



Natura 2000 seminar for the Atlantic region

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3rd Natura 2000 seminar for the Atlantic region

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Prepared by	WENR, NatureBureau
Authors	Anne Schmidt (WENR), Irene Bouwma (WENR), Richard White (NatureBureau), Theo van der Sluis (editor) with contributions of Erik Kleyheeg (Sovon) and Rienk Jan Bijlsma (WENR)
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Event: For more information on this seminar, see the Natura 2000 Communication Platform: http://ec.europa.eu/environment/nature/natura2000/platform/events/third_atlantic_biogeographic_seminar.htm

Relevant documents can be found here:

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

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

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

Assuming that Member States in a given region are facing similar challenges in the management of Natura 2000 sites, habitats and species, the Natura 2000 seminars are intended to stimulate transnational exchanges and promote a coherent management of Natura 2000 at biogeographical region level.

As the responsibility for implementing Natura 2000 lies with the Member States, the seminars create an opportunity for these key actors to exchange of information at biogeographical level. In addition, they also stimulate discussions with and involvement of other key stakeholders and expert networks, including NGOs.

The strategic orientation of the process is evolving over time. A recent 'Fitness Check' published in 2016 presented results of an evaluation of the implementation of EU Nature Directives¹. This showed that the effectiveness of the Directives has been constrained by a lack and insufficient focus of funding, by limited stakeholder awareness and cooperation as well as by knowledge gaps. The evaluation also highlighted the need to put in place more effective conservation systems, with a view to achieving the Directives' objectives, having full regard of the socio-economic context in which the Directives operate.

On that basis, the Commission proposed to refocus the Natura 2000 process to promote the best practices in conservation management, identification of funding opportunities and increased stakeholder involvement. It also aims to deliver:

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

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

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

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

2. The biogeographical process in the Atlantic region

The Atlantic region makes up about one fifth of the land area of the EU, includes nine Member States², Belgium, Denmark, France, Germany, Ireland, Netherlands, Portugal, Spain and the United Kingdom, and stretches from the Shetland Islands to Northern Portugal.

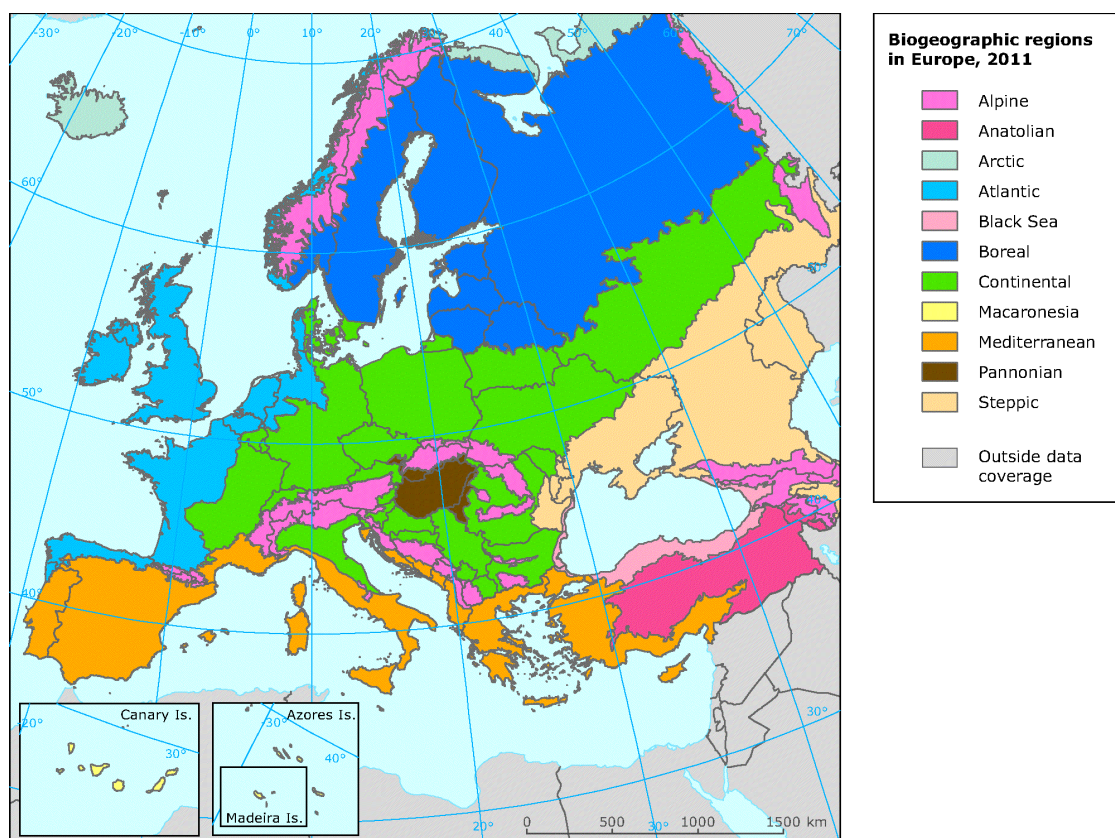


Figure 1: Biogeographical regions in Europe (source: EEA³, last modified October 2012)

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

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

The first Natura 2000 seminar for the Atlantic region was held in Bergen, Netherlands, 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
- Heaths and bogs
- Rivers and lakes

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

The second Natura 2000 seminar for the Atlantic region took place in Ennistymon, Ireland, October 2016. This event discussed the same broad habitat groups and included four site visits, providing practical on the ground examples of the issues being discussed. A knowledge market was again included in the agenda, allowing a range of projects to be presented and maximising opportunities for networking.

As well as priority conservation issues, the seminar also discussed 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 was developed based on seminar discussions. Again, this proposed cross-cutting actions as well as habitat-specific projects⁵.

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

- Integrated management approaches for Natura 2000 sites
- Adaptive approaches to agriculture and nature conservation
- Communication and stakeholder engagement
- Setting conservation priorities

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

⁴ http://ec.europa.eu/environment/nature/natura2000/platform/documents/atl-seminar-report-21042013_en.pdf

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

3. The four themes selected for the third Natura 2000 seminar for the Atlantic region

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

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

Theme 1 – Protection and conservation of meadow birds: on different approaches to protect and conserve meadow birds (including outside of the Natura 2000 network).

Theme 2 – Integrated approaches to tackling nitrogen pollution (air and water pollution) impacts on Natura 2000 sites: on approaches to tackling the impacts of nitrogen through air and water pollution on Natura 2000 sites.

Theme 3 – Improving the conservation of Natura 2000 sites through integrated management: on the development of integrated management through projects and plans yielding multiple benefits, such as flood protection and river restoration.

Theme 4 – Communication and stakeholder engagement in Natura 2000: on approaches to initiate and develop communication, overcome obstacles (and, to some extent, conflicts) and to increase stakeholder engagement.

Each of these four themes has been identified as being of common interest across Member States, offering opportunities for further exchanges and strengthening of trans-national cooperation around Natura 2000. The following section provides introductory information for each, a starting point for group discussions.

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

4.1. Theme 1: Protection and conservation of meadow birds

On different approaches to protect and conserve meadow birds (including outside Natura 2000).

4.1.1. Context

There has been a large decline in meadow birds, both migratory and breeding, over the past decades due to intensification of land use, habitat loss, reduced land use heterogeneity, landscape fragmentation, increased predation and increased use of chemicals (IPBES 2018, table 3.1 background document; Van der Sluis et al., 2015). Despite numerous conservation efforts, nearly all populations are still declining. New conservation strategies and approaches are needed to reverse this decline.

Some limited successes in meadow bird conservation have been registered in certain protected areas (both inside and outside Natura 2000) specifically managed for the conservation of these species. The extent of these sites remains insufficient to ensure their conservation at a wide scale. It is therefore clear that the future of this species group will mostly rely on meadow/farmland areas dedicated to agricultural uses. In this context, the ongoing revision of the Common Agricultural Policy (CAP) – with a more flexible approach, including eco-schemes – might provide additional opportunities for the protection and conservation of meadow birds.



Figure 2 : Black-tailed godwit (source: Shutterstock).

Furthermore, a number of Species Action Plans have been developed on European, national and regional scales to protect and restore meadow bird populations⁶.

4.1.2. Objectives of the thematic session

The objectives of this thematic session are to:

- exchange knowledge of successful approaches to meadow bird protection and conservation, focussing on key factors of success and lessons learnt from monitoring;
- share experiences in the implementation of the Species Action Plans (SAPs) on different scales (EU, national and regional); and
- discuss the opportunities presented by a revised CAP for meadow bird protection and conservation.

This session will identify approaches and best practices on the conservation and protection of meadow birds, that could be shared between Member States and included in a revised roadmap for the Atlantic region.

4.1.3. 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 Atlantic 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 ensure 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 a reduced availability of food (invertebrates) and increased 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 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 food availability and accessibility of meadows for predators, as well as increased visibility and thus vulnerability of meadow bird nests and chicks (and sometimes breeding

⁶ http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/index_en.htm

adults) to predators. Improved protection of predatory species is also likely to be a factor in the recovery of some of their populations. Increases in the numbers of feral and invasive predators add up to this and result in additional mortality. Habitat improvement measures are obviously a key measure to restore viable 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 but 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 practise towards a circular economy⁷ (e.g. recycling nutrients on farm) and increasing landscape diversity.

The future status of meadow birds across Europe will, to a large extent, depend on 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.

4.1.4. 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. In light of this, an International Multi-Species Action Plan for the Conservation of Breeding Waders in Wet Grassland Habitats in Europe (covering 2018 – 2028) was developed under the LIFE14 PRE/UK/002 EuroSAP project and adopted in 2018 (Leyrer et al., 2018). At a similar scale, national and European legislations for 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

⁷ 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.

systems. A life cycle approach for agriculture could result in a farming system which is sustainable and promotes multiple functions of the landscape.

The future of meadow birds relies heavily on a revolution in agricultural practices. Member States are not always applying the full flexibility that is offered by EU regulations for agricultural subsidies, thereby excluding from agricultural support certain areas or management practises that are important for meadow birds.

The new CAP that will be put in place after 2020 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 the new 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.

4.1.5. Cases and best practices – additional references

Although meadow bird population trends are generally negative (i.e. populations are decreasing) 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. Nonetheless, some results are encouraging. For example, a 500 ha reserve in Eemland, owned by Natuurmonumenten and managed under strict conditions by 40 farmers (not under Natura 2000 protection), has resulted in an increase in the number of black-tailed godwit (*Limosa limosa*) pairs from 51 in the late 1990s to around 400 pairs in recent years. Among the measures implemented are the raising of ground water tables; late mowing; allowing extensive grazing in only some parts of the reserve; and limited use of fertilisers (www.natuurmonumenten.nl/natuurgebieden/eemland).

Another example from the Netherlands is Bovenkerkerpolder, just south of Amsterdam, which is neither a Natura 2000 site, nor a reserve. Within this polder of 700 ha 20 farmers are collectively protecting meadow birds on a total area of 475 ha. In early spring water tables are raised on 60 ha. Additionally, mowing dates are postponed on meadows with high numbers of breeding farmland birds, and to increase fledging success of especially black-tailed godwits the meadows are sown with a mixture of herb-rich grassland seeds. As a result, the number of breeding pairs of black-tailed godwits (c. 150) has been stable since 2005. More importantly the proportion of successful breeding pairs has been 65% or higher since 2010 and should thus be sufficient for a stable population.

In Dümmer, a wet peat area in North-Western Germany, a Natura 2000 site of more than 4500 ha is being managed with a primary focus on wet grassland breeding birds (www.naturschutzring-duemmer.de/). Targeted management since the early 2000s, in close cooperation with 140 farmers in the area, has increased the breeding numbers of all meadow bird populations and several previously locally extinct species have recolonised the area. Among the most important conditions identified in this project so far are the openness of the landscape; management at a large enough scale; low levels of winter flooding; and delaying active wet grassland farming until after the breeding season.

While some level of predator control is included in the above two examples, this is the main conservation measure implemented on the island of Öland in Sweden (partly covered by Natura 2000 sites). Annual removal of approximately 1000 avian and 500 mammalian predators in an area of 200 km² has resulted in an increase of the black-tailed godwit population and a stabilisation of the dunlin (*Calidris alpina*) population, which is declining elsewhere. Although not part of the Atlantic region, Sweden provides an example of a positive response of meadow bird populations following specific conservation measures (Leyrer et al., 2018).

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 the control and decision power over the management of the lands does not lie with farmers. In order to understand the opportunities offered by integration approaches to the conservation of meadow on actual farmland, it would be necessary to identify successful examples of long-term maintenance or recovery of meadow bird populations in such contexts.

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 1: Some examples of LIFE projects focusing on meadow birds

Project title	Project code
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
LIFE hen harriers - conserving the hen harrier (<i>Circus cyaneus</i>) in northern England and southern and eastern Scotland	LIFE13 NAT/UK/000258

LIFE WADERS FOR REAL - demonstrating wader population recovery through innovative site management and novel stakeholder engagement	LIFE13 BIO/UK/000315
LIFE LIMOSA - stabilisation of the core population of the black-tailed godwit and protection of dunlin and ruff	LIFE11 NAT/DE/000353
Grassland for meadowbirds - managing 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
Reintroducing <i>Otis tarda</i> - re-introducing the great bustard <i>Otis tarda</i> to southern England	LIFE09 NAT/UK/000020

4.2. Theme 2: Integrated approaches to tackling nitrogen pollution (air and water pollution)

On different approaches to tackling the impacts of nitrogen through air and water pollution on Natura 2000 sites.

4.2.1. Context

Eutrophication affects the conservation status of species and habitats in parts of the Atlantic region. Eutrophication is caused by excess nitrogen input from air pollution (emission and deposition) and pollution of ground and surface water. Different sources lead to nitrogen pollution, such as agriculture, transport and energy plants. ‘At source’ reduction measures are needed to prevent or reduce nitrogen pollution as well as on-site management measures to mitigate its ongoing impact on the conservation status of species and habitats. Robust assessment and permitting procedures are needed to prevent the sometimes irreversible impacts of nitrogen pollution on Natura 2000 sites, species and habitats.

4.2.2. Objectives of the thematic session

The objectives of this thematic session are:

- to exchange knowledge on the effectiveness of conservation and restoration measures to mitigate the impact of nitrogen pollution on the conservation status of species and habitats; and

- to share experiences and best practices to prevent nitrogen pollution by means of ‘at source’ reduction measures as well as by appropriate assessments and permitting procedures for plans and projects causing nitrogen pollution.

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

4.2.3. Common issues, challenges and approaches

The EEA (2015) concludes that one in five habitats is under pressure of nitrogen pollution, being indicated as ‘airborne pollution’ and ‘nitrogen input’ in the Habitats Directive Article 17 reporting (period 2007-2012). These pressures are most frequently noted in inherently nutrient-poor habitats in North-Western Europe, as shown in Figure 3. The EEA (2015) states that it would be expected that North-Western France show the same level of this pressure as in the adjacent parts of the Atlantic region in the United Kingdom and in Belgium. However, it appears that France has included this pressure in agricultural reporting, specifically as ‘fertilisation’, since the pollution is agricultural in origin (EEA, 2015).

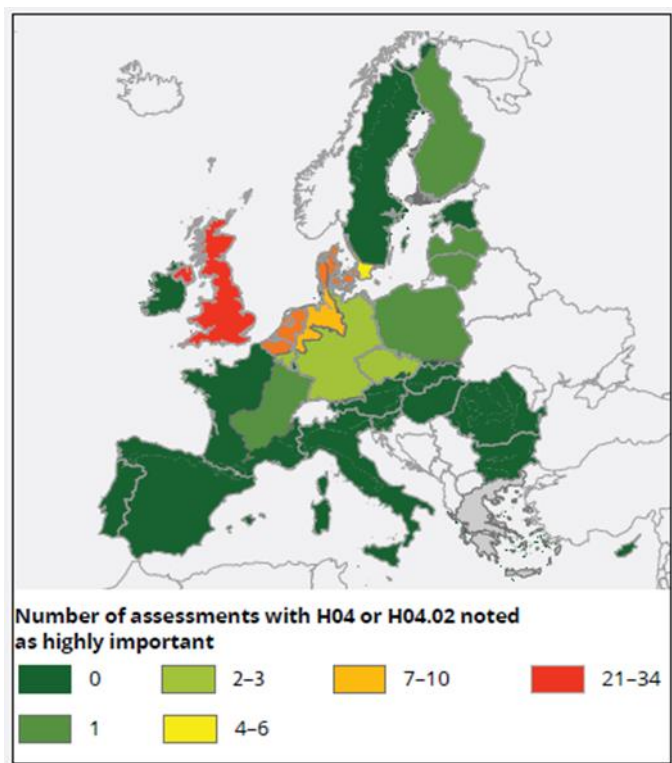


Figure 3: Number of habitat assessments with pressure H04 Airborne pollution or H04.02 Nitrogen input reported as 'Highly important', per region and country (Source: EEA, 2010; Whitfield and McIntosh, 2014).

The adverse impacts of high inputs of nitrogen on terrestrial ecosystems include decreased species diversity; changes to plant communities and habitat structure; the homogenisation of vegetation types; changes in soil chemistry; and increased sensitivity to biotic and abiotic stresses. Even if the most stringent air and water pollution control policies are enacted, some ecosystems may have been so damaged by chronic nitrogen loading that these measures alone will not lead to full recovery within a reasonable time frame. Moreover, the legacy of severe acidification in the 20th century, combined with high nitrogen deposition results in nutritional imbalances experienced by invertebrate herbivores and subsequent species in the food web. This further complicates guidance on applying management measures.

Regulations to prevent nitrogen pollution

Nitrogen deposition has long been recognised as a major pressure on terrestrial ecosystems (EEA, 2015), resulting in the adoption and implementation of international and national policies aimed at reducing both air and water pollution. The UNECE Gothenburg Protocol⁸ contains a series of mandatory control measures that the Parties shall employ for the control of ammonia emissions from agricultural sources. It also requires parties to establish, publish and disseminate an advisory code of good agricultural practice to control ammonia emissions. Furthermore, the National Emissions Ceilings (NEC) Directive (2016/2284/EU), includes a maximum ‘ceiling’ for ammonia emissions. Emissions from larger intensive agricultural units and installations are regulated through the Directive on Industrial Emissions 2010/75/EU (IED). The Nitrates Directive (91/676/EEC), adopted by the European Union in 1991, is aimed at protecting water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. The implementation of the Nitrates Directive is expected to contribute to the reduction of ammonia emissions, as measures limiting, for example, amounts of fertiliser applied have in general a positive impact on both nitrate inputs to waters and ammonia emissions into the air. Reducing nitrates is also an integral part of the EU Water Framework Directive (2000). The Common Agricultural Policy can help reduce the pollution of waters by nitrates, through agri-environment measures and cross-compliance (including the Nitrates Directive). Differences exist in the way the different Member States implement these regulations, specifically in relation to the Nature Directives (Anker et al., 2018).

Conservation and restoration measures

According to Art. 6(1) of the Habitats Directive, Member States are required to establish the necessary conservation measures with the purpose of maintaining or restoring a favourable conservation status

⁸ <http://www.unece.org/environmental-policy/conventions/air/guidance-documents-and-other-methodological-materials/gothenburg-protocol.html>

for the habitats and species. Art. 6(1) is closely related to Art. 6(2) – the non-deterioration principle – which mainly applies to existing activities that might cause the deterioration of natural habitats or disturbance of species. Thus, active management measures and restrictions may be necessary as well to address nitrogen pollution from existing activities or otherwise to restore degraded habitats (Anker et al., 2018).

Different management strategies and various conservation and restoration measures are implemented at a landscape scale⁹ (e.g. a river catchment) or at a local scale (e.g. the location of a certain habitat) to reduce the impact of high nitrogen pollution. In the Netherlands, three comprehensive reports have been published on management strategies to mitigate impacts of nitrogen deposition on the conservation status of species and habitats (Smits et al., 2014a; Smits et al., 2014b; Janssen et al., 2014). At a landscape scale, measures are often directed at the restoration of the hydrological regime and system dynamics to improve resilience regarding abiotic and biotic conditions. At a local scale, measures include dredging, sod cutting, mowing and grazing to remove excess nitrogen from the system. Some of these measures have proven to be effective, but sometimes limiting nutrients (such as calcium, phosphate) are removed as well, moving abiotic conditions from bad to worse.

Appropriate assessments and permitting procedures

According to (Art. 6(3)) of the Habitats Directive, “any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives”: robust evaluation methods are required to assess whether a project will adversely affect the integrity of a site or not and thus to permit projects without threatening the conservation objectives of nearby Natura 2000 sites as well as to provide legal security for project developers.

The concept of critical loads (CL) has become increasingly common as a measure of sensitivity to nitrogen deposition, not only on a wider national scale but also for sensitive habitats protected within the Natura 2000 network in Europe (Bobbink & Hettelingh, 2011; Dobben et al., 2015; Vries et al., 2015).

The appropriate assessment (Art. 6 (3)) has a strong relation with the regulations preventing nitrogen pollution such as the National Emissions Ceilings (NEC) Directive, Nitrate Directive and Water Framework Directive. In the Netherlands a programmatic and integrated approach was developed

⁹ There is no single adapted definition of landscape scale, but here we refer to conservation and restoration measures that cover a large spatial scale addressing a range of habitats and species.

called 'Programma Aanpak Stikstof' abbreviated as PAS (de Heer et al., 2017; Schoukens, 2017) to maintain and restore nitrogen-sensitive habitats and species in Natura 2000 sites while allowing continued economic development that leads to nitrogen deposition at those sites. In order to achieve these objectives, the PAS includes both site-directed measures (e.g. measures to reduce emissions from nitrogen sources such as pig farms) and site-specific measures (hydrological restoration and specific management measures in addition to the regular management). It also limits the amount of nitrogen that can be emitted during the term covered by the programme (i.e. the maximum level of nitrogen deposition). However, there are considerable doubts as to whether it meets the requirements of Article 6(2) and (3) of the EU's Habitats Directive. Advocate General (AG) for the Court of Justice of the European Union Juliane Kokott noted¹⁰ that the use of an overall programmatic plan such as the PAS is to be welcomed, but that improvements are probably needed in its practical implementation. In this case the Court ruled that article 6(3) of the Habitats Directive must be interpreted as not precluding national programmatic legislation which allows the competent authorities to authorise projects on the basis of an 'appropriate assessment' within the meaning of that provision, carried out in advance. However this is only in so far as a thorough and in-depth examination of the scientific soundness of that assessment makes it possible to ensure that there is no reasonable scientific doubt as to the absence of adverse effects of each plan or project on the integrity of the site concerned¹¹.

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

In the Netherlands, a 'Knowledge Network for Restoration and Management of Nature in The Netherlands' (<https://www.natuurkennis.nl/english/>) was established. In the Knowledge Network, researchers, conservation site managers, universities, consultancies, NGO's and governmental bodies, such as provinces and water boards, closely cooperate to restore ecosystems and nature reserves. 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. One of the themes studied is nitrogen deposition. It would be interesting to identify or support the development of initiatives, structures or networks with similar objectives in other Member States, to develop connections between them. Expanding such cooperation on knowledge sharing and research in a more international context could be relevant to achieve the objectives of the Nature Directives.

¹⁰ JUDGMENT OF THE COURT (Second Chamber) 7 November 2018. Joined Cases C-293/17 and C-294/17.

¹¹ See for the complete text :

<http://curia.europa.eu/juris/document/document.jsf?jsessionid=399DD632EE4A744D4E536C0582ADFFBC?text=&docid=207424&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=5970204>

4.2.5. Cases and best practices – additional references

Table 2: Some examples of LIFE projects on amongst others conservation and restoration measures to tackle nitrogen pollution

Project title	Project code
DuneLIFE - Dynamic Dunescapes	LIFE17 NAT/UK/000570
HELVEX-LIFE - Cross-Border heath restoration, inland dunes and pools, integrated invasive plant management.	LIFE13 NAT/BE/000074
LIFE going up a level - more water for wet habitat types in Drents-Friese Wold & Leggelderveld	LIFE13 NAT/NL/000162
Life+GP – ‘More water, more raised bogs in the Groote Peel’	LIFE13 NAT/NL/000079
New LIFE for Dutch Fens - restoration programme for Natura2000 fen areas in the Netherlands	LIFE12 NAT/NL/000372
Life Together - to get heath restored	LIFE12 NAT/BE/001098
Peelvenen – ‘Let the raised bogs grow’ Natura 2000 Deurnsche Peel/Mariapeel	LIFE11 NAT/NL/000777
Amsterdam Dune project - 'Amsterdam Dunes - source for nature', dune habitat restoration project	LIFE11 NAT/NL/000776
Floodplain development - Nature development in the Natura2000 upper floodplains of the river IJssel	LIFE11 NAT/NL/000771

4.3. Theme 3: Improving the conservation of Natura 2000 sites through integrated management

On the development of integrated management through projects and plans yielding multiple benefits, such as flood protection and river restoration.

4.3.1. Context

Integrated natural resource management (INRM) refers to the management of natural resources such as land, water, soil, plants and animals, including multiple aspects of natural resource use (biophysical, socio-political, and economic) and meeting different goals for a wider community. Similar concepts are Integrated Water Management, Integrated Coastal Zone Management (see text box) and the Ecosystem Approach (Secretariat of the Convention on Biological Diversity, 2004). Apart from differences in wording, the underlying philosophy of all these approaches is very similar. They promote

the need to consider natural resources in the context of the broader landscape and acknowledge the fact that humans are part of the landscape and that they need to be involved in management and planning processes in an equitable way (Stucky, 2011).

Integrated Coastal Zone Management (ICZM)

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

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

The advantage of an integrated site management is that the societal and economic benefits may increase public support and justification for conservation and restoration projects. At the same time integrated approaches might be hindered by legal obstacles (e.g. introducing system dynamics that might lead to the loss of some species while benefitting others) and conflicting interests. Different sectors influencing interventions may result in an outcome which do not meet the requirements from a nature point-of-view, e.g. the Favourable Conservation Status (Stobbelaar et al., 2018). Other related concepts are 'nature inclusive solutions' and 'building with nature' (see Figure 4).



Figure 4: The Sand Engine in the Netherlands, a telling example of 'Building with Nature'. Copyright: Joop van Houdt / Rijkswaterstaat.

4.3.2. Objectives of the thematic session

The objectives of this thematic session are to:

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

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

4.3.3. Common issues and challenges

Cross 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 therefore one cannot simply replicate what was done in one country and expect it to work in another (Sundseth, 2015).

Conflicting interests / legal obstacles

Integrated management requires a certain degree of flexibility to ensure that multiple objectives can be met. It can be difficult to combine multiple objectives derived from strict legal requirements. There is also a risk that economic benefits will overrule nature conservation objectives. In addition, there can be conflicting interests even among nature conservation objectives themselves 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 (see Theme 4) is key to identifying and preventing or solving conflicts.

Transboundary cooperation

Cooperation is important in managing Natura 2000 sites that lie within more than one region or Member State. This holds true for other sectors as well. By means of an integrated approach and cross-border cooperation different goals can be achieved in a more effective and efficient way. Good examples include transboundary river management projects, where flooding is prevented at the same time as natural habitats are being developed or restored. The effective implementation of Natura 2000 conservation or restoration objectives at transboundary level also depends on such cooperation, as acknowledged for example for protected areas in the Alpine region where a European network of alpine protected areas was set up under the Alpine Convention to enhance exchanges¹².

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

Further transboundary cooperation within the Atlantic region on integrated management approaches such as integrated coastal zone management as well as integrated river management might be a very

¹² Since 1995, ALPARC, the Alpine Network of Protected Areas, gathers all categories of protected areas of large size within the Alpine Convention area and permits an intensive exchange between these areas and with organisms and institutions of nature protection, local actors, populations and scientists. <https://alparc.org/the-alparc-network>

effective approach in achieving both Natura 2000 objectives as well as water management objectives. It could be efficient to exchange best practices for example to set up a learning community (see theme 4) and seek for possible solutions for the problems in applying such approaches (e.g. the legal obstacles and conflicting interests).

The European Union (2016) published a starter’s guide providing a brief overview of the five EU environmental directives that target the protection and management of Europe’s freshwater and marine environments. The document aims to give practitioners working in different thematic fields at the Member State level a basic insight into the key aspects of these Directives. It summarises the main objectives and provisions of each and examines their commonalities and differences, highlighting, in particular potential synergies that should be foreseen when implementing the Directives. This document might be helpful as a starting point for an integrated approach.

4.3.5. Cases and best practices – additional references

A good example of an integrated approach is the common transboundary policy and management plan for the Wadden Sea Area (Common Wadden Sea Secretariat, 2010). It is an agreement of setting out how the participating countries (Denmark, Germany and the Netherlands) envisage the coordination and integration of management of the Wadden Sea. The Wadden Sea Forum (WSF) has taken up integrated coastal zone management as a process for achieving sustainable development of the Wadden Sea. The WSF has further developed the ICZM process, including guidance on further specification and recommendations for ICZM to add value to the sustainable development of the Wadden Sea Region. In particular, this means integrating specific cross-sectoral and transboundary strategies, actions and techniques which are environmentally sound, economically viable and socially beneficial.

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

Project Title	Project Number
LIFE Wetland Emmerich - Wetland restoration in the Rhine floodplain Emmericher Ward	LIFE17 NAT/DE/000458
Pennine PeatLIFE - Pennine PeatLIFE	LIFE16 NAT/UK/000725
LIFE FLUVIAL - Improvement and sustainable management of river corridors of the Iberian Atlantic Region	LIFE16 NAT/ES/000771
DELTA Nature - Integrated approach N2000 Delta Nature to catalyse the implementation of the Netherlands’ Prioritised Action Framework	LIFE15 IPE/NL/000016

LIFE IrekiBAI - Open rivers: Improving connectivity and habitats of rivers shared by Navarra and Gipuzkoa	LIFE14 NAT/ES/000186
LIFE Pays mosan - Connectivity of the Natura 2000 network across the Belgian-Dutch borders in the Meuse basin	LIFE13 NAT/BE/001067
EcoCo LIFE Scotland - Implementation of integrated habitat networks to improve ecological coherence across the CSGN	LIFE13 BIO/UK/000428
LIFE+SCALLUVIA - Habitat Restoration of alluvial forests and creeks within the flood-controlled Scheldt estuary site Kruibekke-Bazel-Rupelmonde.	LIFE12 NAT/BE/000596

4.4. Theme 4: Communication and stakeholder engagement in Natura 2000

On approaches to initiate and develop communication, overcome obstacles (and conflicts to some extent) and to increase stakeholder engagement.

4.4.1. Context

Stakeholder engagement is one of the key success factors in the implementation of Natura 2000. By engaging landowners and users ('rights holders') in the formulation and achievement of Natura 2000 conservation or restoration objectives - in combination with other type of objectives – conflicts can be prevented, and costs reduced. There are different strategies and approaches for stakeholder engagement that can be successful to a greater or lesser extent, depending on the context (which may be different in each Member State, region or site). Lessons can be learnt from one another by establishing learning communities, supported by different types of mechanisms, instruments and tools.

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

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

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

therefore reviews different ways in which best practices can be transferred between sites and between Member States.

4.4.2. Objectives of the thematic session

The objectives of this thematic session are to:

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

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

4.4.3. Common issues, challenges and approaches

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

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

However, involving stakeholders in the management of sites requires specific skills, significant investment of time and resources and can increase the complexity of the process of management

planning. It also requires a long-term commitment from the various parties and might not always lead to the expected results. Ultimately, the engagement of stakeholders is not without pitfalls.

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

- stakeholder involvement needs to be underpinned by a philosophy that emphasises empowerment, equity, trust and learning;
- involvement of stakeholders should be considered as early as possible and throughout the process;
- relevant stakeholders need to be analysed and represented systematically;
- clear objectives for the participatory process need to be agreed among stakeholders at the outset;
- methods should be selected and tailored to the decision-making context, considering the objectives, type of participants and appropriate level of engagement;
- highly skilled facilitation is essential;
- local and scientific knowledge should be integrated; and
- participation needs to be institutionalised, meaning that there should be either formal rules or practices established that make it clear to the stakeholders how they participate throughout the process.

For instance, some Member States have developed specific procedures to involve owners and users in the development and execution of the management planning. In France, every single Natura 2000 site has its own steering committee (its “comité de pilotage” or “COFIL”), which is responsible for supervising the drafting of the site’s management plan, for validating it and overseeing its implementation. Stakeholders from various sectors are officially appointed as members of the COFIL by the Prefect. In Flanders (Belgium), platforms were set up that include a wide variety of stakeholders.

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

- at the level of individuals – for instance a farmer who has to consider nature in his/her farming methods or the site manager that has to interact with a broad range of stakeholders that might have different views on nature;
- at group level for instance a committee that develops a management plan. They must find new ways of working together or consider new methods for managing sites; and

- at institution level – embedding official procedures on participatory management & co-operation in the organisation or in the decision-making procedures. This can also relate to the formal and informal agreements on interdepartmental cooperation of Ministries and municipalities on plans and projects.

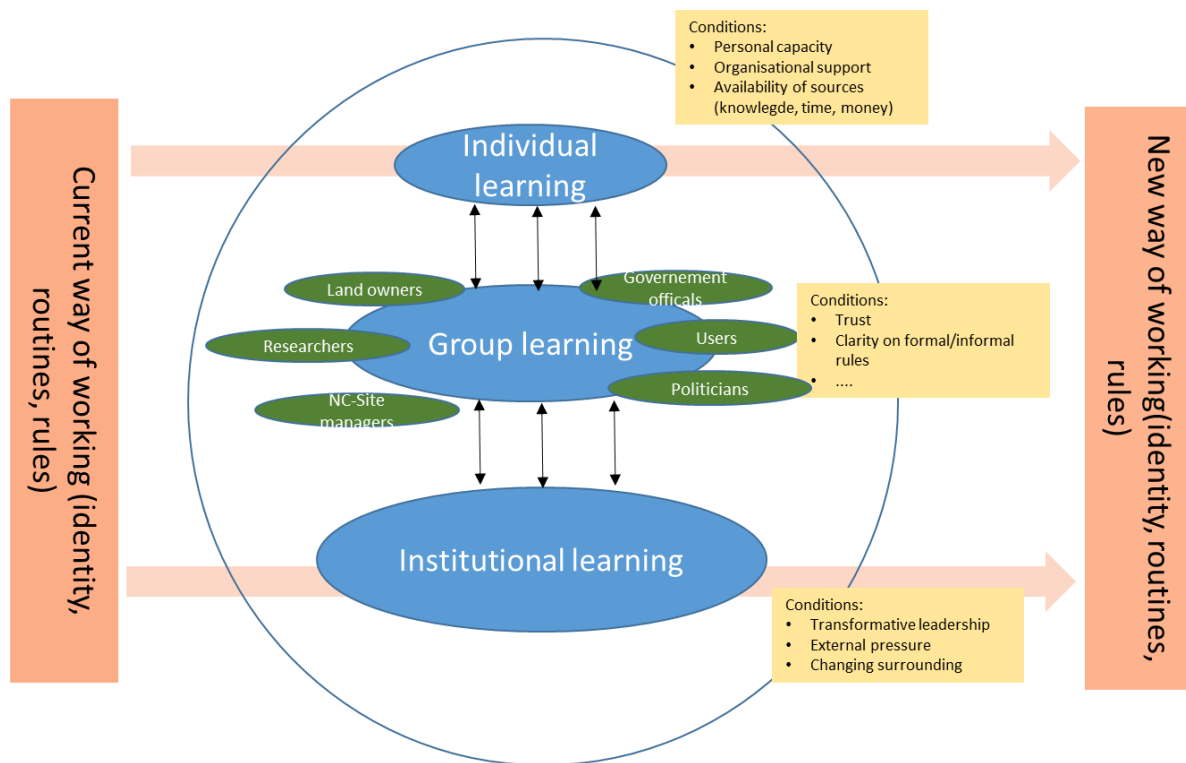


Figure 5: Levels of learning (adapted from van Dam et al, in prep)

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

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

We have not yet found examples of the following, but another possible method is the establishment of communities of practice, where practitioners and the other parties involved come together on a regular basis to discuss their issues.

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

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

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

4.4.5. Cases and best practices – additional references

Examples on ways to transfer best practices include:

Training:

- Among its missions, the *Agence française pour la biodiversité* is responsible for defining the necessary skills and training of the professionals dedicated to nature management. It is thus setting up and implementing a national training programme dedicated to those professionals. It also provides this community with technical support on management planning and implementation: it coordinates nine specific resources centres, among which the *Centre de ressources Natura 2000*. This website and team are aimed at pooling the knowledge, experience and know-how of the whole community of Natura 2000 site managers and involved authorities and making it available to them, together with the training programme. www.natura2000.fr/, <http://metiers-biodiversite.fr/> and <https://formation.afbiodiversite.fr/>
- LIFE e-Natura2000.edu: Supporting e-learning and open education for Natura 2000 Managers (2018-2021). This three-year project explores the potential of **building new approaches and learning methods** to improve knowledge and capacity amongst Natura 2000 managers, in both public and private land, across the EU. Taking a competence-based approach, it will enable peers to connect and learn about what managers need to know and be able to do. The project will analyse training needs and make available new ways of accessing information about the multiple skills required for Natura 2000 management and policy implementation. <https://www.europarc.org/tools-and-training/life-e-natura2000-edu/>

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

- Chapter 2 of the French management planning guidance (Natura 2000 Management Plan Methodological Guide for drawing up the Management Plan) describes involvement of stakeholders http://ct82.espaces-naturels.fr/sites/default/files/documents/ct82/091210_cahier_82_en_entier.pdf
- Chapter 2 of the Eurosite manual: Management planning for protected areas – a guide for practitioners and their bosses. <https://portals.iucn.org/library/node/28030>

Best practice reports on Natura 2000 and stakeholders

- LIFE-Nature: communicating with stakeholders and the general public. Best practice examples for Natura 2000 outlines some of the best practices on stakeholder involvement in LIFE projects (<https://ec.europa.eu/easme/en/section/life/life-programme-publications>)
- Best practice examples for environmental protection & agriculture: Landcare Associations in Natura 2000 sites (https://www.lpv.de/uploads/tx_ttproducts/datasheet/Natura2000_2019_Erfolgsrezepte_EN_WEB.pdf)
- Eurosite, 2009. Dealing with Conflicts in the Implementation and management of the Natura 2000 Network Best Practice at the Local / Site level. A review of 24 Best Practice case studies (<http://www.ceeweb.org/wp-content/uploads/2015/01/Eurosite2010-Natura-2000-best-practice-case-studies.pdf>)
- Europarc Federation website with some examples: <https://www.europarc.org/toolbox/capacity-building/>

LIFE Projects on stakeholder engagement.

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

Other examples of projects with specific attention for stakeholder engagement are listed in the below table:

Table 4: Some examples of LIFE projects focussing on inclusion of landowners/users

Project Title	Project Number
LIFE STOP Cortaderia - Urgent measures for controlling the spread of Pampa Grass (<i>Cortaderia selloana</i>) in Atlantic area	LIFE17 NAT/ES/000495
LIFE Green valleys - Green valleys: connecting habitats' conservation with long term biomass management and multi-stakeholder approach	LIFE17 NAT/BE/000445
LIFE IN COMMON LAND - Managing land in common, a sustainable model for conservation and rural development in Special Areas of Conservation	LIFE16 NAT/ES/000707
NATUREMAN - The Farmer as a Manager of Nature: aiming at a favourable conservation status for Natura 2000 sites by making nature management a sound branch of farming	LIFE16 IPE/DK/000006
CONVIVE-LIFE - Integration of human activities in the conservation objectives of the Natura 2000 Network in the littoral of Cantabria	LIFE14 NAT/ES/001213
BurrenLIFE - Farming for conservation in the Burren	LIFE04 NAT/IE/000125

Useful Literature

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