹⁰: Belgium, Denmark, France, Germany, Ireland, Netherlands, Portugal, and Spain, and stretches from Sweden to Northern Portugal.



Figure 1: Biogeographical regions in Europe (source: EEA¹¹, last modified October 2017)

2.1. The biogeographical process in the Atlantic region

The first Natura 2000 seminar for the Atlantic region was held in Bergen, The Netherlands, in December 2012. This seminar discussed the priority conservation issues facing each of four broad habitat groups:

- Coastal and dune habitats (including estuaries)
- Wet and dry grasslands

¹⁰ Note that in terms of pure biogeography the Atlantic region is considered to include coastal areas of Norway, and all the United Kingdom (see Figure 1), which are not included in the scope of the Nature Directives.

¹¹ <u>https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-2</u>

- Heaths and bogs
- Rivers and lakes

as well as identifying cross-cutting and cross-boundary issues. A list of actions was drawn up representing the first Atlantic roadmap¹². The second Atlantic seminar took place in Ennistymon, Ireland, in October 2016. It considered the same broad habitat groups and included four site visits, providing practical on the ground examples of the issues being discussed. As well as priority conservation issues, the seminar also addressed how so-called 'low hanging fruit' habitats could be identified, for which improved conservation status could be achieved more easily and in a short time. A revised roadmap proposed cross-cutting actions as well as habitat-specific projects¹³.

The third Atlantic seminar was held in Antwerp, Belgium, in June 2019. This event consisted of plenary sessions, a series of breakout sessions, together with excursions to look at 'on the ground' examples of management issues and solutions. Discussions in working groups, and site visits to relevant projects, were based on four themes:

- Protection and conservation of meadow birds;
- Integrated approaches to tackling nitrogen pollution (air and water pollution);
- Improving the conservation of Natura 2000 sites through integrated management;
- Communication and stakeholder engagement in Natura 2000.

The key output from the seminar was an updated 'roadmap'¹⁴, with an emphasis on identifying collaborative projects that can benefit habitats and species across the Atlantic Region.¹⁵

2.2. Current conservation status

An overview of the conservation status of habitats and species in the Atlantic region is provided by member states reporting under Article 17 of the Habitats Directive, for the period 2013-18¹⁶. This provides a baseline against which progress towards the conservation status targets can be assessed.

2.2.1. Habitats

Figure 2 shows the combined results of habitat assessment for Member State reporting in the Atlantic

¹² <u>http://ec.europa.eu/environment/nature/natura2000/platform/documents/atl-seminar-report-</u> 21042013_en.pdf

¹³ <u>http://ec.europa.eu/environment/nature/natura2000/platform/documents/atlantic_seminar/atlantic-seminar-report-Ireland-oct-2016-final-draft_en.pdf</u>

¹⁴ <u>https://biogeoprocess.net/wp-content/uploads/2023/03/Roadmap_Atlantic.pdf</u>

¹⁵ <u>https://ec.europa.eu/environment/nature/natura2000/platform/events/pdf/Atlantic-Seminar-Report.pdf</u> (accessed 10-07-2023)

¹⁶ Note that the summary reporting for this period includes data from the United Kingdom

region 2013-18¹⁷. Each habitat is assessed as favourable (FV), inadequate (U1), bad (U2) or unknown (XX). In addition, a trend value is reported for each assessment value, declining (D), increasing (I), stable (S), or unknown (Unk).



Figure 2 – Article 17 reporting for the Atlantic region: terrestrial habitat assessment

2.2.2. Species

Figure 3 presents the combined results of species assessment for Member State reporting in the Atlantic region for the period 2013-18¹⁸. Each habitat is assessed as favourable (FV), inadequate (U1), bad (U2) or unknown (XX). In addition, a trend value is reported for each assessment value, declining (D), increasing (I), stable (S), or unknown (Unk).

While equivalent assessments are also carried out for bird species, with reporting on populations etc., in the same reporting round under Article 12 of the Birds Directive, these data are not reported by biogeographic region.

¹⁷ Article17_2020_habitatsEUassessment <u>https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-eec-2/article-17-2020-dataset/article-17-2020-data-csv-format/at_download/file (accessed 11-07-2023)</u>

¹⁸ Article17_2020_speciesEUassessment <u>https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-eec-2/article-17-2020-dataset/article-17-2020-data-csv-format/at_download/file (accessed 11-07-2023)</u>



Figure 3 - Article 17 reporting for the Atlantic region: terrestrial species assessment

2.3. Current Protected Area coverage

The most recent analysis of terrestrial protected area coverage at biogeographical regions level was conducted by European Environment Agency based on the data reported by the end of 2020 for Natura 2000 sites and in 2021 for nationally designated areas (figure 4)¹⁹. It combines data for Natura 2000 sites with those for nationally designated areas reported by Member States and therefore provides an overview of the total area that is designated as protected, accounting for overlaps between different designations. Figure 4 shows both the absolute area in square kilometres and the percentage of the total area of a biogeographical region covered by protected areas which can be compared against the 30% protected areas target of the EU Biodiversity Strategy.

¹⁹ <u>https://tableau-</u>

public.discomap.eea.europa.eu/views/PAperbiogeographicalregion/Story1?%3Adisplay_count=n&%3Aembed= y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz_share_link&%3AshowAppBanner=false&%3AshowVizH ome=n (accessed 11-07-2023)



Figure 4 - terrestrial protected areas summarised by biogeographical region

The EEA statistics also show the total area under some protection regime in each Member State, accounting for the overlaps between different designations (figures 5 and 6). However, it should be noted that these statistics were prepared before the submission of protected area pledges by Member States and, therefore, further consideration will be required to reflect the approaches taken by Member States with regards to confirming which nationally designated areas should be counted towards the 30% target.



Figure 5: Total terrestrial protected areas coverage by Member State (across all regions)



Figure 6: Terrestrial protected areas in the Atlantic region, summarised and share (%) per Member State

Additionally, it is also possible to see the contribution of each Member State towards the protected areas network in the region (figure 7). It should be noted, however, that the land area of the Member States falling within the Atlantic biogeographical region varies quite significantly, with larger Member States naturally contributing more towards the total protected areas network.



Figure 7: Share of the total area covered by protected areas in the Atlantic biogeographical region

2.4. Status of pledges in the Atlantic region

For the Atlantic region, the only pledges received so far (as of 21 August 2023) are from Germany (DE), Denmark (DK) and Spain (ES). All three countries have submitted both protected area pledges and status improvement pledges. The pledges are publicly accessible²⁰.

Most of the status improvement pledges submitted so far are not complete. Germany has identified all species and habitats to be covered by status improvement pledges, but still needs to identify the conservation measures to be taken for these features. Denmark has, for the time being, only provided improvement pledges for birds. Spain has pledged a large number of species and habitats in comparison to the numbers present. For habitats, improvement in particular forests, grasslands and wetlands have been pledged.

The EEA is still verifying some of the submissions on technical errors or duplications. On that basis further inquiries with the three Member States are ongoing. During the seminar the preliminary results of the analysis of the pledges will be presented.

For various reasons, the other five Member States which are part of the Atlantic region (Ireland, Belgium, the Netherlands, France and Portugal) have not yet submitted any pledges.

2.4.1. Preliminary analysis of the protected area pledge

In terms of protected areas pledges, a preliminary analysis has been undertaken to look at the question of the current baseline through reviewing the responses of the countries regarding nationally designated areas which should be counted towards the 30% target. This will be further discussed during the seminar and it is hoped that such discussion will help understand better the approaches taken by the countries in this regard. Furthermore, a preliminary analysis of the responses regarding future protected areas has been undertaken. While it was possible to see some trends, a comprehensive analysis was not possible as it can only be done at the biogeographical region when pledges from all countries in the region have been received. Preliminary results will be presented at the seminar.

2.4.2. Preliminary analysis of the restoration pledge

The following reviews have been undertaken and the preliminary results are set out below if available. More detailed information will be presented during the seminar.

For the Member State level:

²⁰ <u>https://reportnet.europa.eu/public/dataflow/703</u> and <u>https://reportnet.europa.eu/public/dataflow/705</u>

- For each Member State the overall pledge is analysed on its completeness e.g. whether all Habitats Directive species and habitats in unfavorable status or birds species in non-secure status are included in one of the categories of the pledge (non-deterioration or improvement).
- whether the 30 % target for improvement has been reached at the Member State level

Atlantic region part of the Member State:

- which species and habitats groups have been pledged for the Atlantic region?
 - Overall, the greatest share of the pledge (ca. 60%) concerns bird species. Approximately 20% concerns habitats and the remainder are the various HD-species groups (plants, mammals, fish etc.). Overall a low number of marine species and habitats are pledged.
- what is the division between habitats and species in the improvement pledge?
 - The majority of species pledged for improvement are breeding birds.
- What is the conservation status of species and habitats under the Habitats Directive, based on the latest Article 17 reporting -pledged in the Atlantic region?
 - The majority of species pledged for improvement have an inadequate conservation status (U1), a minority has bad conservation status (U2). Habitat Directive species pledged for improvement are equally divided between U1 and U2.

3. Themes selected for the fourth Natura 2000 seminar for the Atlantic region

In addition to discussion of the progress with the pledge and review process, the fourth Natura 2000 seminar for the Atlantic region will consider four themes that are of common concern across Member States. The themes were selected following discussion between the seminar steering group and the European Commission.

- Theme 1: Protection and conservation of meadow birds
- Theme 2: How to implement measures for restoration of peatbogs in view of climate change
- Theme 3: Added values of Integrated Projects to nature conservation
- Theme 4: Implementation of pledges on the ground

The following sections provide background information on each theme, along with an overview of the objectives for seminar discussions.

3.1. Theme 1: Protection and conservation of meadow birds

3.1.1. Context

There has been a large decline in many wet meadow birds, both migratory and breeding, over the past decades as evidenced by the data (Table 1) for breeding populations in selected Member States recently compiled by the BirdLife International East Atlantic Flyway Initiative (EAFI).

The most important threats are the increasing intensification of land use practices, including increasing drainage of formerly wet grasslands, habitat loss, and a large increase in predator densities. Some populations have also shifted their range in response to habitat alteration and climate change. Policy efforts and conservation measures to counteract these declines on a large landscape scale at EU level have failed so far. Therefore, strategic actions for the conservation of wet meadow breeding birds in the Atlantic region are needed, covering breeding sites, stop-over sites, and wintering sites in West Africa. (IPBES 2018, Van der Sluis et al., 2016).

There have been successes in meadow bird conservation in certain protected areas (both inside and outside Natura 2000) specifically managed for the conservation of this species group. In several countries, meadow birds rely more and more on these protected areas. For example, in the Netherlands, there is a slow but steady trend towards reserves dedicated for breeding.

With respect to the Natura 2000 network, particularly SPAs, there is a huge disparity between the distribution of breeding meadow birds and protected areas. This is chiefly because only two meadow bird species (Baltic dunlin and ruff) are listed in Annex I of the Birds Directive so no SPAs are established for other species and they are rarely listed as features of European importance. In fact, six of the

Table 1: Breeding meadow bird populations estimated between 1990 - 2000 (upper table) and 2019(middle table) and percent change (lower table) in selected Member States

Species	DE	NL	PL	DK	FI	IE	Total
Black-tailed Godwit	21,000	68,500	6,600	970	60	-	97,130
Curlew	5,300	12,500	640	550	55,560	10,000	84,550
Dunlin	110	na	10	720	750	250	1,840
Lapwing	297,000	325,000	165,000	64,280	80,000	10,000	941,280
Oystercatcher	36,000	215,000	20	14,500	5,000	10,000	280,520
Redshank	16,000	68,500	2,700	15,000	10,000	1,000	113,200
Ruff (females)	180	350	120	750	50,000	-	51,400
Snipe	28,000	3,000	30,000	3,000	160,000	10,000	234,000
Species	DE	NL	PL	DK	FI	IE	Total
Black-tailed Godwit	4,400	59,770	1,800	550	260	-	66,780
Curlew	5,000	5,950	350	450	87,000	150	98,900
Dunlin	16	0	1	140	50	50	257
Lapwing	50,000	229,860	120,000	17,110	163,210	620	580,800
Oystercatcher	33,000	87,000	25	7,560	3,700	3,090	134,375
Redshank	17,500	21,850	1,500	7,140	7,210	300	55,500
Ruff (females)	26	45	2	24	16,000	-	16,097
Snipe	8,500	1,380	71,000	1,520	147,440	4,280	234,120
Species	DE	NL	PL	DK	FI	IE	Overall
Black-tailed Godwit	79%	13%	73%	43%	-333%	na	31%
Curlew	6%	52%	45%	18%	-57%	99%	-17%
Dunlin	85%	na	90%	81%	93%	80%	86%

Lapwing	83%	29%	27%	73%	-104%	94%	38%
Oystercatcher	8%	60%	-25%	48%	26%	69%	52%
Redshank	-9%	68%	44%	52%	28%	70%	51%
Ruff (females)	86%	87%	98%	97%	68%	na	69%
Snipe	70%	54%	-137%	49%	8%	57%	0%

species are still subject to hunting (for example in Denmark and France) under Annex II of the Birds Directive. Studies conducted by EAFI suggest that redshank and snipe are (with ruff) keystone meadow birds and that moving them to Annex 1 of the Birds Directive would have a significant conservation effect for all the species. Moreover, many SACs hold significant meadow bird populations (there are five with a total area of over 270,000 ha in Denmark alone²¹) and consideration could be given to making these sites joint SAC/SPA (type C) sites so that the existing meadow bird habitats also receive appropriate management such as those outlined in section 3.1.3.

²¹ Skagens Gren og Skagerak, Kaløskovene og Kaløvig, Egernæs med holme og Fuglsø, Brabrand Sø med omgivelser, Bøjden Nor

It is also clear that the future of this species group will rely heavily on changing the management practices of meadow/farmland areas dedicated to agricultural uses including large scale restoration efforts in combination with more extensive agriculture .

In this context, one of the key-objectives of the Common Agricultural Policy 2023-27 (CAP 2023-27) – *contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes* - provides additional opportunities for the protection and conservation of meadow birds.



Figure 8: Black-tailed godwit (source: Jan Nijendijk; Saxifraga – Free Nature Images; <u>www.freenatureimages.eu</u>

3.1.2. Objectives of the thematic session

The objectives of this thematic session are to discuss and reach conclusions on the following questions:

• How can we ensure that urgent large-scale conservation and restoration efforts for meadow birds are taken.

• How can we achieve better conservation outcomes for meadow birds, considering the current state of knowledge?

The results of this session can be included in a revised roadmap for the Atlantic region.

3.1.3. Common issues, challenges, and examples for national approaches

Low reproductive success is considered as the main bottleneck for meadow bird populations in the Atlantic region (Roodbergen & Teunissen, 2019). Breeding meadow birds face many common threats that are shared among EU Member States within the region, and even beyond. Among the most challenging is that a large proportion of meadow birds breed on agricultural lands that are mainly used intensively for dairy farming, where it is difficult to enforce the necessary conservation measures, as these may negatively impact on grassland productivity. Efficient and cost-effective management of agricultural land for optimal productivity and the preservation of biodiversity, including meadow birds, often seem to be mutually exclusive, and trade-offs difficult to find.

Problems related to intensification of agricultural management are the reduced availability of food (invertebrates) and increased destruction of nests and mortality of chicks due to early mowing dates and high mowing speed. Furthermore, as modern mowing machinery is able to quickly cover large

areas, grassland cover is becoming increasingly homogeneous. Additional compounding factors are drainage of farmland and high nitrogen deposition, which result in a decreased plant species diversity and allow for a higher frequency of grassland harvesting. In combination with problems related to increased intensification of agricultural practices, predation can be a major limiting factor for breeding success (Roos et al., 2018).

Agricultural intensification results in increased landscape homogenisation, which in turn results in higher vulnerability for predators, mainly mammalian but also avian. It also leads to higher visibility and thus vulnerability nests and chicks (and sometimes breeding adults) to predators. The sharp decline of meadow birds populations and at the same time increase in the numbers of feral and invasive predators make the predation one of the main threats to meadow birds. Therefore while habitat improvement measures are obviously the key to restore viable meadow bird populations, however, under certain specific circumstances, it might be the case that they are not sufficient if no predator control is taking place. The above pressures might be further exacerbated by climate change, as warmer spring climate leads to earlier mowing dates. More frequent extreme weather events can also affect breeding success (Roodbergen & Teunissen, 2019).

Targeted management efforts could counter some of the problems. In some regions however they are hampered by the fact that meadow bird populations are nowadays typically scattered at low densities over wide areas. This makes it challenging to design protected areas at a scale that is sufficient to support a resilient meadow bird population. An effective restoration of sustainable meadow bird populations will depend on the implementation of more ambitious measures at a sufficient scale to support sufficiently large and stable breeding populations. Such measures could include maintaining higher water tables, a change in farming practice towards a circular economy²² (e.g. recycling nutrients on farm) and increasing landscape diversity with e.g. wet areas.

The future status of meadow birds across Europe will, to a large extent, depend on both improved conservation measures in Natura 2000 sites that hold breeding meadow birds (e.g. adding redshank and snipe to Annex 1, more focus on wader habitats in SACs, not just SPAs) as well as further developments in agricultural policies and practices. For several decades, agri-environment schemes (AES) have been implemented to support farmers in managing agricultural meadows in ways that are intended to be beneficial for meadow birds. However, so far AES have had limited success in halting population declines: both the ambition and scale of these measures probably have to be revised.

To better understand in which direction the restoration measures should be sought, we're looking for the success factors of existing meadow bird protection initiatives and how these fit within the CAP 2023-27. Initiatives for instance like the Birds@Farmland project launched by the European Commission in 2020 which is promising in the sense that it develops tools to support farmland bird conservation in the EU. Although the project focused on 10 Member States (Austria, Bulgaria, Czechia,

²² A circular economy is targeted at making optimum use of natural resources, raw materials and products and re-using them. This means that all resources are still used in a way which adds the most value to the economy and causes the least damage to the environment.

Germany, Spain, Finland, France, Hungary, Italy, and Portugal), its findings are highly relevant for all Member States.

One of the most promising regional initiatives is the EU International Multi-Species Action Plan for the Conservation of Breeding Waders in Wet Grassland Habitats in Europe (2018-2028) (MSAP on meadow birds ²³) developed in the framework of LIFE14 PRE/UK/000002 Project and agreed for implementation by the Member States. The plan focuses on eight species of migratory wading birds that are highly dependent on wet grassland ecosystems during the breeding period of their annual life cycle. The European population of all eight species has declined considerably in recent decades, and their fate is largely linked to the quality and extent of sympathetically managed wet grassland habitats and the wider landscapes within which they are found.

Several projects that aim at implementing action from this plan were developed and co-financed by the LIFE programme such as LIFE GrassBirdHabitats (LIFE19 IPE/DE/000004); LIFE All4Biodiversity (LIFE19 IPE/NL/000011 LIFE IP); LIFE22-NAT-DE-LIFE-Godwit-Flyway/101113618; and LIFE21-NAT-PL-LIFE4WadersPL/101069516.

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

One of the main opportunities for conservation is the fact that many of the meadow birds with declining populations rely on the same habitat type, hence targeted efforts may often benefit more than one species (see the MSAP on meadow birds mentioned above). At a similar scale, national and European legislations imposed on the dairy sector can facilitate transitions in farming practices that could benefit not only the entire community of meadow birds, but also biodiversity in general. Already we are seeing an increased willingness among farmers to adopt nature-inclusive agricultural systems. A life cycle approach for agriculture could result in a farming system which is sustainable and promotes multiple functions of the landscape.

The present CAP 2023-27 provides opportunities for such transitions. EU Member States will be allowed greater flexibility for national implementation, allowing more targeted and effective measures. Agri-environment schemes, which have been rolled out in countries across the Atlantic region in past years, will probably remain important tools within this CAP to organise the protection of meadow birds. Already, some agri-environment schemes have shown a moderate degree of success (Franks et al., 2018). An evaluation of the effectiveness of different existing schemes might help identifying optimal management regimes for breeding meadow birds.

²³ Eight lowland breeding waders (*Haematopus ostralegus, Vanellus vanellus, Calidris alpina, Calidris pugnax, Gallinago gallinago, Numenius arquata, Limosa limosa* and *Tringa totanus*), two marine birds (*Puffinus yelkouan* and *Hydrobates monteiroi*) and the following species *Gypaetus barbatus, Aegypius monachus, Pelecanus crispus, Streptopelia turtur, Melanitta fusca* and *Oxyura leucocephala*, all available at http://www.birdlife.org/europe-and-central-asia/project/life-eurosap

A series of networking events was organised. In 2020 the online biogeographical process workshop Protection of Meadow breeding birds was organised. This event focussed on the measures that can be taken for meadow birds during their breeding season. Another networking event in 2023 focused on measures required during the migration season and focussed on the Central Atlantic Flyway - Atlantic and Continental N2000 sites as migration hotspots. This event was hosted by BirdWatch Ireland, assisted by the Royal Society for the Protection of Birds (UK) as well as the Polish Society for the Protection of Birds.

3.1.5. Cases and best practices – additional references

Although meadow bird population trends are generally negative there are some examples of sites where populations are stable or recovering. It will be important to review management systems and the environmental conditions in these examples, to identify common factors that appear to benefit meadow birds.

In the Netherlands, which harbours important proportions of many meadow bird populations, the sites where declines have been halted or reversed are typically managed as nature reserves rather than agricultural land, with or without AES. These sites are often limited in size and therefore vulnerable. Areas where meadow bird populations are doing well outside reserves have several common features, which appear important for success on agricultural land. First and foremost, farmers in these areas are intrinsically motivated to support meadow birds on their land and willing to make the necessary sacrifices. AES payments serve as an important stimulus but are generally considered insufficient to cover all expenses. Other key factors are good cooperation between farmers, volunteers and hunters, high water tables, application of solid manure, and delayed mowing on substantial proportion of the area. Typically, there intensive predator management is also in place. Furthermore there are a number encouraging initiative within the LIFE program.

During the seminar information about current results from the LIFE Integrated Project Conservation of wet grassland breeding bird habitats in the Atlantic Region (LIFE IP GrassBirdHabitats LIFE19 IPE/DE/000004)) will be presented by the German and Dutch organisations involved. The project aims to create 21,000 ha of biodiverse wet meadows in Lower Saxony, of which 19,000 ha will be public land while another 2,000 ha will be acquired through complementary funds. In Friesland, conservation management in two pilot areas totalling 100 ha will be used to demonstrate ecological and economic sustainability and to motivate farmers to participate in grassland conservation. Additionally, measures to improve the quality of bird habitats will be implemented in conservation areas on 600 ha.

Though these examples show that good management practices may enhance local breeding populations, it is essential to keep in mind that these are mostly in a situation where either the control and decision power over the management of the lands does not lie with farmers, or where farmers have an exceptional intrinsic motivation.

To understand the opportunities offered by integration approaches to the conservation of meadow birds at a large scale on actual farmland, it would be necessary to identify more successful examples of long-term maintenance or recovery of meadow bird populations in such contexts and the necessary boundary conditions. Novel agricultural management systems focused predominantly on the restoration and preservation of biodiversity, while still yielding enough income to support farmers, are necessary to stop the decline of meadow bird populations at large scales.

Table 2: Some examples of LIFE projects focusing on meadow birds in the Atlantic region

Project title	Project code
LIFE GrassBirdHabitats - actions in Lower Saxony (DE) and Friesland (NL) focusing on the improvement of wet meadows for breeding grassland birds.	LIFE19 IPE/DE/000004
LIFE Godwit Flyway - Conservation of the Black-tailed Godwit along the flyway	
LIFE Wiesenvögel NRW - stabilise and/or increase populations of eight species of meadow birds in the Atlantic region of North Rhine-Westphalia	LIFE19 NAT/DE/000816
LIFE Curlew UK - halt the decline of curlew in five priority landscapes and define and catalyse future actions needed to maintain viable populations.	LIFE19 NAT/UK/000844
LIFE Wadden Sea Birds - counteract six identified threats to birds and their habitats in the Danish and German Wadden Sea area.	LIFE19 NAT/DK/000922
LIFE All4Biodiversity – Integrated project for the protection of the wet meadow breeding waders in the NL.	LIFE19 IPE/NL/000011 LIFE IP
INTERREG – CABB BirdWatch Ireland includes aims to improve key peatland and wet grassland habitats for breeding waders and other biodiversity by providing nest site protection and habitat restoration in ecologically important areas.	INTERREG – CABB-project
LIFE Limicodra - protection of meadow birds in coastal areas of Vorpommern (Germany)	LIFE16 NAT/DE/000592
LIFE blackwit UK - recovering and securing the future of the globally Near Threatened black-tailed godwit (<i>Limosa limosa</i>) in the UK	LIFE15 NAT/UK/000753
Grassland for meadowbirds	LIFE11 NAT/DE/000347
Wachtelkönig&Uferschnepfe (Waterlogging and grassland extensification in Lower Saxony to improve habitats of the Corncrake (<i>Crex crex</i>) and the Black-tailed Godwit (<i>Limosa limosa</i>)	LIFE10 NAT/DE/000011

3.2. Theme 2: Measures for peatland restoration in view of climate change

3.2.1. Context

In the EU peatlands are considered amongst the most important ecosystems because of the broad services they provide and their key value for climate control, water retention, supply and flood prevention, and biodiversity conservation. In the EU Member States (EU27), the total peatland area is about 268,000 km², of which 51% are still undisturbed or in a near-natural state (i.e. mires). Peatlands occur across all of Europe, but they are mainly found in the Boreal, Atlantic, Continental and Alpine biogeographical regions (figure 9).

In the Atlantic region peatlands cover especially large territories of Ireland, but significant areas occur also in Atlantic France, Germany, the Netherlands, Belgium and Denmark. European peatlands have for centuries been converted into agricultural land and forest through drainage and fertilisation, or exploited by peat mining for fuel and horticultural substrates. This degradation continues today even

though it is well known that drained, and cultivated peatlands release huge amounts of greenhouse gases (GHG) into the atmosphere. With <u>174 Mt</u>, the EU (27) is after Indonesia (500 Mt) and before Russia (161 Mt) the world's second largest emitter of drainage-related peatland CO₂.

The proportion of EU's protected natural and near natural peatlands (mires) in the Natura 2000 network is quite small. In total, some 33,000 km² of the 13 main peatland habitat types²⁴ are protected in about 8,700 Natura 2000 sites. This area represents roughly only 24% of all remaining natural peatlands.

Since 1992, the LIFE programme has funded over 380 projects designed to improve the conservation status of peatlands – mainly raised bogs, blanket bogs, aapa mires, calcareous fens and bog



Figure 9: Peatland distribution in Europe (the map shows the relative cover (%) of peat and peat-topped soils in the soil mapping units (SMUs) of the European Soil Database).

²⁴ The Habitats Directive distinguishes twelve peatland habitat types in the habitat group 7 (Raised bogs and mires and fens). Bog woodland (91D0), grouped under Forests of Temperate Europe, counts as a naturally forested peatland. In addition other habitat types may develop on peat soils, such as 4020 Temperate Atlantic wet heaths, 6410 Molinia meadows, 6460 Peat grasslands of Troodos, or 91E0 Alluvial forests with *Alnus glutinosa*.

woodland. While in recent decades the focus has been mainly on the biodiversity of peatland habitats and species (their protection and the improvement of their conservation status), with the advancing climate crisis and the introduction of the Union's climate change mitigation (CCM) and adaptation (CCA) strategies, restoration measures that improve peatlands functions as carbon and GHG stores and sinks are becoming increasingly important.

There are numerous techniques and methods for the restoration of degraded bogs and fens. In general, they all deal with peatland rewetting and water table management, vegetation management, and erosion control. It is important to note that the choice of the right restoration techniques and their success can vary depending on the specific characteristics of the peatland and the level of degradation. Ideally, restoration of degraded peatlands brings both important effects - halting biodiversity loss and improving the conservation quality of peatland habitats on the one hand and reducing GHG emissions or, ideally, reviving their function as carbon sinks on the other.

3.2.2. Objectives of the thematic session

Even though the methods and techniques are well known, the scale of the implementation and impact of peatland restoration still has not led to the improvement of their conservation status. The last Article 17 assessment of the state of the EU peatlands is unsatisfactory and rather alarming, especially for the Atlantic region (figure 10).



Current selection: 2013-2018, Bogs, mires & fens, overall assessment.

Figure 10: Conservation status of the peatland habitats (6. Bogs, mires and fens) in the reporting period 2013-2018. Column ATL = Atlantic region.

This unsatisfactory situation, together with the likely increasing impacts of climate change, poses a major challenge for the sustainable restoration of European peatlands and other wetlands.

Therefore, during the Seminar we will discuss this situation while strenuously seeking joint solutions on three urgent issues:

- (i) Considering the impacts of climate change, are we on the right track in restoring peatlands in the Atlantic region? What is the best way to increase the resilience of peatlands to the expected impacts of climate change?
- (ii) Building on current best practice and knowledge, how can we achieve better conservation outcomes for restored peatlands? What are the key conditions which are defining restoration success in peatland restoration?
- (iii) The Member States are asked to report in their national pledges the further designation of peatlands as protected areas or recognition as OECMs. What are the most suitable areas to be selected and designated for the protection of peatland habitats and species (e.g. as new areas or site extensions)?

3.2.3. Common issues, challenges, and approaches

The common issues and challenges across the biogeographical region can be grouped in three topics:

- Improving degraded peatlands by application of suitable (best practice) methods and techniques;
- Improving the ecological conditions (and thus conservation status) of existing high value peatlands (mires) and their resilience against climate change effects; and
- Avoiding or minimising conflicts caused by contradictory targets of the Union's and national laws, strategies and plans.

Improving degraded peatlands by application of best practice methods and techniques

As outlined above, suitable methods and techniques for the revitalisation and restoration of degraded peatlands have been developed and applied for different hydrogenetic peatland types and can be summarised in a few points:

- Retaining rainwater in ombrotrophic bogs, and rising the water level in drained fens;
- Re-establishment of the desired vegetation and restoration of biodiverse habitats for peatland fauna and flora;
- Speeding up the establishment of peat-producing plant cover and converting degraded peatlands from carbon sources to carbon sinks; and
- Creation of buffer zones: large-scale habitat restoration in combination with large-scale revitalisation of degraded organic soils currently in non-sustainable agricultural or forestry use (e.g. conversion to paludiculture).

However, the desired effects have mainly been achieved only locally and the long-term sustainability and positive impact of the restoration measures cannot always be maintained without recurring interventions.

Improving the ecological conditions of existing high value mires and their resilience against climate change and land use effects

Europe is already facing significant impacts from climate change. Mean and maximum temperatures, frequencies of warm days and nights, and heatwaves have increased since 1950. On the other hand, the frequency of cold spells and frost days will decrease under all the GHG emissions scenarios.

This **climate change** will affect European peatlands in multiple ways: (i) drying and degradation, accompanied by (ii) increasing GHG release due to lowering of peatland water level and mineralisation of peat and (ii) increased fire risk, but also (iii) changes in vegetation composition and biodiversity, toward species that are better adapted to warmer and drier conditions, (iv) sea-level rise and (v) changes in water quality and hydrology.

In comparison to other parts of Europe, the Atlantic region will probably be less impacted by climate change then more southern and continental regions where there is a *predicted increasing trend in floods and increases in hydrological, agricultural and ecological droughts*.

Besides climate change effects, **aerial pollution**, especially nitrogen deposition, causes pressure to and changes in peatland ecosystems. The impacts of nitrogen deposition on peatlands are of concern for several reasons: (i) altered nutrient balance, (ii) species composition and biodiversity changes, (iii) acidification, and (iv) nutrient runoff. The specific impacts of nitrogen deposition on peatlands can vary depending on factors such as the intensity of nitrogen inputs, the type of peatland (e.g. groundwater fed fens or ombrothropic bog), and the local hydrological conditions.

In addition, the **combined effects** of nitrogen deposition with other stressors, such as climate change and land use changes, can further complicate the response of peatland ecosystems.

The most important and ambitious challenge for the coming years is the **massive expansion of peatland restoration**, which in most cases requires a **significant raising of the water level in the landscape**. This concerns not only protected habitats, but also degraded peatlands outside the Natura 2000 network, in order to restore and improve hydrology at the landscape level.

To achieve these goals, **sufficient and efficient financial instruments** are needed. Close cooperation between landowners and land users (farmers), policy makers and relevant authorities is needed. The local and regional community must be appropriately informed not only of the ecological values but also of the macroeconomic and socio-economic benefits of peatland restoration to ensure acceptance of the measures and to achieve broad support among the population.

Avoiding or minimising conflicts caused by contradictory targets of the Union's and national laws, strategies and plans

The EU and all MS are making vigorous efforts to combat biodiversity loss, climate change and the energy crisis with new laws, regulations and policies in various governance fields. It cannot always be completely ruled out that well-intentioned regulations and objectives of one ordinance contradict certain points in other legal regulations, which then leads to counterproductive situations and hinders or endangers the achievement of the intended environmental objectives. With regard to peatland conservation and peatland restoration goals, such contradictory or unsatisfactory regulations or activities can be found, for example, in the CAP (e.g., lack of equal treatment of paludiculture with

other agricultural products and land use systems), in programmes and activities to achieve renewable energy goals (construction of wind power plants in peatland areas), or in the recently enacted Deforestation-Free-Regulation, which in certain situations can make it difficult or impossible to restore degraded peatlands.

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

The above discussion shows that EU peatlands need close coordination of climate and nature agendas to work out the most efficient nature-based solutions that can also lead to a sustainable success.

Nature restoration and climate change mitigation (which are all equally important components of the Green Deal) must move rapidly from small-scale conservation projects to **large-scale integrated interventions**, from individual nature reserves to landscape segments, considering all land uses. In the case of peatlands, this means focusing on their entire catchment areas, as revitalising the hydrology of the catchment area (improving the residence time of rainwater in the landscape, reducing erosion, regenerating the water table, etc.) is one of the most important prerequisites for maintaining and improving the conservation status of mire habitats.

The Commission and MS offer numerous funding opportunities to finance or support the necessary projects. In addition to the LIFE programme (both nature and climate strands) and Horizon programme, the European Agricultural Fund for Rural Development (EAFRD), as well as the Operational programmes of the European Regional Development Fund (ERDF), the CF (Cohesion Fund), European Structural and Investment Funds (ESIF) and the European Social Fund (ESF) also offer opportunities for funding Natura 2000 and biodiversity measures²⁵.

In addition to the European funds, there are national programmes that are often specifically tailored to the planning and implementation of nature conservation activities in combination with climate change mitigation measures.

It is aim of the Atlantic seminar not only to discuss the national roadmaps but also to draft transboundary measures and strategies towards better and sustainable peatland conservation, under special consideration of the progressing climate change.

3.2.5. Cases and best practices – additional references

Numerous LIFE, Interreg and Horizon 2020 projects have been implemented in the Atlantic region with very good results. As far as the LIFE programme is concerned, between the 1990s and 2013, all peatland projects ran under the LIFE-Nature sub-programme, and from 2014 onwards, the first projects were also funded and implemented under the LIFE-Climate sub-programme. With two LIFE Integrated projects 'LIFE IP Peatlands and People - Irelands Climate Action Catalyst' (LIFE19 IPC/IE/000007 - LIFE IP Peatlands and People) and 'Towards implementing the PAF for Ireland by

²⁵ IEEP and the N2K Group (2022) Financing Natura 2000. EU funding opportunities 2021-2027

protecting and restoring Ireland's blanket bog Natura Network along Atlantic seaboard' (<u>LIFE18</u> <u>IPE/IE/000002 - LIFE IP PAF-WILD ATLANTIC NATURE</u>) Ireland is the first member state that tackle largescale peatland protection (both from the climate change mitigation and nature conservation perspectives) using multisectoral integrated approaches. Table 3 below lists all current Member State LIFE projects within the Atlantic region that focus exclusively or to a significant extent on peatland restoration.

In April 2023 a large <u>LIFE Peatland Platform Meeting</u> was held in Berlin, Germany in which top peatlands experts and representatives of 30 European projects working on peatlands discussed best practices and policy developments for peatlands restoration. At the end, "political messages" with recommendations for politicians and decision-makers were developed. The event reconfirmed that there is now a considerable body of knowledge regarding the requirements and best practices for peatland restoration; however, the discussions showed that the most difficult and important steps are yet to come: to create the necessary implementation and socio-economic conditions to enable peatland restoration on the required scale and speed up the implementation of EU Birds and Habitats Directives.

LIFE Reference	Acronym / Title	Year	MS	Strand	Status	Budget
LIFE21-CCM-FR-LIFE RestituO	LIFE RESTITUO	2021	FR	ССМ	open	12.533.436€
LIFE20 CCM/DE/001802	LIFE MULTI PEAT	2020	DE	ССМ	open	7.763.615€
LIFE20 NAT/UK/000697	LIFE Moor Space	2020	UK	NAT	open	2.438.943€
LIFE20 NAT/UK/000137	LIFEquake	2020	UK	NAT	open	5.520.145€
LIFE19 NAT/FR/000258	Life Armorican heaths	2019	FR	NAT	open	1.647.910€
LIFE19 IPC/IE/000007	LIFE IP Peatlands and People	2019	IE	IPC	open	27.838.351€
LIFE18 NAT/FR/000906	Life + ANTHROPOFENS	2018	FR	NAT	open	18.684.201€
LIFE18 IPE/IE/000002	LIFE IP PAF-WILD ATLANTIC NATURE	2018	IE	IPE	open	20.623.808€
LIFE18 NAT/NL/000636	AddMire LIFE	2018	NL	NAT	open	11.750.000€
LIFE17 NAT/BE/000445	LIFE Green valleys	2017	BE	NAT	open	8.318.632€
LIFE17 NAT/FR/000007	LIFE Avaloirs	2017	FR	NAT	open	2.664.198€
LIFE16 NAT/FI/000583	Hydrology LIFE	2016	FI	NAT	open	8.874.132€
LIFE16 NAT/UK/000725	Pennine PeatLIFE	2016	UK	NAT	open	6.502.762€
LIFE16 NAT/UK/000646	LIFE Welsh Raised Bogs	2016	UK	NAT	open	5.484.422€
LIFE15 NAT/UK/000786	Marches Mosses BogLIFE	2015	UK	NAT	open	7.141.352€
LIFE14 NAT/DK/000012	LIFEraisedbogs	2014	DK	NAT	open	5.592.198€
LIFE14 NAT/UK/000070	MoorLIFE2020	2014	UK	NAT	open	15.996.416€
LIFE11 NAT/DE/000344	Hannoversche Moorgeest	2011	DE	NAT	open	11.393.197€

Table 3: Some examples of LIFE projects focusing on meadow birds in the Atlantic region

Useful websites:

<u>The Virtual Peatland Pavilion and Virtual Peatland Library</u> - launched on the occasion of the COP26 UNFCCC²⁶.

LIFE Factsheet: Peatlands for Life (2020).

3.3. Theme 3: Added values of Integrated Projects for nature conservation

3.3.1. Context

Nature conservation has become an imperative task in the face of escalating environmental challenges. Large integrated projects are playing an increasingly important role as a crucial approach to improving the effectiveness of conservation measures. They encompass holistic and multidisciplinary approaches that combine various aspects of nature conservation, including biodiversity protection, ecosystem

restoration, community engagement, as well as sustainable development and suitable financial instruments (figure 11). They aim to harmonise conservation goals with socioeconomic objectives, fostering synergies among stakeholders and disciplines.

Over a decade ago it became clear that there
is an urgent need to strengthen the
integrated approach for nature conservation
and management in Natura 2000 sites. One of
the main bottlenecks for effective
management of Natura 2000 sites is the
insufficient or inappropriate involvement and
participation of, and communication with
stakeholders but also the lack of policy
integration between various existing national
policies developed for specific sectors based



Figure 11: Integrative Nature-based Solution concept IUCN (Source: IUCN Issues Brief 07/2020)

²⁶ The Virtual Peatland Pavilion and Library showcase content from a wide range of contributors, and provide rich and multifaceted information on peatlands worldwide even after the World Climate Conference. It has been designed and curated by Richard Lindsay, Sustainability Research Institute, University of East London with support from Ben Clutterbuck, University of Nottingham Trent and Jack Clough, University of East London.

on European Union obligations. In addition to that there is insufficient targeted funding as well as limited capacity and specific skills to prepare and manage complex, integrated projects.

In 2014, the European Commission responded to the needs outlined above by introducing a new strand in the LIFE programme : Integrated projects Environment (IPE) and Integrated projects Climate (IPC). IPE and IPC follow the integration approach described above and go far beyond the scope of the traditional LIFE-Nature project, not only in terms of financial volume and duration, but also in terms of the different funding structure and the active involvement of all stakeholders concerned. Especially the new unique feature of the IPs is the requirement of a mobilisation and coordination of complementary funding, that allows a better and more coordinated use of other EU funding sources, including agricultural, structural, regional and research funds, as well as national funds and private sector investments.

Between 2014 and 2021, 78 Integrated Projects (IPE, IPC) were funded in 25 Member States. These projects have a combined budget of more than \leq 1.46 billion and have mobilised and coordinated the use of more than \leq 30 billion in complementary funding. Of these 76 projects, 26 projects directly aim to improve the Natura 2000 network and a further 13 projects contribute partially or indirectly to the restoration objectives through the implementation of the EU Water Framework Directive (WFD) or River Basin Management Plans and have created win-win synergies with the objectives of the Nature Directives. There are also the first Integrated Project Climate projects that significantly contribute to the implementation of national nature conservation goals and the improvement of the conservation status of protected habitats.

3.3.2. Objectives of the thematic session

In recent years, a lot of experience has been gained in the planning and implementation of large-scale integrated projects, not only within the LIFE funding programme but also in the context of the realisation of larger IINTERREG projects, which are increasingly adopting the integrated project approach. Building on the results of the previous seminars and the progress achieved in the implementation of the set targets, the objectives of this thematic session are to discuss and reach conclusions on the following questions:

- Where do we stand with Integrated Projects: what works well, where are there still challenges? What is the added value of integrated projects?
- How should integrated projects evolve in the future, considering the new developments and the need to speed-up implementation on the ground?

The session should thus identify common actions on how *best practices* for integrated management can be shared between various Member States to be able to cope efficiently with the existing challenges.

3.3.3. Common issues and challenges

Despite ongoing efforts and the visible results achieved, there are still a number of problems, challenges and bottlenecks in the practical implementation of large-scale nature conservation integrated projects that need to be urgently addressed in order to achieve the conservation, restoration and climate objectives set out in EU strategies and regulations. While these challenges exist, many organisations and initiatives in all EU MS are actively working to address them and find solutions to increase their efficiency. The most frequently discussed are:

- *Complex Stakeholder Engagement*: Integration projects often involve multiple stakeholders with varying interests, such as government agencies, local communities, NGOs, and private sector entities. Managing these diverse stakeholders and their expectations is often very challenging, especially when conflicting interests arise.
- Legal and Policy Frameworks: Navigating the complex legal and policy frameworks on different (regional, national, and EU-wide) levels poses significant challenges. Harmonising conservation goals with existing regulations, land tenure systems, and sectoral policies can slow down or even jeopardise project implementation.
- *Funding and Resources*: Large-scale integrated projects require significant financial resources. Securing funding from various sources and ensuring a sustainable financial model for long-term project continuation is often challenging especially for the large project periods.
- Data and Information Sharing: Effective integration relies on accurate and up-to-date data from various sources, including ecological, social, and economic data. Challenges in data collection, sharing (e.g. respecting the GDPR requirements), and harmonisation can slow down or hinder decision-making and project coordination.
- Interdisciplinary Collaboration: Integration projects often involve multiple disciplines, such as ecology, sociology, economics, and more. Bridging gaps between these disciplines and fostering effective communication and collaboration can be challenging. Linked to this is the
- Lack of Capacity and Expertise: Implementing integrated projects requires a diverse range of skills and expertise. The limited availability of professionals and experts can influence the success of project implementation.
- *Scale and Complexity:* The complexity of integrated projects, which often span large geographic areas and involve intricate ecological and socio-economic interactions, can make planning and implementation a daunting task.
- *Time Constraints:* The long-term nature of many conservation goals requires sustained efforts over extended periods. However, political cycles, funding limitations, and limited project timeframes can hinder the ability to implement and maintain integrated projects effectively.
- *Resistance to Change*: Communities and stakeholders might be resistant to changes in their traditional practices or ways of life, particularly if they perceive these changes as threatening their livelihoods, daily working practice (e.g. farming systems) or cultural heritage.

• Insufficient Communication and Awareness: Inadequate communication can lead to misunderstandings and lack of support. Effective communication about the goals, benefits, and progress of integration projects to both stakeholders and the general public is crucial.

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

Numerous ongoing integrated LIFE projects and Strategic Nature Projects, as they are called after 2021 (SNAPs) can serve as very good examples of the application of the integration approach in practice. Even though EU LIFE co-financing and thus the number of projects is limited, the well-functioning and proven approach in using basic funds for capacity building and raising complementary funds can be transferred to the national conditions and scales of the individual Member States.

As the achievements and results of the integrated LIFE projects show, there is a significant potential and opportunity in the procurement of complementary funds, projects and measures using different EU and national funding programmes and other funding sources, if the necessary capacity of an experienced and qualified project staff is created. Similarly, valuable experience has been gained in involving stakeholders, either as partners in the project consortia or as key actors in complementary measures and actions. Special attention in the discussion should be paid of good examples of (i) successful enlargement of Natura 2000 network by new created or restored habitats and (ii) creation and safeguarding of functioning buffer zones around natura 2000 sites and other nature protection areas.

Certainly, it would be very efficient to continue organising thematic international platform or network meetings for integrated projects in order to exchange experiences and best practices and to discuss and seek possible solutions to the problems encountered in the adoption and operation of such ambitious approaches. So far, organising regular meetings of the LIFE Platform has succeeded in discussing the obstacles and challenges in specific nature conservation issues and the corresponding solutions by a large number of project participants and also compiling recommendations for policy makers based on the information discussed.

3.3.5. Cases and best practices – additional references

In general, all LIFE-IPE projects focusing on habitat and species enhancement (mainly within the Natura 2000 network) can serve as best practice examples in one way or another. It is not necessary to limit the selection to projects implemented in the Atlantic region, as the point is the presentation and lessons learned of the integrative approach.



Figure 12: Broad objectives and scope of project LIFE21-IPN-BE-B4B LIFE (Belgium for Biodiversity) demonstrating the application of the (four pillars) integration approach (source: project presentation at WM2021)

Some IPE projects have in focus horizontal / cross cutting objectives for the improvement of national structures and systems in the management and monitoring of Natura 2000 areas. For example, the LIFE-IP N2K Revisited project aims to create a more effective management system for the Natura 2000 network sites in the Czech Republic. The aim is to link appropriate management more effectively with corresponding planning, based on accurate assessments of status and trends of the target features, accompanied by cooperation with land users. Similarly, the Belgian IPE BNIP and the consecutive SNAP B4B LIFE has developed and managed the operational planning for the implementation of the Flemish and Walloon region's PAFs, and the execution of the Natura 2000 objectives of the Flemish, Walloon and federal governments. The main aim of this type of integrated project is not to achieve all the objectives of the national Prioritised Action Frameworks (PAFs), but to contribute to their implementation by developing tools and expertise, enhancing involvement of administrations, strengthening participation and empowering stakeholders (figure 12).

Most of the IPE focus, however, is rather on a certain region or group of habitats or species. The project IP GrassBirdHabitats (presented also during this seminar) aims at improving the conservation status of wet grassland breeding birds in the Atlantic region. This includes measures that increase the breeding populations and reproduction rates in Germany and the Netherlands and returning rates of the birds from their wintering areas in West Africa. Substantial complementary funds will be needed for this ambitious goal: just the capacity building measures necessary for fund raising alone amount to 3 million Euro. Another German LIFE IPE Atlantic Region DE strives to implement EU nature conservation

goals with a special focus on oligotrophic habitats on sand in the Atlantic region of northern Germany. The Irish <u>LIFE IP PAF Wild Atlantic Nature</u> focuses on another part of the national PAF by protecting and restoring Ireland's blanket bogs in 35 Natura 2000 sites along the Atlantic seaboard. At the heart of the project is the use of the Result Based Payment Scheme 9 (RBPS), and so far in just 3 years of implementation there are over 800 farmers subscribed and receiving support and approximately 63,000 ha are covered by the RBPS. The level of complementary financing mobilised so far is impressive – over €750m via Cooperation Projects in the CAP Strategic Plan which commenced in 2023.

During the workshop, special attention could be paid to the experience of raising additional complementary funds and initiating complementary projects and measures, which are essential for the realisation and financing of the broad-based inclusive approach and the achievement of the expected goals.

Annex 3 provides the List of LIFE IPE projects funded between 2014 and 2021 dealing with conservation and restoration of habitats and species within Natura 2000 network and adjacent buffer areas.

Useful websites:

https://cinea.ec.europa.eu/publications/life-integrated-projects_en https://cinea.ec.europa.eu/system/files/2022-02/LIFE%20Integrated%20Projects_0.pdf https://www.eu-foerdermittel.eu/life-2022-strat-two-stage-strategic-nature-and-integratedprojects-snap-sip/ (in DE) https://cinea.ec.europa.eu/programmes/life/life-calls-proposals_en https://www.unep.org/news-and-stories/press-release/new-research-reveals-major-benefitsintegrated-approaches-climate

3.4. Theme 4: Implementation of pledges on the ground

3.4.1. Context

In light of the ongoing loss of biodiversity across the EU, as reported by Member States in their reporting on conservation status and trends of species and habitats, the EU Biodiversity Strategy for 2030 concluded that more ambitious measures must be taken to halt and revert these negative trends. The Strategy has therefore set ambitious targets for protecting, managing and restoring nature and biodiversity in the European Union.

According to the Strategy's target for establishing, by 2030, a coherent Trans-European Nature Network (TENN), more area should be dedicated to biodiversity protection in Europe, by designating additional protected and strictly protected areas, possibly to be complemented by OECMs ²⁷. By 2030, protected areas should be effectively managed, with appropriate site-specific conservation objectives,

²⁷ Other Effective Area-based Conservation Measures

effective conservation measures and appropriate monitoring in place for all of them. Furthermore, according to the Strategy's target for improving the conservation status of habitats and species, current efforts should be upscaled and focus on those species and habitats in the worst situation and with declining trends.

Implementing these ambitious targets and achieving measurable progress by 2030 will no doubt require significant additional resources for on-the-ground implementation of actions, both in financial terms and by increasing human resources.

Depending on a variety of political, cultural, social, economic and natural circumstances, there is a considerable variation between different Member States and regions across the EU, as regards the way the implementation of conservation actions is being organised. Whereas some countries and regions rely mostly on EU funding sources, others are primarily basing their conservation efforts on domestic financing. Moreover, while some countries and regions have stable structures with experienced long-term staff in place for site management and restoration works, others mostly rely on specialised ad-hoc subcontracting or other temporary or project-based solutions.

In the context of this biogeographic seminar, it is worth looking at the existing variety of approaches across Member States and regions in the Atlantic biogeographical region, compare their successfulness in terms of delivering biodiversity outcomes, and identify any best practises that could be replicated elsewhere.

3.4.2. Objectives of the thematic session

The objectives of this thematic session are therefore to discuss and reach a common understanding on the following questions:

- Are there any specificities in the way that protection, management and restoration work is being organised that can trigger a more effective and more successful implementation of conservation actions on the ground?
- How could we promote any identified best-practises, to help achieve the ambitious Biodiversity Strategy targets for protected areas and status improvement ?

3.4.3. Common issues, challenges and approaches

Cross sector 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. Clearly one therefore cannot simply replicate what was done in one country and expect it to work in another (Sundseth, 2015). The recent proposal for a Nature Restoration Law, although largely in line with existing legislation, may also allow for further integration of measures to improve the conservation status of species and habitats.

Conflicting interests / legal obstacles

There can be conflicting interests even among nature conservation objectives themselves and priorities thus need to be agreed upon (e.g., if the re-introduction of system dynamics leads to some species disappearing while others maintain or enhance their conservation status). In such contexts, developing stakeholder engagement may help identify and prevent or solve conflicts. Alternatively, consolidating areas can benefit more species and habitats: e.g., the establishment of buffer zones can decrease the nitrogen load in Natura 2000 sites and thus improve their conservation status. At the same time, expanding areas through a buffer zone contributes to the Protected Area targets, provided that the additional buffer zone has a legal status (not necessarily as Natura 2000) and has aims for conservation. Larger areas with more system dynamics are more robust and allow for co-existence of species and habitats that would be excluded in smaller areas. However, an approach is also needed here that allows stakeholders to take on a new role, e.g., farmers that become active in conservation and find a viable business model in combining production and conservation functions.

Upscaling of measures, increased learning

The clear ambition to improve the conservation status requires an upscaling and learning process based on past experiences. Much information, but also expertise and knowledge, can be found in specific LIFE projects. The current LIFE-IP Projects (see par. 4.3) also bring together the experts and authorities, thus bridging the gap which sometimes exists between policy and practice. The 30+ years of conservation projects in the LIFE database can however be an important source of inspiration for specific, lesser-known species groups or habitat types.

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

As mentioned in the introduction, there are many LIFE projects, or INTERREG projects that can inspire conservation measures. Here some examples are given of more structured approaches towards restoration, conservation planning, and joint learning.

Joint learning: The Dutch Knowledge Network for Restoration and Management of Nature (OBN)

In The Netherlands there is the 'OBN' knowledge network with researchers, conservation site managers, universities, consultancies, NGO's and governmental bodies, such as provinces and water

boards, closely cooperating to restore ecosystems and nature reserves ²⁸. In this network, knowledge and practice intermingle, and science and nature management jointly look for the most effective approaches to enhance sustainable conservation of important ecosystems in the Dutch landscapes. The OBN Knowledge Network includes researchers from institutes and universities, site managers and private landowners, representatives from consultancies and NGOs, representatives from governmental bodies such as provinces and water boards.

The objective is to closely cooperate in the restoration of ecosystems and nature reserves in all major Dutch landscapes. Since 2006 the network formulates a mission statement and knowledge agenda each 4 to 5 years which leads all activities. Nine landscape-based 'Expert Teams' are working on the development, dissemination, and implementation of knowledge on restoration and rehabilitation of ecosystems, on issues regarding Natura 2000 and the EU Water Framework Directive, as well as on the conservation of individual species. Atmospheric nitrogen deposition, climate change, sea level rise, coastal defence, flood risks and agricultural practise are the main environmental concerns.

Site managers, together with policy makers and researchers, identify knowledge gaps to enable costefficient and effective nature restoration and management measures. OBN research projects ('case studies') are being allocated via calls for tenders to research institutes. Results are communicated in reports, brochures, newsletters, a website, publications in scientific journals and more popular nature magazines, interactive workshops and field training. Within the OBN Knowledge Network field workshops are an important way of knowledge exchange. During these workshops research outputs and experiences with management techniques are shared and discussed. The OBN network is financed by the Dutch National and Provincial governments. For more details, see Van der Sluis & Schmidt (2021).

Strategic approaches towards restoration and LESA (SER)

Restoration measures of species and habitats can benefit from a standardised approach, in which a landscape ecological system analysis (LESA) is done to design the appropriate measures. Ecological restoration not only gains cumulative value when applied at large scales (Gann *et al.* 2019, Principle 7) but requires analysis and understanding of ecosystem functioning at the landscape level, even when targeted at a local scale. The LESA (see Decleer & Bijlsma 2021) was introduced as a tool to allow a transparent and verifiable analysis and evaluation of abiotic conditions, natural habitats and species in Dutch sites as a starting point for management plans including ecological restoration (Van der Molen *et al.*, 2011). The landscape-ecological approach acknowledges the importance of regionally operating abiotic and biotic drivers of local diversity and viability of natural habitats and species. The LESA can

²⁸ <u>https://www.natuurkennis.nl/english/english/english/knowledge-network-for-restoration-and-management-of-nature-in-the-netherlands/</u>

be included in a procedure to prioritise natural habitats and species as targets for long-term viable development in Natura 2000 sites and to develop a management vision.

Decleer & Bijlsma (2021) proposed the 'restorative continuum concept'. The Restorative Continuum (Figure 13) includes a range of activities and interventions which can be implemented to achieve better ecological conditions and reverse ecosystem degradation and landscape fragmentation. The continuum highlights the interconnections among these different activities, and the fact that the specific situation of the locality slated for restorative interventions will dictate which activities are best suited for the different landscape units (Decleer & Bijlsma 2021).



Figure 13: The restorative continuum presented as overlapping activities to improve environmental conditions and reverse ecosystem degradation and landscape fragmentation (from Gann et al. 2019).

Expanding protected areas to improve conservation status of species

An example of extending habitat protection is an older initiative for farmland birds protection in Luxembourg, in 2011. The European Commission had asked the Luxembourg government to evaluate the existing network of 12 designated SPAs to define whether it was sufficient for species conservation. One of the larger NGOs in Luxembourg, the LNVL, suggested that several IBAs which did not overlap with the existing SPAs would be of conservation importance. So, the Luxembourg government initiated a study to define the importance of six proposed IBAs becoming an SPA to fulfil their obligations following the Birds Directive (Van der Sluis *et al.* 2012).

The importance of the designated SPAs and the six selected IBAs was defined, in terms of a sustainable population network, for the survival of the (30) bird species which were not or insufficiently covered by the designated sites. This analysis showed that these IBAs catered very well for a group of bird species, in particular species which are dependent on farmland such as Linnet (*Carduelis cannabina*),

Grey Partridge (*Perdix perdix*) Lapwing (*Vanellus vanellus*), and Sky Lark (*Alauda arvensis*). Identifying additional areas, such as IBAs with a high potential for specific birds, is therefore an effective way to improve the conservation status of a larger group (Van der Sluis *et al.* 2012).

Useful Literature

- Aggestam, F., et al. (2020). Can nature conservation and wood production be reconciled in managed forests? A review of driving factors for integrated forest management in Europe. Journal of Environmental management 268 110670.
- Annex, V. Annexes to STRP24 Doc. 3.1. 3 (C): Draft Ramsar Technical Report on Global Guidelines for Peatland Rewetting and Restoration.
- Bennett, Nathan J., et al. (2017): Conservation social science: Understanding and integrating human dimensions to improve conservation. biological conservation 205, 93-108.
- Bonn, A., Allott, T., Evans, M., Joosten, H. A. N. S., & Stoneman, R. (2016). Peatland restoration and ecosystem services: nature-based solutions for societal goals. Peatland restoration and ecosystem services: science, policy and practice, 402-417.
- Bouwma, I., A. Schmidt, K. Sepp, R. White, T. Van der Sluis and D. Pungar (2019). 3rd Natura 2000 seminar for the Atlantic region. Antwerp, Belgium, 12 14 June 2019. Wageningen. WENR/European Commission.
- Bullock, C., & Flood, K. (2020). Guidelines for Communities Managing Local Wetlands and Peatlands. In Community Wetlands Forum.
- Condé, S., D. Moser, T. Ellmauer, M. Adam, S. Schindler, P. Zulka, et al. (2017). Note on a list of transboundary species relevant for TEN-G criteria. ETC-BD, EEA, Copenhagen.
- Decleer, Kris, Rienk-Jan Bijlsma (2021). Guidance and tools for effective restoration measures for species and habitats. In: Van der Sluis & Schmidt (2021) E-BIND Handbook (Part B): Scientific support for successful implementation of the Natura 2000 network, Chapter 4, p.4-23.
- De Lamo, X. et al. (2020). Strengthening synergies: how action to achieve post-2020 global biodiversity conservation targets can contribute to mitigating climate change. UNEP-WCMC, Cambridge, UK
- De La Haye, A., Devereux, C., van Herk, S., van Belle, J., & Sechi, V. (2021). Peatlands across Europe: innovation & inspiration: state of the art & guide to next steps.
- Franks, S.E., Roodbergen, M., Teunissen, W., Carrington Cotton, A. & Pearce-Higgins, J.W. (2018). Evaluating the effectiveness of conservation measures for European grassland-breeding waders. Ecology and Evolution 8(21), 10555-10568.
- Fulton, E. A., Smith, A. D., Smith, D. C., & Johnson, P. (2014). An integrated approach is needed for ecosystembased fisheries management: insights from ecosystem-level management strategy evaluation. PloS one, 9(1), e84242.
- Gann, G.D., McDonald, T., Walder, B., Aronson, J., Nelson, C.R., Jonson, J., Hallett, J.G., Eisenberg, C., Guariguata, M.R., Liu, J., Hua, F., Echeveria, C., Gonzales, E., Shaw, N., Decleer, K. & Dixon, K.W. (2019). International principles and standards for the practice of ecological restoration. Second edition. Ecological Restoration 27(S1): S1–S46. <u>www.ser.org/page/SERStandards</u>.
- Glenk, K., & Martin-Ortega, J. (2018). The economics of peatland restoration. Journal of Environmental Economics and Policy, 7(4), 345-362.
- Häfner, K., & Piorr, A. (2021). Farmers' perception of co-ordinating institutions in agri-environmental measures— The example of peatland management for the provision of public goods on a landscape scale. Land use policy, 107, 104947.

- Jarašius, L., Etzold, J., Truus, L., Purre, A. H., Sendžikaitė, J., Strazdiņa, L., & Jurema, L. (2022). Handbook for assessment of greenhouse gas emissions from peatlands. Lithuanian Fund for Nature (Lithuania).
- Joosten, H., & Clarke, D. (2002). Wise use of mires and peatlands. International mire conservation group and international peat society, 304.
- Joosten, H., Tapio-Biström, M. L., & Tol, S. (2012). Peatlands: guidance for climate change mitigation through conservation, rehabilitation and sustainable use. Rome: Food and Agriculture Organization of the United Nations.
- Kasimir, Å., Belyazid, S., Andresen, L., Kljun, N., Toet, S., Akselsson, C., & Klemedtsson, L. (2020). Guiding drained peatland management towards negative GHG emissions. In EGU General Assembly Conference Abstracts (p. 19120).
- Kettunen, M. et al. (2017). Summary report Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London.

LIFE Factsheet: Peatlands for Life (2020).

- Lindsay, R. (1995). Bogs: the ecology, classification and conservation of ombrotrophic mires. Scottish Natural Heritage.
- Maier, C., & Winkel, G. (2017). Implementing nature conservation through integrated forest management: A street-level bureaucracy perspective on the German public forest sector. Forest Policy and Economics, 82, 14-29.
- Manhoudt, A., I. Bouwma and C. Roodhart (2020). International workshop Protection of Meadow breeding birds Networking event Biogeographical Process, 17-18 November 2020. Wageningen/Velp.
- Norris, J., Matzdorf, B., Barghusen, R., Schulze, C., & van Gorcum, B. (2021). Viewpoints on Cooperative Peatland Management: Expectations and Motives of Dutch Farmers. Land, 10(12), 1326.
- Pakalne M. et al. (2021). Best Practice Book for Peatland Restoration and Climate Change Mitigation. Experiences from LIFE Peat Restore Project. University of Latvia, Riga.
- Rawlins, A., & Morris, J. (2010). Social and economic aspects of peatland management in Northern Europe, with particular reference to the English case. Geoderma, 154(3-4), 242-251.
- Roodbergen, M. & Teunissen, W. (2019). Meadow birds in the Netherlands. Wader Study, 126(1) 7-18. doi: 10.18194/ws.00134.
- Roos, S., Smart, J., Gibbons, D.W. & Wilson, J.D. (2018). A review of predation as a limiting factor for bird populations in mesopredator-rich landscapes: a case study of the UK. Biological Reviews, 93(4) 1915-1937.
- Salomaa, A., Paloniemi, R., & Ekroos, A. (2018). The case of conflicting Finnish peatland management–Skewed representation of nature, participation and policy instruments. Journal of Environmental Management, 223, 694-702.
- 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.
- Schmidt, A. & T. Van der Sluis (2021). E-BIND Handbook (Part A): Improving the availability of data and information on species, habitats and sites. Wageningen Environmental Research/Ecologic Institute/Milieu Ltd. Wageningen, The Netherlands.
- Tanneberger, F., & Wichtmann, W. (2011). Carbon credits from peatland rewetting-Climate-biodiversity-land use.
- Thom, T., Hanlon, A., Lindsay, R., Richards, J., Stoneman, R., & Brooks, S. (2019). Conserving bogs: The management handbook. 207 p.
- Truchy, A., Angeler, D. G., Sponseller, R. A., Johnson, R. K., & McKie, B. G. (2015). Linking biodiversity, ecosystem functioning and services, and ecological resilience: towards an integrative framework for improved management. In Advances in ecological research (Vol. 53, pp. 55-96). Academic Press.

- Van der Molen, P.C., Baaijens, G.J., Grootjans, A.P. & Jansen, A.J.M. (2011). LESA. Landscape ecological system analysis. Ministry of Economic Affairs, Agriculture and Innovation, The Hague. www.natuurkennis.nl/Uploaded files/Publicaties/obn-lesa-english.1c2dd5.pdf
- Van der Meulen, F., & de Haes, H. U. (1996). Nature conservation and integrated coastal zone management in Europe: present and future. Landscape and Urban Planning, 34(3-4), 401-410.
- Van der Sluis, T., Eupen, M., Apeldoorn, R. and Schotman, A. (2012) Luxembourg and the Birds Directive. Analysis of necessity and identification of new SPAs, 2340: Alterra, Wageningen.
- Van der Sluis, T. & Schmidt, A.M. (2021). E-BIND Handbook (Part B): Scientific support for successful implementation of the Natura 2000 network. Wageningen Environmental Research/ Ecologic Institute /Milieu Ltd. Wageningen, The Netherlands.
- Van der Sluis, T. (2022). Ecological coherence: Transboundary forest corridors and planning A case study for the TEN-N in Strasbourg area. ETC-BD Technical Report, Paris, France.

ANNEXES

Annex 1 – Atlantic Biogeographical Roadmap

Dune road map: refer to online doc:

https://biogeoprocess.net/wp-content/uploads/2023/06/Roadmap-for-coastal-dunes-of-the-Atlantic-Region-V4-May-2023.pdf

Annex 2 – Follow-up and networking events

Annex 2 – Follow-up and networking events since the previous Atlantic seminar

Europe's freshwater fishes in the context of the Biodiversity Strategy targets	
Date: 24-25 November 2022 Location: Brussels, Belgium	ALL
Natura 2000 site management	
Date: 15 November 2021 and 23-25 May 2022 Location: Zagreb, Croatia	ALL
Assessment of current and future Invasive Alien plant Species (IAS) in Euro ecosystems	ppean coastal dune
Date: 19-21 May 2022 Location: De Panne, Belgium	ATL
Workshop on butterflies and EU biodiversity strategy targets	
Date: 29-30 March 2022 Location: Online	ALL
Introductory biogeographical seminars; terrestrial and marine	
9-10 December and 14-15 December 2021 Location: Online	ALL
Central Atlantic Flyway - Atlantic and Continental N2000 sites as migration hotspo	<u>ots</u>
Date: 4 - 5 October 2020 Location: Online	ATL
Protection of Meadow Birds in the EU	
Date: 17-18 November 2020 Location: Utrecht, The Netherlands	ATL
Assessment and Management of Natura Freshwater Habitats	
Date: 9-11 November 2020 Location: Online	All

Uncertainty and Multifunctionality: Legal Challenges and Infrastructure (GI) Policy	Opportunities	for (<u>Green</u>
Date: 28th April 2020 Location: Online	ALL		
Exchanging experience on the management of invasive alien spec	ies in Europe		
Date: 18 December 2019 Location: Brussels, Belgium	ALL		
European Workshop on Measures to Benefit Pollinators			
Date: 13 November 2019 Location: Brussels, Belgium	ALL		
International seminar on Sustainable forest management in Natu	<u>ra 2000</u>		
Date: 11-12 November 2019 Location: Palermo, Italy	ALL		
LIFE Platform meeting on Natura 2000 Governance			
Date: 14-16 October 2019 Location: Brussels, Belgium	ALL		
European workshop: Atlantic biogeographical chalk grasslands			
Date: 18-20 September 2019 Location: Rouen, France	ATL		
The Third Atlantic Biogeographic seminar			
Dates: 12-14 June 2019 Location: Antwerp, Belgium	ATL		

Annex 3 - List of LIFE IPE projects

Projects funded between 2014 and 2021 dealing with conservation and restoration of habitats and species within Natura 2000 network and adjacent buffer areas. Projects implemented fully or partly in the Atlantic region are **in bold**.

LIFE Reference	Title	MS	End date	Budget					
Integrated Projects Environment (IPE) and Strategic Projects Nature (IPN, 2021) aiming for the implementation of EU Nature Directives (HD, BD)									
LIFE14 IPE/IT/000018 LIFE IP GESTIRE 2020	Nature Integrated Management to 2020	IT	12/2023	17,345,496€					
LIFE14 IPE/BE/000002 BNIP	Belgian Nature Integrated Project	BE	03/2023	19,008,047€					
LIFE15 IPE/DE/000007 Atlantic region DE	The exemplary implementation of the EU 2020 target with a focus on oligotrophic habitats on sand in the Atlantic region of Germany	DE	09/2026	16,875,000€					
LIFE15 IPE/ES/000012 LIFE-IP INTEMARES	Integrated, Innovative and Participatory Management for N2000 network in the Marine Environment	ES	12/2024	27,278,552€					
LIFE15 IPE/NL/000016 DELTA Nature	Integrated approach N2000 Delta Nature to catalyse the implementation of the Netherlands Prioritised Action Framework	NL	09/2022	17,442,390€					
LIFE16 IPE/FR/000001 IP Marine Habitats	Nature Integrated Project for effective and equitable management of marine habitats in France	FR	12/2025	22,295,164€					
<u>LIFE16 IPE/DK/000006</u> 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	DK	03/2026	17,417,232€					
LIFE16 IPE/SE/000009 GRIP on LIFE-IP	Using functional water & wetland ecosystems and their services as a model for improving green infrastructure and implementing PAF in Sweden	SE	07/2025	16,653,702€					
<u>LIFE16 IPE/LT/000016</u> PAF-NATURALIT	Optimizing the management of Natura 2000 network in Lithuania	LT	12/2027	17,000,044€					
LIFE17 IPE/PT/000010 LIFE-IP AZORES NATURA	Active protection and integrated management of Natura 2000 Network in Azores	РТ	12/2027	19,087,522€					
LIFE16 IPE/GR/000002 LIFE IP 4Natura	Integrated actions for the conservation and management of Natura 2000 sites, species, habitats and ecosystems in Greece	GR	11/2025	17,000,000€					
LIFE17 IPE/CZ/000005 LIFE -IP: N2K Revisited	Integrated LIFE project for the Natura 2000 network in the Czech Republic	CZ	12/2026	20,369,945€					
LIFE17 IPE/HU/000018 LIFE IP GRASSLAND-HU	Long term conservation of Pannonian grasslands and related habitats through the implementation of PAF strategic measures	HU	12/2026	17,258,306€					

LIFE17 IPE/SI/000011 LIFE-IP NATURA.SI	LIFE intergrated project for enhanced management of Natura 2000 in Slovenia	SI	12/2026	17,007,204€
LIFE18 IPE/EE/000007 LIFE-IP ForEst&FarmLand	Adaptive community-based management of forest and farming landscapes to improve the conservation status of Natura 2000 habitats and species	EE	12/2029	19,561,784€
LIFE18 IPE/CY/000006 LIFE IP Physis	Managing the NATURA 2000 network in Cyprus and Shaping a sustainable future	CY	10/2029	16,996,979€
LIFE19 IPE/LV/000010 LIFE-IP LatViaNature	Optimising the Governance and Management of the Natura 2000 Protected Areas Network in Latvia	LV	12/2028	19,484,173€
LIFE19 IPE/DE/000004 LIFE IP GrassBirdHabitats	Conservation of wet grassland breeding bird habitats in the Atlantic Region	DE	10/2030	27,061,079€
LIFE18 IPE/IE/000002 LIFE IP PAF-WILD ATLANTIC NATURE	Towards implementing the PAF for Ireland by protecting and restoring Ireland's blanket bog Natura Network along Atlantic seaboard	IE	12/2029	20,623,808€
LIFE19 IPE/NL/000011 LIFE IP PAF All4Biodiversity	LIFE IP PAF Biodiversity recovery approach for N2000 sites and surroundings, in cooperation with agricultural and other land users	NL	03/2026	16,271,076€
LIFE19 IPE/SK/000003 LIFE- IP NATURA 2000 SK	Role of the Natura 2000 network and management of some prioritized habitats in the integrated landscape protection in the Slovak Republic	SK	12/2030	16,622,242€
LIFE19 IPE/IT/000015 LIFE IMAGINE UMBRIA	Integrated MAnagement and Grant Investments for the N2000 NEtwork in Umbria	IT	09/2027	15,663,500€
LIFE20 IPE/FR/000019 Biodiv'Est	Biodiv'Est	FR	10/2031	26,109,040€
LIFE20 IPE/FI/000020 LIFE-IP BIODIVERSEA	Enhancing the marine and coastal biodiversity of the Baltic Sea in Finland and promoting the sustainable use of marine resources	FI	11/2029	19,882,019€
LIFE21-IPN-PL-WETLANDS GREEN LIFE/101069640 LIFE21-IPN-PL-WETLANDS GREEN LIFE	Odtworzenie oraz zachowanie obszarów bagiennych, torfowisk i terenów podmokłych na obszarach Natura 2000 i Zielonej Infrastruktury	PL	11/2032	35,943,587€
LIFE21-IPN-BE-B4B LIFE/101069526 LIFE21-IPN-BE-B4B LIFE	Belgium for Biodiversity	BE	12/2031	36,297,528€

Integrated Projects Environment (IPE) contributing to EU Nature Directives (HD, BD) partly or indirectly through the implementation of the WFD and/or RBMPs

LIFE14 IPE/DE/000022 Living River Lahn	Living River Lahn - one river, many interests	DE	11/2025	14,160,656€
LIFE14 IPE/UK/000027 LIFE-IP RBMP-NWRBD UK	Integrated water management approach to delivery of the Northwest England River basin management plan	UK	03/2024	19,981,352€
LIFE15 IPE/SE/000015 LIFE IP RICH WATERS	Integrated approach to mobilise resources for resilient ecosystems and rich waters in the North Baltic Sea River Basin	SE	06/2025	23,743,534€

LIFE15 IPE/BE/000014 LIFE BELINI	Belgian Initiative for making a leap forward towards good status in the river basin of the Scheldt	BE	12/2026	17,699,504€
LIFE16 IPE/ES/000019 RBMP-DUERO	Implementation of the river Duero basin management plan in the Central-South part of the river Duero basin	ES	12/2026	11,166,700€
LIFE16 IPE/MT/000008 LIFE-IP-RBMP-Malta	Optimising the the implementation of the 2nd RBMP in the Maltese River Basin District	MT	12/2025	17,000,000€
LIFE17 IPE/EE/000007 IP CleanEST	Development of an integrated water management and its modern tools in Estonia - strategic choices for future	EE	12/2028	16,666,600€
LIFE17 IPE/AT/000006 LIFE IP IRIS AUSTRIA	LIFE IP Integrated River Solutions in Austria	AT	12/2027	16,532,640€
LIFE18 IPE/IE/000003 LIFE-IP Waters of Life	Protect and restore high ecological status waterbodies in Ireland	IE	03/2028	20,206,605€
LIFE18 IPE/LV/000014 LIFE GoodWater IP	Implementation of River Basin Management Plans of Latvia towards good surface water status	LV	12/2027	14,463,050€
LIFE19 IPE/PL/000005 LIFE PL Pilica Basin CTRL	Implementation of River Basin Management Plan in the Vistula basin on the example of Pilica river catchment	PL	12/2030	16,306,776€
LIFE19 IPE/FR/000007 LIFE-IP REVERSEAU	REVERSEAU: recovering a good ecological status of waters in the Pays de la Loire region	FR	12/2027	15,099,674€
LIFE21-IPE-SK-LIFE-Living- Rivers/101069837 IPE-SK-LIFE Living Rivers	Implementation of the river basin management plan in selected river sub-basins in Slovakia	SK	12/2032	27,799,402€

Integrated Projects Climate (IPC) contributing to EU Nature Directives (HD, BD)

LIFE15 IPC/DK/000006 EU LIFE IP C2C CC	EU LIFE IP C2C CC	DK	12/2022	11,683,058€
LIFE19 IPC/IE/000007 LIFE IP Peatlands and People	LIFE IP Peatlands and People - Irelands Climate Action Catalyst	IE	09/2027	27,368,976€
LIFE18 IPC/FR/000007 LIFE IP ARTISAN	Achieving Resiliency by Triggering Implementation of nature-based Solutions for climate Adaptation at a National scale	FR	12/2027	16,657,712€
LIFE15 IPC/DE/000005 LIFE-IP ZENAPA	LIFE-IP ZENAPA	DE	10/2024	17,168,650€
LIFE20 IPC/NL/000006 LIFE-IP NL-NASCCELERATE	Netherlands National Adaptation Strategy on Climate Change, to Local Networks Accelerating Climate Resilience	NL	12/2027	16,927,870€