European Environment Agency

Management effectiveness in the EU's Natura 2000 network of protected areas

Prepared for the EEA by:
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List of abbreviations

AECM	Agri-Environmental and Climate Measures (under the CAP)
AFB	French agency for biodiversity
ANC	Areas of Natural Constraints (under the CAP)
CAP	EU Common Agricultural Policy
CBD	UN Convention on Biological Diversity
CF	European Cohesion Fund
CFP	Common Fisheries Policy
CGBN	EU Co-ordination Group for Biodiversity and Nature
COP	Conference of the Parties (to the CBD)
CPAMETT	Carpathian Protected Area Management Effectiveness Tracking Tool
DCHG	Irish Department of Culture, Heritage and the Gaeltacht
DOCOB	France Natura 2000 site management plan (Document d'objectifs)
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
ECA	European Court of Auditors
EEA	European Environment Agency
EIP-AGRI	European Innovation Partnership for Agriculture Productivity and Sustainability
ECJ	European Court of Justice
ERDF	European Regional Development Fund
ESF	European Social Fund
ESPG	Environmentally Sensitive Permanent Grassland (under the CAP)
EU	European Union
EUR	Euro
FCS	Favourable Conservation Status
FNP	Irish Fisheries Natura Plan
GES	Good Ecological Status
GLCPA	IUCN Green List of Protected and Conserved Areas
GD-PAME	Global Database on Protected Area Management Effectiveness
HNV	High-Nature Value (Grassland)
IBA	BirdLife Important Bird Area
IPAM	Integrated Protected Area Management
ISG	Slovakian Information System for Grasslands
IUCN	International Union for the Conservation of Nature
IWM	Irish Wildlife Manual
LIFE	EU funding instrument for the environment and climate action
LMF	The Netherlands National Flora Monitoring
LUSP	Eionet National Reference Centre for Land Use and Spatial Planning
METSO	Forest Biodiversity Programme for Southern Finland
METT	(Protected Areas) Management Effectiveness Tracking Tool
MFF	EU Multiannual Financial Framework
MPA	Marine Protected Area
MS	EU Member State

MSFD	EU Marine Strategy Framework Directive
MSPD	EU Marine Spatial Planning Directive
NATA	Finnish Natura 2000 site condition assessments
NEM	Dutch Network for Ecological Monitoring
NGO	Non-governmental Organisation
NPWS	Irish National Parks and Wildlife Service
NRC BD	Eionet National Reference Centre for Biological Diversity
PA	Protected Area
PAF	Prioritised Action Framework (Habitats Directive)
PAME	Protected Area Management Effectiveness
PAS	The Netherlands programmatic approach to nitrogen
PBL	Dutch Environment Assessment Agency
PROARCA	Parks in Peril Site Consolidation Scorecard
P&WF	Parks & Wildlife Finland
RAPPAM	Rapid Assessment and Prioritisation of Protected Area Management Tool
RDP	Rural Development Programme
SAC	Special Areas of Conservation (Habitats Directive)
SASS	Finland's planning and monitoring system for protected areas
SCI	Sites of Community Importance (Habitats Directive)
SDF	Natura 2000 Standard Data Form reporting on site-specific information
SPA	Special Protection Area (Birds Directive)
VIBEG	Fisheries in Protected Areas Agreement of The Netherlands
WCPA	IUCN World Commission on Protected Areas
WDPA	World Database on Protected Areas
WFD	EU Water Framework Directive

Key messages

1. As designation of the EU's Natura 2000 network of protected areas is progressing, its next major implementation challenge will be to increase the effectiveness of its management. The EU Biodiversity Strategy's commitment to effectively manage all protected areas by 2030 offers momentum to rise to this challenge.

2. Despite an international commitment by EU and its Member States to assess Protected Area Management Effectiveness (PAME) of 60% of its protected area by 2015, Member States have only reported assessments for less than 8%. If the EU wants to demonstrate progress on its 2030 commitments, monitoring and reporting must improve considerably either through an EU-coordinated process or through compilation of national reporting by the EEA.

3. The implementation of many legal requirements under the EU Nature Directives directly or indirectly delivers on what established PAME guidance identifies as critical pre-conditions for effective management. Full and effective implementation and enforcement of the Directives is therefore critical to boost Natura 2000 management effectiveness.

4. Member State authorities and -stakeholders could do more to meet the standards set out in established EU guidance on management planning, for example in setting conservation objectives, establishing conservation measures, and their integration in dedicated site- and other relevant management plans such as forest- and fisheries management plans.

5. As existing standards on management effectiveness are currently insufficiently known and understood among practitioners, the European Commission and Member States could consider more targeted capacity building and development of more extensive EU guidance on management process and –delivery, for example in relation to stakeholder participation and results-based management.

6. EU Member States could better use available EU funding to fill the current investment gap on Natura 2000 management effectiveness. The investment need to ensure management effectiveness should be clearly communicated in Prioritised Action Frameworks (PAFs) for Natura 2000 and met through subsequent programming of EU- and national funding.

Executive summary

The large diversity of Natura 2000 sites and their characteristics, whether in terms of ecological, social, economic and governance contexts, makes improving Natura 2000 management effectiveness by definition a very multifaceted challenge. While in each site a large number of conditions will have to be met to ensure conservation objectives are achieved, each will require different approaches, which will be implemented in differently changing environments. The importance of sufficiently tailored, pro-active and adaptive site management can therefore not be understated.

To improve management effectiveness it is necessary to measure it. The study found a well-established body of literature and methodologies with common criteria to evaluate and assess protected area management effectiveness that can be applied in a diversity of sites. Evidence shows they have been applied in Natura 2000 management in most, if not all EU Member States. Moreover, some Member States developed specific national approaches to improve Natura 2000 management in their countries. This is an important and positive finding as it demonstrates that the knowledge on how to raise management effectiveness standards and experience on how to apply it are already there. It is currently, however, impossible to establish the extent to which management effectiveness assessments have been undertaken across the Natura 2000 network. Despite CBD commitments to increase the proportion of protected areas that are assessed and reported on, EU Member States have not done this sufficiently. Improving this should therefore be a key priority in any future strategy.

The greatest scope for substantial improvements in management effectiveness probably lies in better and more complete implementation. As this study found, full implementation of existing requirements under the EU Nature Directives and adherence to established Commission guidance would go a long way to set the right conditions for effective management, in particular in terms of design and planning. A wealth of evidence collected on Natura 2000 implementation in recent years, including for this study, demonstrated a lot of progress in many Member States as well as positive measure-driven conservation success for habitats and species at national biogeographic levels. On the other hand, there were many cases of late, inadequate and/or absent management, that demonstrated the need for a more pro-active approach between Commission and Member States on implementation and enforcement.

This study also found that most Member States have designated their Natura 2000 sites and set conservation objectives. Furthermore, management plans exist for about 70% of sites (and all sites in some countries). However, in several Member States objective setting and management planning is delayed or is not in accordance with the standards set out in Commission guidance. Whilst there is a desire amongst competent authorities for nature conservation in Member States and site managers are keen to improve objective setting, management planning and assessment, they currently often lack the resources to do so. Therefore, targeted investment in capacity building on management effectiveness and exchange of best practice between front-runners and less advanced practitioners seems to be another critical requirement.

Beyond targeted investment in Natura 2000 management effectiveness capacity, bridging the wider funding gap identified for implementation of the Nature Directives and the protection and restoration of ecosystems more broadly will be critical too. In particular this requires better integration of Natura 2000 funding requirements, as set out in the PAFs, into EU and national public budgets.

Another critical area of improvement would be a better integration of Natura 2000 needs into sectoral polices and planning, both through biodiversity-proofing plans against perverse incentives, as well as to program pro-active measures and investment for win-win solutions in management. Whereas the EU Member States analysed in this study appear to have made important steps forward in the integration with agriculture (although in all cases probably not yet sufficiently), the analysis also suggested significant scope for improvement in some countries regarding the integration with for example forestry and forest management plans, fisheries and marine/fisheries management plans, freshwater management plans and integrated coastal zone management plans.

Based on the collected evidence and feedback from practitioners, eight criteria and indicators from the IUCN Green List for Protected Areas are proposed that would be particularly relevant to monitoring and overcoming the most persistent bottlenecks to improving Natura 2000 site management effectiveness. They mainly concern process indicators that would measure the extent to which: management addresses broader socio-economic objectives, threats and opportunities; objectives are set; required measures are implemented, and regularly evaluated/adapted; the necessary resources are in place; and conservation objectives are achieved.

This studies' findings can inform the development of a new strategic policy framework for biodiversity in the EU and its Member States, in which the implementation of the Nature Directives and Natura 2000 will continue to play a central role. The preliminary reporting on the conservation status of habitats and species demonstrates the urgent need for significant progress in improving conservation outcomes in Natura 2000 to maintain the legitimacy of EU nature conservation.

Based on the analysis the following recommendations are made to EU institutions, and other stakeholders more widely, to improve management effectiveness in Natura 2000 sites:

1. More transparent and strategic enforcement of key EU legal requirements relevant to Natura 2000 effectiveness, for example through an enhanced Environmental Implementation Review (EIR) process, with more binding and time-bound commitments. This could be supported by more pro-active approaches at national/regional level to speed up implementation and enforcement, for example through national courts and -courts of auditors. Examples of requirements are the establishment of conservation objectives (Habitats Directive Article 4) and conservation measures (Article 6.1) and meeting environmental objectives in water-dependent protected areas (art 4(c) of the EU Water Framework Directive).

2. Ensure biodiversity-proofing of relevant strategies and investment programming by public authorities at all levels to prevent perverse incentives to the achievement of

Natura 2000 objectives such as the intensification of agriculture and forestry, unsustainable renewable energy development or infrastructure development for urbanisation or transport.

3. Ensure integration of Natura 2000 management requirements into other relevant sectoral plans between relevant authorities and -stakeholders, e.g. forest management plans, fisheries management plans and rural development plans.

4. The European Commission and EU Member States should fill the investment gap for management, to ensure adequate resources are available for planning, process, delivery as well as evaluation and assessment. Future templates of the Natura 2000 PAFs could include a funding requirement for management effectiveness assessment and Member States should use available opportunities for integrated funding under the agreed new Multi-annual Financial Framework (MFF).

5. Urgently prioritize the identification of measures in management plans for all Natura 2000 sites and ensure more transparent and regular interim-evaluation of their implementation, in particular for sites where established management measures do not adhere to the standard set in EU guidance.

6. European Commission and Member States to facilitate targeted knowledge sharing on management effectiveness evaluation and assessment that focusses more strongly on conservation outcomes. This could be done through the biogeographic process but also at a more operational level in the regions, perhaps with support of the Committee of the Regions and networks of local authorities where relevant.

7. European Commission and Member States to step up efforts to meet CBD targets for protected area management effectiveness assessment, annually review progress in the Co-ordination Group on Biodiversity and Nature (CGBN), and actively encourage and invest in the use of established management effectiveness assessments methods (e.g. with support of LIFE funding).

8. European Commission and Member States to strengthen EU cooperation on better, earlier, more frequent and bottom-up stakeholder participation in and -training on management effectiveness for example via the EU's Biodiversity Information System for Europe (BISE) and through the biogeographic seminars, but also more practical peer-to-peer exchanges between regional authorities and site managers.

9. The European Commission to explore ways to more positively and pro-actively highlight best-practice in improving management effectiveness, for example by introducing a new Natura 2000 Award category dedicated to projects that made a large contribution to improving protected area management effectiveness.

10. The European Commission, Member States and EEA should explore improving current Natura 2000 reporting on management effectiveness in a cost-effective way. In particular this should consider criteria to track for each Natura 2000 site whether 1) Established conservation objectives have been adopted and for which share of

features; 2) Management requirements and –measures have been identified; 3) Management measures are in place (e.g. under management agreement); 4) Investment needs are met; and 5) PAME assessment undertaken. This information could be included in the site management section of the SDF and updated annually by competent authorities.

1 Introduction

This scoping study was commissioned by the European Environment Agency (EEA) to review the management effectiveness of the EU's Natura 2000 network, the cornerstone of EU efforts to conserve and protect its natural capital. In its role to assist the EU and its Member States make informed decisions on EU environmental matters including biodiversity, the EEA intends to investigate Natura 2000 management effectiveness as part of the State of Nature follow-up recommendations. This study was therefore carried out to support the EEA, and consisted of the following three key interconnected tasks:

1) Develop a proposal on how to capture management effectiveness;
2) Provide an overview of the management frameworks of EU Member States for protection of Natura 2000; and
3) Review the level of active (adaptive) management of Natura 2000 sites in Member States.

The tasks were informed by a combination of literature review, a questionnaire among members of the Eionet National Reference Centres for Biological Diversity (NRC BD) and Land Use and Spatial Planning (LUSP) and country case studies for Finland, France, Ireland, Slovakia and The Netherlands. The questionnaire received 28 answers from 19 different EEA member countries and 3 EEA cooperating countries. Based on this information, the study identified key strengths and weaknesses of current management approaches against established guidance on protected area management effectiveness. These findings inform key recommendations on how to further improve Natura 2000 effectiveness in the years to come.

2020 marks an important milestone in international nature and biodiversity policy as the UN Convention on Biological Diversity's (CBD) Strategic Plan for 2011-2020 expires, as well as the EU Biodiversity Strategy delivering on it. The EU Strategy's headline target aimed at '*halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss*.' At the CBD's 15th meeting of the Conference of the Parties (COP15), parties will take stock of their successes and failures in reaching the 20 Aichi Biodiversity Targets that guide the Strategic Plan and will agree on a new strategic framework to guide biodiversity conservation.

In preparations for a new global strategic framework under the CBD, parties are discussing how to better capture management effectiveness through indicators and targets in a more detailed manner. For example, through dedicated quality indicators for effective planning, appropriate implementation of management and demonstration of achievement of biodiversity outcomes. In their first exchanges on a post-2020 biodiversity strategy, EU institutions agreed that more efforts would be required in relation to management effectiveness in protected areas[i,ii,iii]. The EU Biodiversity Strategy for 2030 published in May 2020 includes a specific commitment to '*Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately*' by 2030[iv].

In 2019, the most comprehensive global biodiversity assessment to date demonstrated how the world has largely failed to turn the biodiversity crisis around[v], triggering public calls for a 'Paris moment' for biodiversity at COP15. It also sparked renewed interest in protected areas, with many experts calling for a global increase in their coverage[1]. The European Commission has made the European Green Deal its flagship initiative for the next six years and preserving and restoring ecosystems and biodiversity is one of the Green Deal's eight priorities[vi]. This stark contrast between the ongoing loss of biodiversity and the growing political ambition to protect biodiversity, requires urgent and concrete guidance on how to achieve transformational change, and to reflect upon regional successes and failures.

Protected areas have long been the cornerstone of international nature protection, and Europe is among the regions with the largest share of territory under some form of protection[vii]. However, whilst protection is increasingly secured on paper, global progress on improving the management of areas and gauging the effectiveness of conservation measures has been moderate in comparison[viii]. Aichi Target 11 sets out a series of elements that a global protected area network should deliver, including a commitment to secure a system of *'effectively and equitably managed'* protected and conserved areas. This commitment was reiterated in 2016, when Parties committed to undertake more systematic assessments of protected area management effectiveness (PAME) and their biodiversity outcomes, and to provide information on the results to the Global Database on Protected Areas Management Effectiveness (GD-PAME)[ix] . The assessment of protected area management effectiveness was also a requirement of the CBD Programme of Work on Protected Areas adopted in 2004, and CBD COP 10 Decision X/31, which included a target of assessing 60% of the total area of protected areas by 2015[x].

The EU's Natura 2000 network is the largest and most ambitious internationally coordinated network of protected areas in the world, covering over 18% of the EU's terrestrial surface and over 9% of its marine surface. The EU Birds and Habitats Directives, hereafter referred to as the 'Nature Directives', provide the legal basis for the Natura 2000 network and were adopted in 1979 and 1992 respectively. The first target of the EU's Biodiversity Strategy to 2020 was to '*halt the deterioration*' and achieve '*a significant and measurable improvement*', meaning (i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive should show an improved conservation status; and (ii) 50% more species assessments under the Birds Directive show a secure or improved status[xi].

Preliminary findings from Member State reports on the status of habitats and species addressed by the Nature Directives over 2013–2020 suggest that, despite some conservation successes, this target is unlikely to be reached[xii]. This inadequate implementation reflects a global trend that will be reported to the Convention on Biological Diversity (CBD) by the Global Biodiversity Outlook 5 (GBO5). The question of how to improve PAME in the Natura 2000 network is therefore one of the most pertinent in the development of new biodiversity strategies and action plans for the EU and its Member States, especially since the 2030 EU

[1] For example through the Half Earth project, inspired by a 2016 book by the renowned biologist E.O. Wilson, calling for setting aside 50% of Earth to (human free) nature https://www.half-earthproject.org/ and an early call by the world's leading nature NGO's for CBD parties to agree on a 30% protected area at COP15 which was included as a proposal of the zero draft strategic plan: https://www.nature.org/content/dam/tnc/nature/en/documents/JointStatement_Post2020_FINAL.pdf

Biodiversity Strategy introduced a new commitment that by 2030 protected *'habitats and species show no deterioration in conservation trends and status; and at least 30% reach favourable conservation status or at least show a positive trend*'. At the same time, European experiences in implementing Natura 2000 can provide important lessons for a new global biodiversity strategic framework.

In 2016, the European Commission finalized a Fitness Check of the EU Nature Directives which concluded that, within the framework of broader EU biodiversity policy, the directives remain highly relevant and are fit for purpose. However, their achievement would depend on a substantial improvement in implementation[xiii]. Implementation delays have been an important limitation: Following the adoption of the Habitats Directive in 1992, the European Commission and Member States had six years to adopt a list of so-called Sites of Community Importance (SCI) after which Member States had another six years to formally designate these sites as Special Areas for Conservation (SACs) under national law. Despite these generous deadlines, many Member States failed to meet them. 13 EU Member States joined the Union in 2004 or later and were given the same 6-year deadline for completion of designation after the adoption of the SCI lists. As the Natura 2000 designation process has now been nearly completed in most Member States, there is an increasing focus on improving and assessing the effectiveness of Natura 2000 site protection and management.

Following the Fitness Check findings, the Commission published an action plan[xiv] in 2017 with 15 priority actions to improve the effectiveness and efficiency of Natura 2000 implementation, which was adopted by the Council of the European Union[xv] and the European Parliament[xvi]. The actions were structured based on four overarching priorities to 1) Improve guidance and knowledge and ensure better coherence with broader socioeconomic objectives; 2) Build political ownership and strengthen compliance; 3) Strengthen investment and 4) Ensure better communication and outreach, engaging citizens, stakeholders and communities. Although all four of these priorities are of relevance to management effectiveness, the plan included a specific action to improve knowledge of the contribution and effectiveness of the Natura 2000 network for achieving the objectives of the Directives (Action 3). Even though the Action Plan expired after 2019, many of its priorities and actions remain relevant today and for future EU strategies and –action plans.

The EEA is responsible for the coordination, synthesis and dissemination of national reporting on environmental issues, including the Members States' six-yearly reports on the implementation of the Nature Directives, in accordance with Article 12 of the Birds Directive and Article 17 of the Habitats Directive. Based on this information, the EEA publishes State of Nature reports on the conservation status of species and habitats protected under the EU Nature Directives. A report for the 2013–2018 period will be published later this year and preliminary findings suggest that despite progress in establishment of the network, the overall status of habitats and species has only marginally improved since the previous reporting period. Moreover, a significant share of habitats and species have declined further. This raises legitimate questions on the effectiveness of Natura 2000 at a time when CBD parties, including the EU and its Member States, are preparing new biodiversity strategies and action plans for 2020-2030.

2 Capturing management effectiveness and relevant global and EU commitments

Key messages

1) Methodologies for assessing PAME are well-established. However, most approaches focus more on assessing the early stages of the protected area management cycle (e.g. planning) than on conservation outcomes.

2) Although Parties to the CBD (including the EU and its Member States) have committed to report on PAME, management assessments are underreported in GD-PAME, resulting in an unclear picture of the status of PAME globally and in the EU. This is partly due to a lack of established reporting systems at the national level.

3) Based on the PAME assessments and reports that are available, a range of methods are currently being used by EU Member States to assess effectiveness. However only a relatively small share of Natura 2000 sites has been assessed at least once, and only 15 Member States report repeat assessments, which are usually only for a small number of sites.

4) EU Member States have the discretion to design, implement and evaluate management according to their own needs and approaches. Full implementation of the EU Nature Directives' legal requirements and subsequent European Commission guidance would ensure that important criteria of what is considered effective management, especially in terms of management planning, are met.

2.1 Global status of protected area management effectiveness

2.1.1 *Global-level reporting on PAME*

The Global Database on Protected Area Management Effectiveness (GD-PAME) is the most comprehensive repository of global PAME information. Originally developed at the University of Queensland, it is now a joint effort of the IUCN World Commission on Protected Areas (WCPA) and the UN Environment Programme, managed by UNEP-WCMC.

The aim of the GD-PAME is to compile PAME evaluations for all countries in the world from governments and other authoritative organizations, referred to as data providers. The GD-PAME is hosted on the Protected Planet website, along with the World Database on Protected Areas (WDPA), at www.protectedplanet.net. The database indicates whether protected areas that are recorded in the World Database on Protected Areas have been PAME assessed, and whether the assessment is publicly available. The database is updated on a continuous basis as data providers share new information and a new version of the database is published on Protected Planet every month.

The GD-PAME is recognized by the CBD as the official portal for collecting PAME data (COP 10 Decision X/31)[xvii] and is used as a reporting mechanism for tracking PAME commitments at the global level. However, it is important to note that data contained within GD-PAME is reliant on submissions from data providers. Based on UNEP-WCMC's experience of managing the WDPA and GD-PAME, most countries do not have established mechanisms for reporting protected area management effectiveness information to the database; in many cases, site monitoring processes are in place and activities are ongoing, however mechanisms to report on these activities have not been developed nationally, despite CBD recommendations. Therefore, data providers include a range of experts from NGOs, academia, or protected area managers – in addition to governments – since there is seldom a nationalised scheme to collate the data. As a result, GD-PAME provides an incomplete overview of the status of PAME in Europe and at the global level. Nevertheless, it is the most comprehensive system that currently exists to compile information on protected area management effectiveness.

2.1.2 *Methods for assessing PAME*

The most comprehensive global review of protected area management effectiveness, carried out in 2008, recorded 9,000 PAME assessments from 140 countries (Leverington et al, 2008). The study found that only 6% of Protected Areas in the WDPA had recorded PAME evaluations, a long way from the target of assessing 60% of the total area of protected areas by 2015.

In terms of methodologies used to assess PAME, the study found that these vary depending on local context and protected area system. At the global level, the most widely used methods include Rapid Assessment and Prioritisation of Protected Area Management Tool (RAPPAM)[xviii] and the Management Effectiveness Tracking Tool (METT)[xix], while other tools such as Parks in Peril Site Consolidation Scorecard, PROARCA and ParksWatch Parks Profiles are widely applied in Latin America and the Caribbean. Over the past 30 years, a range of tools varying in scope and content have been developed to assess protected area management effectiveness. The choice of methodology is largely dependent on the intended objective/purpose of the PAME evaluation and the scale/level of the assessment[xx]. While PAME assessments primarily serve as support tools for protected area managers, the evaluation process is characterized by varying levels of capacity (e.g. availability of staff, appropriate skills, level of information); different participants (e.g. local communities, NGOs, tourists, researchers); varying scope and frequency of evaluation; and different audiences (e.g. donors, policymakers, local community) (Hockings et al., 2006). A single system for evaluating management effectiveness cannot incorporate all these specific site-level needs and objectives and the availability of different systems allows evaluations to be tailored to the requirements and circumstances of a particular protected area. However, the risk of having too many PAME methodologies is that this limits the comparability of results and the capacity to draw general conclusions about management effectiveness on the national, regional, and global level (Hockings, 2006).

To overcome this challenge, the IUCN's World Commission on Protected Areas (IUCN WCPA) published a management effectiveness framework to ensure that different types of evaluations adhere to a common logic and approach, similar criteria, assessment methods and tools[xxi]. The framework offers an international standard for PAME, providing overall

guidance to managers for protected area management effectiveness assessment and reporting. The WCPA framework is centred on a cyclical process composed of six key elements:

1. Context: Where are we now?
2. Planning: Where do we want to be and how will we get there?
3. Inputs: What do we need?
4. Processes: How do we go about management?
5. Outputs: What did we do and what products or services were produced?
6. Outcomes: What did we achieve?

These six elements reflect three main themes of protected area management: Design, appropriateness/adequacy and delivery. Evaluations that follow the framework and assess each of the elements (Figure 2-1, Table 2-1) should provide a comprehensive picture of management effectiveness. The IUCN WCPA framework has been used as a framework to structure the findings of this scoping study.

Figure 2-1 The IUCN WCPA framework for assessing management effectiveness of protected areas (Source: Hockings et al. 2006).

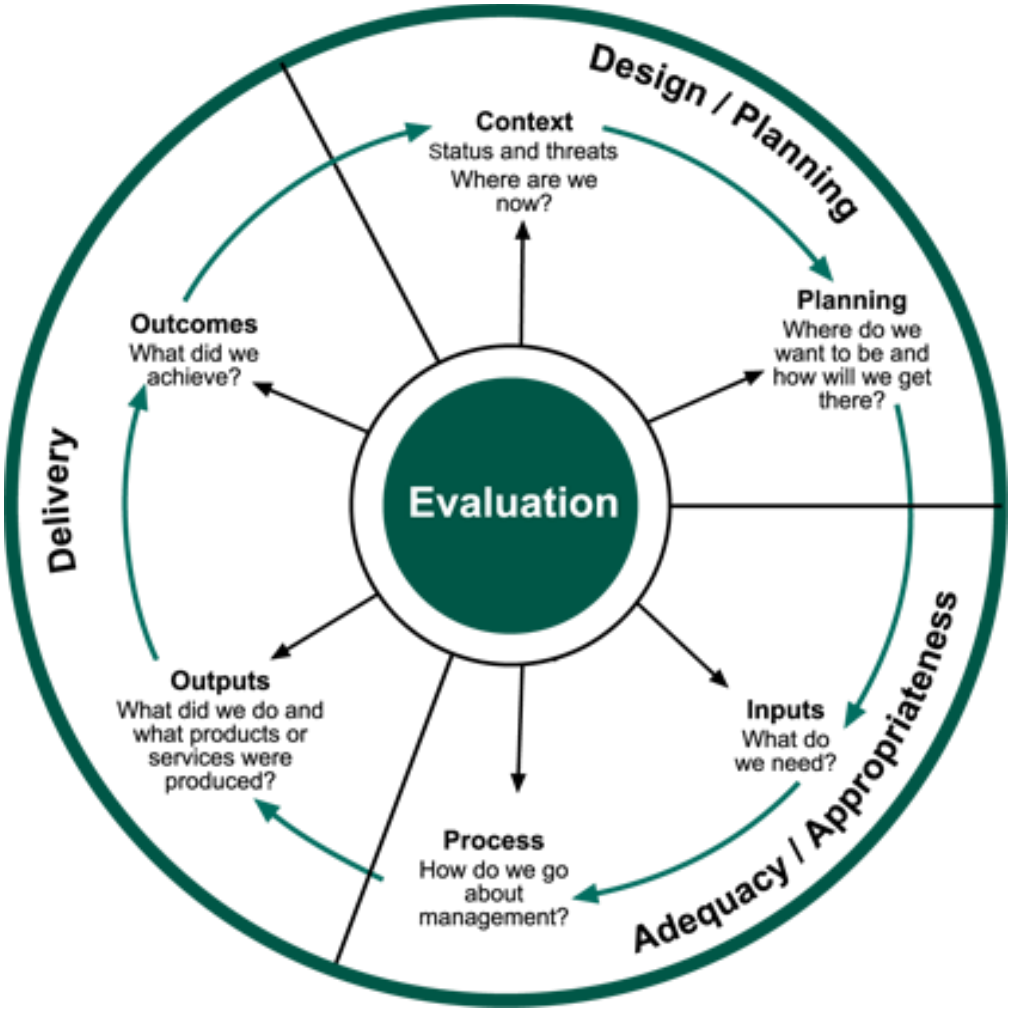


Table 2-1 IUCN-WCPA Framework for assessing management effectiveness of protected areas and protected area systems (Source: Hockings et al. 2006).

	Design		Appropriateness/adequacy		Delivery	
Management cycle stage	**Context**	**Planning**	**Inputs**	**Process**	**Outputs**	**Outcomes**
Evaluation focus	Assessment of importance, threats and policy environment	Assessment of protected area design and planning	Assessment of resources needed to carry out management	Assessment of the way in which management is conducted	Assessment of the implementation of management programmes and actions Delivery of products and services	Assessment of the outcome and the extent to which they achieved objectives
Criteria assessed	Significance/values Threats Vulnerability Stakeholders National context	Protected area legislation and policy Protected area system design Protected area design Management planning	Resources available to the agency Resources available to the protected area	Suitability of management processes and the extent to which established or accepted processes are being implemented	Results of management actions Services and products	Impacts Effects of management in relation to objectives

2.2 The IUCN Green List of Protected and Conserved Areas

The IUCN Green List of Protected and Conserved Areas (GLPCA) is a global standard for all nature protected areas that was developed to "*increase the number of protected and conserved areas that deliver successful conservation outcomes through effective and equitable governance and management*"[xxii] . The Green List framework was developed by a coalition of professionals from all relevant thematic areas related to protected areas and has been tested and reviewed by experts, ensuring that it is based on pertinent research and scientific evidence. Its criteria and indicators were developed based on a comprehensive review of existing PAME tools. Rather than replacing these tools, the GLCPA offers a holistic framework for considering good governance, effective management and sound ecological design as foundations for biodiversity outcomes (The view from Gran Paradiso, 2019)[xxiii].

The GLPCA is designed as a sustainability standard/label to recognize conservation successes within protected areas (i.e. similar to the Forest Stewardship Council for forest management or Marine Stewardship Council for fisheries). To achieve and maintain IUCN Green List status, PAs must complete an evaluation process that is made up of three phases:

- **Application Phase**, where PAs demonstrate that they have the basic ingredients and potential to comply with the IUCN Green List Standard requirements.
- **Candidate Phase**, where PAs work to gather sufficient evidence to support an evaluation that the PA meets all of the IUCN Green List Standard requirements.
- **Green List Phase,** where a Green List PA undertakes a mid-term review to justify continued compliance with the Green List Standard and thereby maintain Green List status.

The GLPCA brings together 17 criteria grouped into three baseline components of 'Good Governance', 'Sound Design and Planning' and 'Effective Management', which together support the fourth component of 'Successful Conservation Outcomes'. The generic indicators (50 in total) can be adapted to the national context or other relevant jurisdictions (e.g. subnational or regional levels) (Table 2-2). The four components address all six categories (and their three main themes of management) of the IUCN WCPA Framework presented in Section 2.1. Although there is more focus on the site design and planning, there is a substantial proportion of generic indicators that focus on delivery (Figure 2-2). This is especially evident when compared to the other PAME methodologies which have fewer indicators to measure actual delivery.

In 2016 the European Commission supported a LIFE project aimed at improving the performance of the Natura 2000 network through a Green Listing approach (LIFE Green List for N2K) which was completed in October 2019[2]. The project adapted the GLCPA to Natura 2000 by developing specific indicators in line with the requirements of the EU Nature Directives. This was done as part of a broader feasibility study on the application of the IUCN

[2] LIFE project database page on LIFE Green List for N2K - Improving the performance of the Natura 2000 network through a green listing approach (LIFE16 PRE/BE/000001), https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=6158

Green List Sustainability Standard to Natura 2000 sites. The adapted indicators are designed to retain the same meaning and intention of the generic Green List indicators, but are better suited to the European context. These regionally adapted indicators, recently approved by the IUCN Standards Committee, could provide a basis for standardized EU reporting. It should be recognized that applying the full GLCPA assessment to almost 28,000 Natura 2000 sites would be highly resource-intensive and therefore unrealistic. However, identifying its most relevant elements for the common Natura 2000 context could help inform a more targeted approach. Chapter 6 further reflects on this, following a closer analysis on the current state of play on key aspects in Natura 2000 implementation that affect management effectiveness in Chapters 3-5. Before addressing implementation however, the last section of this Chapter will focus on the key legal obligations in terms of management effectiveness Member States are committed to under the Nature Directives.

Table 2-2 Green List of Protected and Conserved Areas baseline components and criteria (Source: IUCN & WCPA, 2017).

Good Governance	Sound Design and Planning	Effective Management	Successful Conservation Outcomes
1.1 Guarantee legitimacy and voice	2.1 Identify and understand major site values	3.1 Develop and implement a long term management strategy	4.1 Demonstrate conservation of major natural values
1.2 Achieve transparency and accountability	2.2. Design for long-term conservation of major site values	3.2 Manage ecological condition	4.2 Demonstrate conservation of major associated ecosystem services
1.3 Enable governance vitality and capacity to respond adaptively	2.3. Understand threats and challenges to major site values	3.3 Manage within social and economic context of the area	4.3 Demonstrate conservation of cultural values
	2.4. Understand social and economic context	3.4 Manage threats	
		3.5 Effectively and fairly enforce laws and regulations	
		3.6. Manage access resource use and visitation	
		3.7 Measure success	

Figure 2-2 Proportion of GLPA indicators by management phase

Key: Each generic indicator in the IUCN Green List of Conserved and Protected Areas (GLCPA) has been paired with a corresponding IUCN WCPA framework category for assessing management effectiveness of protected areas. Proportions of GLCPA generic indicators that fall into each framework category are shown.

Source: UNEP-WCMC, 2019, developed for this study.

2.3 PAME assessment in the European Union

Based on reporting to GD-PAME, management effectiveness assessment in the EU is below the global average: 7.6% of the protected areas recorded in the EU are PAME assessed and reported, with significant differences in number of sites assessed between EU Member States (Figure 2-3). Overall, 3.7% of SCIs and 14.6% of SPAs have been assessed at least once. Similar to the global situation, these figures suggest a significant underreporting by CBD parties to GD-PAME. For The Netherlands, a case study country for this report, no information was reported in GD-PAME, although PAME evaluations and assessments were recently made obligatory country-wide in order to obtain eligibility for nature and agricultural nature management subsidies (the latter co-funded through the EAFRD).

Although some national-level PAME reviews have been carried out (e.g. Heiland et al. 2012[xxiv] for Germany and Gilligan et al. 2005[xxv] for Finland), there is a lack of EU-wide analysis. The only comprehensive review of PAME in Europe found that the majority of Member States have assessed at least some of their protected areas within the last ten years[xxvi]. However, only a few countries (Spain, France, Germany, UK, Sweden and Finland) at that time had institutionalized and recurring management effectiveness evaluations. The review found that the RAPPAM method was most frequently used for national-level assessments in central and eastern Europe. The METT system was also regularly applied, often as part of the funding requirements from the World Wildlife Fund (WWF), Global Environment Facility (GEF) and the World Bank.

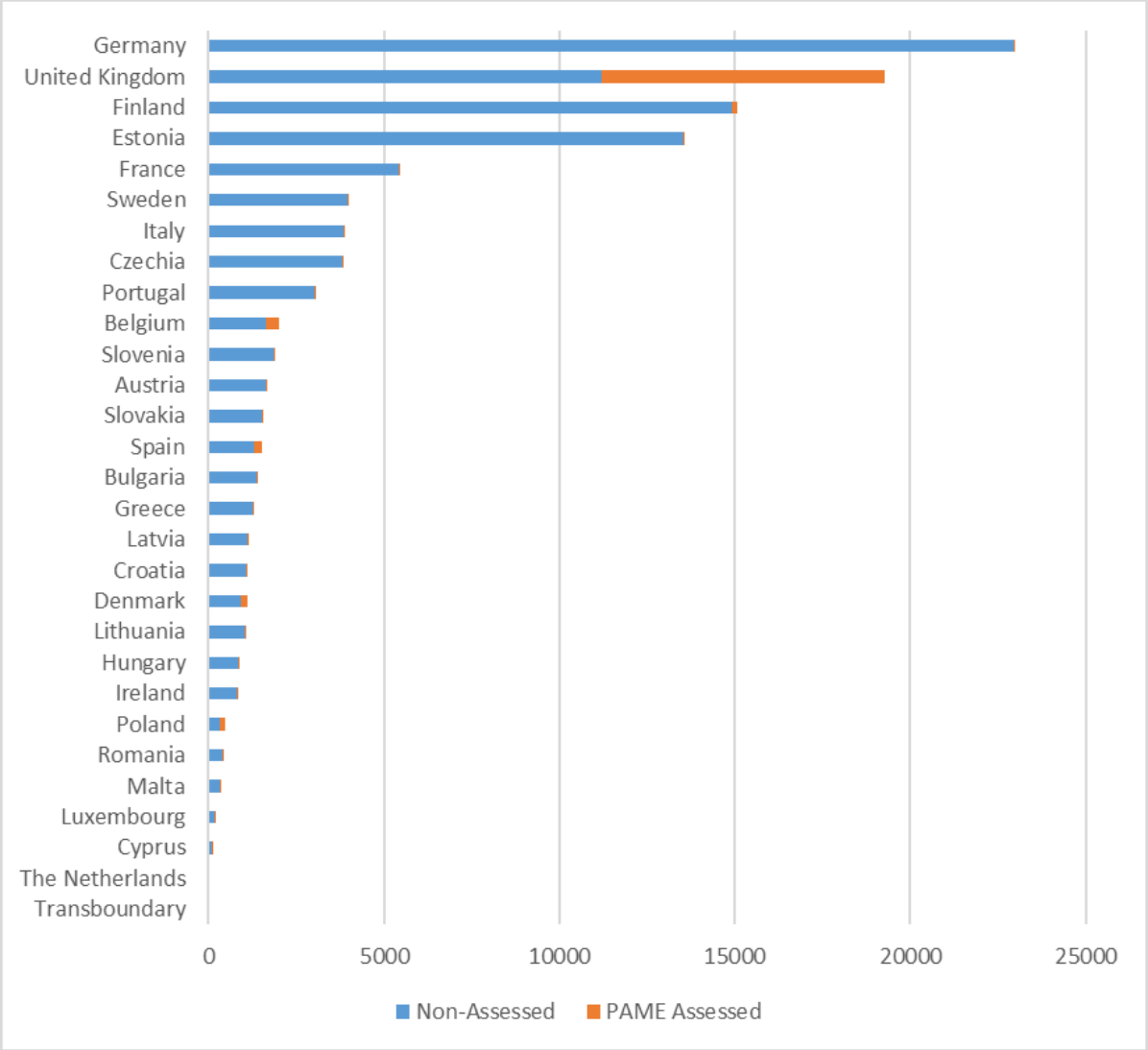
As of October 2019, a total of 19 PAME methodologies are recorded in the GD-PAME by EU Member States (MS)[xxvii]. The Birdlife Important Bird and Biodiversity Area (IBA) monitoring[xxviii] is the most widely used; it was reported in at least one PA in 17 MS (Figure 2-4). Other commonly used methods were the European Diploma (applied in 15 MS) and Management Effectiveness Tracking Tool (METT) (applied in 12 MS)[3]. Overall, the Common Standards Monitoring methodology was used to assess the highest number of protected areas reported to GD-PAME, however it was only applied to sites in the UK. For Natura 2000 sites, the UK only assessed SPAs and SCIs with the Common Standards Monitoring methodology, and other MS predominantly used the Birdlife IBA methodology (368 assessments from SPAs in 16 MS; 131 assessments from SCIs in 14 MS). Belgium reported a dedicated Natura 2000 national monitoring framework for over 350 sites.

Figure 2-3: Total number of protected areas by EU MS and number of areas PAME assessed

Key: The total number of Protected Areas per EU country including Natura 2000 sites, showing the proportion that are PAME assessed as of October 2019. Germany has the most protected area; however, the UK has the highest percentage of its sites assessed.

Source: UNEP-WCMC and IUCN, 2019, Protected Planet: The Global Database on Protected Area Management Effectiveness (GD-PAME) [On-line], [October, 2019]. Cambridge, UK: UNEP-WCMC. Available at: **www.protectedplanet.net**)

[3] For a more detailed description of the most commonly used methods, please see: https://www.protectedplanet.net/c/protected-areas-management-effectiveness-pame/methodologies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The Netherlands
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15000
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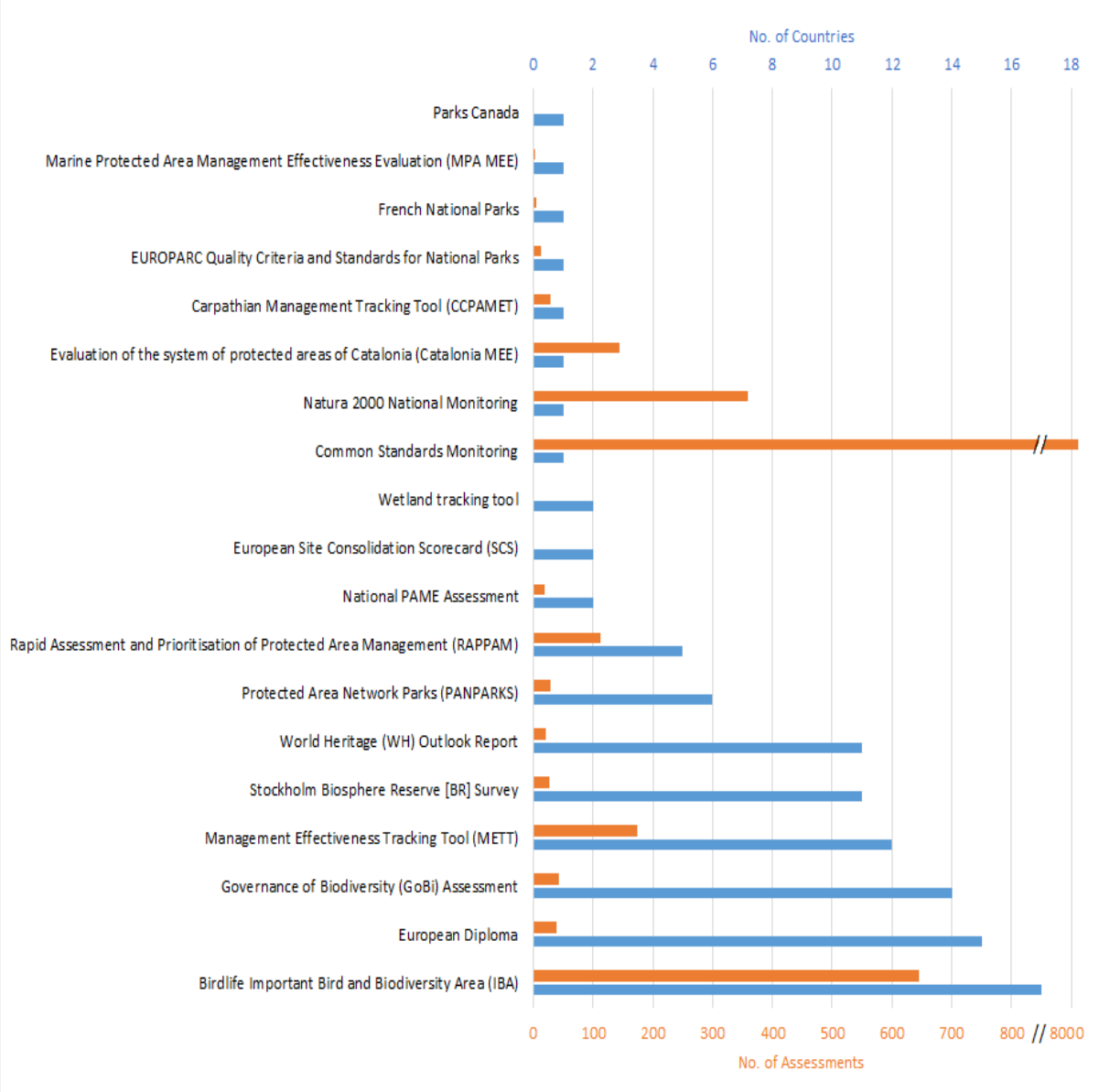
25000
Non-Assessed
PAME Assessed

Figure 2-4: Methods used by EU MS to assess protected area management effectiveness

Key: Methods used in EU countries to assess protected area management effectiveness based on data in the GD-PAME as of October 2019.

Source: UNEP-WCMC and IUCN (2019), Protected Planet: The Global Database on Protected Area Management Effectiveness (GD-PAME) [On-line], [October, 2019]. Cambridge, UK: UNEP-WCMC. Available at: www.protectedplanet.net)



2.4 Legal requirements under the EU Nature Directives of key relevance to protected area management

The overall aim of the Habitats Directive[xxix] is to secure biodiversity through the conservation of natural habitats and species listed in Annexes I, II, IV, or V, by achieving their Favourable Conservation Status (FCS) and ensuring their long-term survival. The management context as outlined in Habitats Directives Articles 1 and 2 identifies the meaning of conservation and FCS[4]. In Article 1, conservation is defined as "*a series of measures required to maintain or restore natural habitats and populations of wild fauna and flora at a favourable status*". One of the key measures to achieve the objectives of the Directive is the establishment of the Natura 2000 network of protected areas (under Article 3). This comprises Special Areas of Conservation (SACs) designated by Member States under Article 4, based on a list of Sites of Community Importance (SCIs), agreed with the European Commission. The network also includes Special Protection Areas (SPAs) designated under the Birds Directive, as described below.

The Birds Directive[xxx] has similar aims of maintaining the populations of birds, but this applies to all naturally occurring wild birds in the EU. To achieve this, Articles 2 and 3 require Member States to take measures to preserve, maintain or re-establish a sufficient diversity and area of habitat for all these birds. These measures include "*upkeep and management in accordance with the ecological needs of habitats inside and outside protected zones*". Additionally, Article 4 specifies that the habitats of bird species (and some sub-species) mentioned in Annex I, and other regularly occurring migratory species, should be '*the subject of special conservation measures*'. These measures include the designation of SPAs, and avoiding their pollution or deterioration.

The most relevant provisions relating to management in the Habitats Directive are Articles 4 and 6. Article 4 refers to the designation of Sites of Community Importance (SCIs) as Special Areas of Conservation (SACs) and the process of establishing conservation priorities – which is generally interpreted as the setting of conservation objectives. Site-level conservation objectives must be established by the time sites are adopted as SACs (Article 4.5). Furthermore, Article 4 specifies that the site-level priorities should consider the ecological requirements of the species and habitats protected under the Directive at the site, the local, regional and national level, conservation status of the focal species and habitats and the relevant threats and degradation pressures, all within the context of the overall coherence of the Natura 2000 network. The site-related conservation objectives should be developed as a reference for the site-level measures.

In line with Article 4, for all Natura 2000 sites a Standard Data Form (SDF) must be submitted with information allowing the European Commission to assess the contribution of the SCI/SPA to the Directives' overarching objectives before designation and this contribution should be periodically reviewed (Art 9). The SDF should include at least a map of the site, a site name,

[4] The conservative status of a natural habitat will be taken as 'favourable' when: its natural range and areas it covers within that range are stable or increasing, and the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.

its geographic location and extent, and the data resulting from the application of the criteria used in the site selection process. The content of the SDF should be updated regularly based on the best available information for each site of the network, however no deadlines for review are set and a significant share of SDFs are outdated and static. The last SDF template of 2011[xxxi], includes requests for important information for management effectiveness, particularly in the sections with 'site characteristics' (including for example a ranking of pressures and threats) and 'site management' (including for example information on whether a management plan is in place). However, again due to irregular review of the SDFs the quality and depth of information provided differs considerably between sites. The template also does not request specific information on management effectiveness, for example whether evaluations took place and what their main findings were.

The provisions of Article 6 set the framework for actual measures to ensure site conservation and protection, including proactive, preventative and procedural requirements relevant for management. The protection and conservation regime covering Article 6 should include [emphasis added]:

> *6.1 For special areas of conservation, Member States shall* ***establish the necessary conservation measures*** *involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.*
>
> *6.2 Appropriate* ***steps to avoid the deterioration*** *of natural habitats and significant disturbance of species for which the areas have been designated in so far as such disturbance could be significant in relation to the objectives of this Directive.*

The European Commission's guidance notes on setting conservation objectives and establishing conservation measures for Natura 2000 sites,[xxxiixxxiii] recommend that conservation measures should be detailed and substantive enough to ensure their implementation delivers the conservation objectives of the site, while contributing to the overall objective of the Habitats Directive. How the conservation measures are established and implemented, for example whether they are published in dedicated management plans, remains in the remit of each Member State. Nonetheless, the Commission guidance emphasises that management plans are a useful tool to implement the Article 6.1 provisions in a clear and transparent way. Furthermore, the EU Biodiversity Strategy to 2020 includes a commitment by EU Member States to '*…ensure that management plans or equivalent instruments which set out conservation and restoration measures are developed and implemented in a timely manner for all Natura 2000 sites'.* The Commission note on establishing conservation measures identifies various key elements for success:

- Having a sound information base to define and establish adequate and feasible measures.
- Ensuring participation, consultation and communication with stakeholders.
- Defining measures with a sufficient level of detail, appropriate technical expertise with a work plan and timeline.

- Having a clear understanding of the resource needs.
- Ensuring effective implementation and communication.
- Ensuring that monitoring, evaluation and review processes for the measures are in place.

European Commission guidance also encourages Member States to, in the context of the 6-yearly reporting cycles under Article 17 the Habitats Directive, establish mechanisms ensuring the effective implementation of the conservation measures. However, the notes do not specify the mechanisms that could be useful to ensure this, nor what the term 'effective' means in this context. However, on monitoring requirements within Natura 2000 sites the Commission advised that the focus should be on assessing: (1) The implementation of the planned conservation measures and their effectiveness in meeting the conservation objectives for the site and (2) the impact of the measures on the degree of conservation of target habitats and species present at the site[xxxii]. Additionally, monitoring mechanisms should include measures, verifiable objectives and indicators to facilitate the evaluation of results and adapt site management accordingly. Nevertheless, the focus remains on evaluating FCS and there are no requirements to report on management effectiveness.

Despite the above-mentioned management-related provisions in the Nature Directives and Commission guidance, only the establishment of measures as such and the achievement of FCS are a binding commitment. Following the subsidiarity principle enshrined in EU Directives, EU Member States have discretion to design, undertake and evaluate measures according to their own needs and approaches. As such, Member States are not legally committed to assess and report the effectiveness of measures in the Natura 2000 network and no specific guidance on the assessment of management effectiveness has been developed in the context of Natura 2000.

The following chapters 3-5 present a state of play on the three key elements of ensuring management effectiveness: Management design & planning, management adequacy and appropriateness, and management delivery. The evidence shows that Member States have taken many steps towards meeting the recommended standards set out in established PAME guidance such as the IUCN Green List. However, previous findings and this study also point to significant remaining challenges. Based on the main common challenges identified, Chapter 6 discusses a number of possible solutions to overcome them.

3 Management design and -planning

Key messages

1) There is a large diversity among EU Member States in regards to Natura 2000 management design and -planning, both in terms of ambition level, governance set-up and progress made

2) Persistent bottlenecks to inform and evaluate effective management design and planning include a lack of knowledge of ecological requirements and pressures affecting habitats and species; the absence of smart objectives and measures; a lack of public participation and poor financial planning

3) Only two of the five Member States studied in detail have established management plans for all Natura 2000 sites in their territory. For two Member States no clear information on the number of sites with management plans could be obtained, which illustrates how some Member States still lack rudimentary information and the associated transparency to assess the national status of management effectiveness

4) Despite these challenges, the case studies also showed innovative approaches on how to overcome such challenges, for example the integration of public participation in France and Finland

As section 2.4 highlighted, the Nature Directives provide a legal framework for the establishment of necessary conservation measures to ensure conservation- and necessary steps to avoid the deterioration of protected habitats and species in Natura 2000. However, Member States have the freedom to determine how to best achieve this. Given the importance of planning and design in the establishment of the network, the Directives and established European Commission guidance and follow-up have dedicated significant attention to it and there is more evaluation evidence available than on the adequacy/appropriateness and delivery of measures. As this chapter shows, Member States have taken varying approaches and with different levels of ambition. Before section 4.5 looks into the key commonalities and differences between the five countries analysed for this scoping study, the next four sections highlight four common challenges frequently recurring, which became evident from available evidence and policy evaluations.

3.1 Context: Filling gaps in knowledge of conservation values

An understanding of conservation values and needs is paramount for effective management. The Nature Directives include specific provisions requiring research and monitoring to be undertaken. The evaluation study to support the Fitness Check of the Birds and Habitats Directives[xxxiv] concluded that these obligations and practical requirements have stimulated a substantial increase in research and monitoring activities in most Member States, from the initial knowledge required for the designation of sites, to the later stages of monitoring habitats and species' conservation status. Some inventories of habitats and species in Member States were financed with EU funds, in particular the LIFE programme.

Nonetheless, the evaluation identified significant remaining gaps in knowledge and knock-on effects on all stages of implementation, from designation to the establishment of management measures and their evaluation. The EU Action Plan for Nature, People and the Economy therefore included a specific call to action for EU Member States to '*Enhance monitoring and fill the gaps in knowledge on the Natura 2000 network, the conservation status and trends of species and habitats, the effectiveness of the Natura 2000 network and its contribution to achieving the Directives' objectives, including in view of the next reporting under Article 17 of the Habitats Directive and Article 12 of the Birds Directive due in 2019*'. Preliminary findings of the last Article 17 reporting show that for 124 of habitats assessments (or close to 4%) and 1048 of species assessments (or close to 14%) the status is unknown (Figure 3-1)[5]. Similarly for birds, the share of breeding bird assessments for which no short- or long-term trend could be assessed remains 19% and 25% respectively (Figure 3-2). Although this may be partly explained by changes in methods, it demonstrates the significant remaining knowledge gap to assess status with certainty.

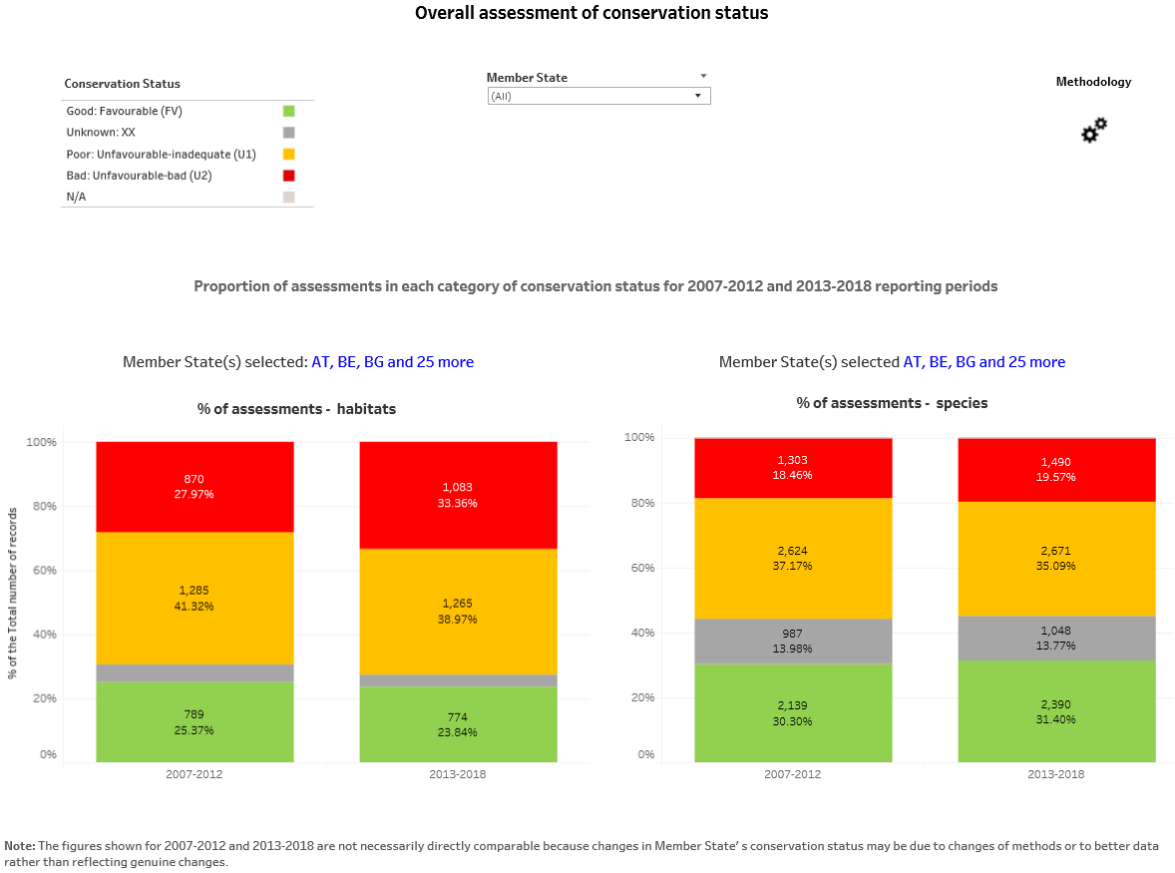
A recent evaluation of measure-driven improvements under the Nature Directives[xxxv] demonstrated the importance of reliable, up-to-date and context-relevant knowledge of ecological requirements and pressures affecting habitats and species, to design and implement appropriate, effective and efficient measures for them. Monitoring of this information is not only important to inform the establishment of measures, but also to be able to track progress and identify measure-driven improvements. It demonstrates that, despite the above-average coverage of biodiversity monitoring in the EU compared to many other regions, knowledge gaps still remain an important barrier to management effectiveness both EU-wide and especially in certain Member States.

5 Please note that the percentages in the graph represent the sum up of the Member States' assessments and not the EU assessments of conservation status of habitats and species which are done using a specific methodology and per biogeographical / marine regions

Figure 3-1 Status assessments of habitats and species protected under the EU Habitats Directive under the 2007-2012 and 2013-2018 reporting cycles.

Please note: The percentages in the graph represent the sum up of the Member States' assessments and not the EU assessments of conservation status of habitats and species which are done using a specific methodology and per biogeographical / marine regions

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable.
Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards

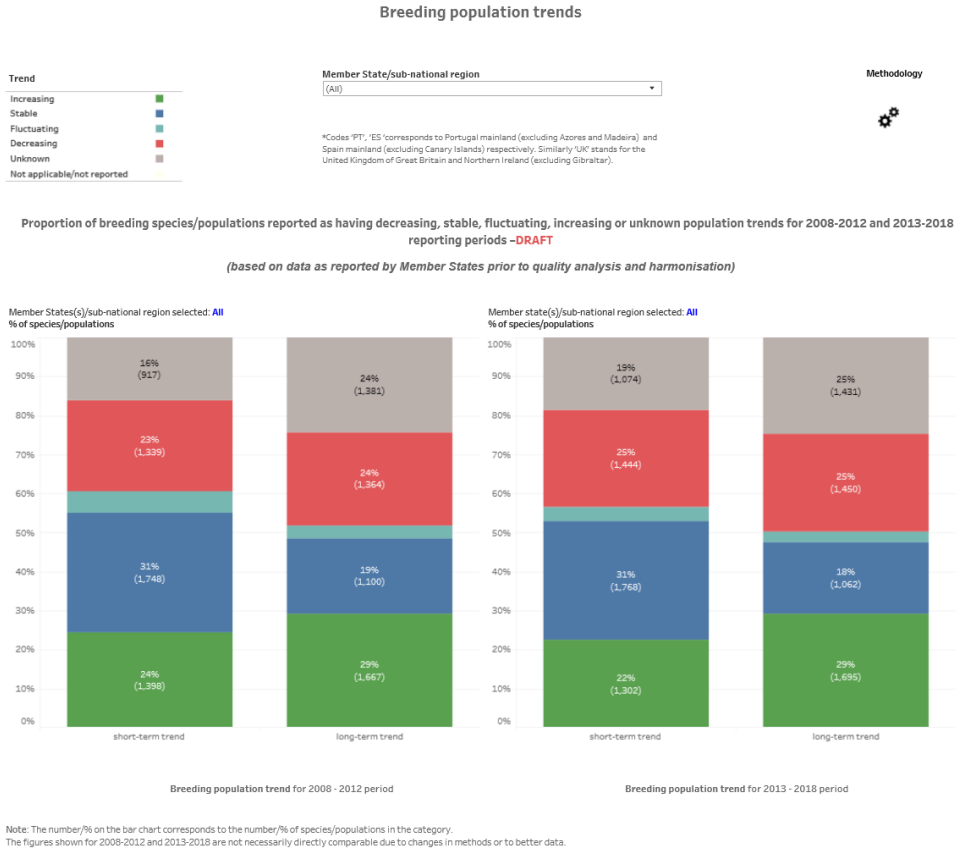


Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State's conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

Figure 3-2: Proportion of breeding species/populations reported as having decreasing, stable, fluctuating, increasing or unknown population trends for 2008-2012 and 2013-2018 reporting periods

Key: Grey = Unknown; Red = Decreasing; Cyan = Fluctuating; Blue = Stable; Green = Increasing.

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-12-national-summary-dashboards/breeding-population-and-distribution-trends



3.2 Planning: SMART conservation objectives and -measures

As outlined in section **Error! Reference source not found.** the Nature Directives oblige Member States to establish management measures and the European Commission has provided detailed guidance on this. Even though the setting of detailed conservation objectives is not an obligation as such, the legal texts directly and indirectly refer to them, and the European Commission note emphasizes the importance of establishing site-related conservation objectives as a necessary reference for identifying site-related conservation measures.

The EU Action Plan for Nature, People and the Economy re-emphasized the need for Member States to, in line with the applicable deadlines in the Directives, establish and implement the necessary conservation objectives and measures for all Natura 2000 sites, ideally in the framework of site management plans or equivalent instruments. It also listed a number of supporting actions by the European Commission such as the provision of EU co-financing to support this work, facilitating the exchange of best-practice, and holding dedicated bilateral meetings with competent authorities in each Member State ('Nature Dialogues'). A quick review of background documentation and reports of these meetings for this scoping study[6], shows that the majority of Member States by now have established conservation objectives for most of their terrestrial SCI's but their quality remains insufficient. Furthermore, significant gaps remain in the marine network. By the end of 2018, Member States reported having management plans, or equivalent instruments setting out conservation and restoration measures, for 70% of Natura 2000 sites across the EU[xxxvi].

3.3 Planning: Participatory approaches to management planning

The Nature Directives Fitness Check revealed that the identification of Natura 2000 sites and establishment of conservation objectives and management measures has sometimes given rise to conflicts with stakeholders. Whilst it was correct to only identify SPAs and SCIs on the basis of scientific grounds (as confirmed in ECJ rulings), some Member States did not adequately inform stakeholders of the designation process and consult them on its implications sufficiently and/or early enough. This led to mistrust and conflicts with some landowners and other stakeholders, resulting in numerous objections to many of the proposed SCIs, delays in the establishment of SACs, and, in turn, the development of site conservation measures, management plans and management agreements with landowners.

The Fitness Check evaluation also demonstrated the value of management plans that had been carefully prepared and tailored for each individual site, adopted through a participatory process with all concerned stakeholders, and included the possibility for economic activities to be carried out while respecting or supporting the site's conservation objectives. However, the evaluation also found many cases where generic plans had been developed centrally by national and regional authorities or consultants without adequate stakeholder involvement. Problems also arose where nature conservation management plans were not sufficiently integrated with, or considered by, other sectoral plans, such as forest management plans or

[6] Based on assessment under EU service contract N° ENV/D.3/SER/2017/0023, unpublished.

equivalent instruments, despite having been developed, in some cases, by the same authority.

For this reason, the EU Action Plan for Nature, People and the Economy included improving guidance and knowledge and ensuring better coherence with broader socioeconomic objectives as a first priority. However, actions have mostly focused on technical guidance by the European Commission, for example on the interpretation of Article 6. While this addresses the importance of participation, consultation and communication in the establishment of conservation measures, more could be done to support Member State-, regional- and local implementing authorities on how to improve participatory management planning at site level. Although several of the 'Nature Dialogues' between the European Commission and Member States uncovered a lot of good practice, stakeholder meetings organized alongside the 'Nature Dialogues' also demonstrated room for improvement in various EU Member State and opportunities for mutual learning both between sites, regions and Member States.

3.4 Planning: Financial planning and Prioritized Action Frameworks

The effective management and restoration of sites in the Natura 2000 network requires a significant investment of funds. These investments are justified not only by the fact that nature has intrinsic values but also by socio-economic benefits to be derived from a fully operational network, which will significantly outweigh its costs over the longer term. The European Commission and the Member States have adopted an integrated approach by means of which funding for Natura 2000 is provided under different EU sectoral funds (including LIFE programme). To give effect to Article 8 of the Habitats Directive, which provides a legal basis for EU co-funding of the Natura 2000 network, and in view of better planning of these investments and getting better access to the relevant EU funds for the funding period 2014-2020, the Commission asked the Member States to submit 'Prioritised Action Framework' (PAFs).

The Fitness Check of the EU Nature Directives assessed the effectiveness of the PAFs and the uptake of various EU funds for Natura 2000. Although the PAFs developed so far have been variable in their degree of ambition and quality, they have nevertheless made an overall positive contribution to securing funding for Natura 2000 under EU funding instruments. However, the Fitness Check stressed that funding shortages are a major factor undermining the effectiveness of the Nature Directives and highlighted in particular the worrying decline in species and habitats associated with agriculture, pointing to the need for a more effective integration of Natura 2000 and wider biodiversity with the Common Agricultural Policy (CAP).

A European Court of Auditors (ECA) performance audit of Natura 2000 published in 2017[xxxvii] also found that the operational programmes approved in the current MFF under different EU funds did not necessarily reflect all the needs for Natura 2000 identified in the PAFs. Similar conclusions were reached in the valuation of a sample of EU funding programmes carried out for the European Commission in 2016[xxxviii]. According to the ECA, the combination of incomplete or inaccurate information in the PAFs, with their insufficient integration into the programming documents for the 2014-2020 funding period, points to the need to strengthen the PAF exercise to ensure consistency of EU funding for Natura 2000. The ECA also found that "as regards to EU funds, no specific performance indicator system providing data on

whether the supported measures have produced the expected outputs, results and impacts for the Natura 2000 network was in place" and recommended that the Commission establish cross-cutting Natura 2000 indicators for all EU funds for the next programming period.

The Commission responded in the EU Action Plan for Nature, People and the Economy with one of its four overarching priorities being: '*Strengthening investment in Natura 2000 and improving synergies with EU funding instruments*. It proposes an increase in dedicated funding for nature and biodiversity which would allow for a higher investment in Natura 2000 and calls for the development of more guidance and planning to help Member States in financing Natura 2000. Specifically, Action 8 calls on the Commission to help the Member States to improve their multiannual financial planning for Natura 2000 through the updating of their PAFs. Other actions also aim to improve funding of Natura 2000 and the conservation of habitats and species of EU interest under this priority area. Action 9, for instance, aims to promote synergies with funding from the CAP, Action 10 proposes to increase awareness of Cohesion Policy funding opportunities and improve synergies, and Action 11 aims to improve synergies with the CFP and the Integrated Maritime policy, including more effective use of the financing opportunities available. These actions have been implemented among others by developing a new format of the PAF and including explicit possibilities of funding nature in the Commission proposals for all relevant funds post-2020 and by providing clear links to the PAFs in these regulations, including in the form of conditionality (i.e. funding for certain objectives being available only on condition that the Member States provide PAFs of sufficient quality).

At the time of writing, a final agreement on the EU's Multiannual Financial Framework (MFF) is still pending, and Member States are still finalising their PAFs, CAP strategic plans and other relevant strategic- and operational programmes. It is therefore still too early to say to what extent opportunities for EU nature funding will improve and whether the Action Plan has been successful in both improving financial nature planning and its integration with other relevant EU investment programmes. However, first assessments of draft PAFs submitted by Member States to the European Commission suggest significant improvements in most Member States as well as conditionality under relevant regulations to integrate nature investment needs.

3.5 Comparing Member State approaches

All five Member States analysed in detail for this scoping study (i.e. Finland, France, Ireland, The Netherlands and Slovakia)[7] have almost completed their terrestrial Natura 2000 network, but Ireland and France still have insufficiencies in their marine networks. A notable difference between the analysed countries is that while Finland, France, Ireland and The Netherlands have each adopted around 13% of their territories as SCI, in Slovakia this is almost 30%. Slovakia has more Natura 2000 sites than Ireland while only being slightly over half its size.

[7] Please note: When considering the differences between the 5 analysed Member States in this and following Chapters, it should be noted that the selection is biased towards North-Western European countries and therefore Atlantic biogeographic region – and excludes a case study country from a Southern European Member State situated in the Mediterranean biogeographic region. Another factor to consider is that the selection does not include strongly federalized Member State such as Austria, Germany and Spain which generally have a larger divergence in management approaches between regional states.

While Finland and The Netherlands designated all their SCI's as SACs, France, Ireland and Slovakia have not, despite this being well beyond the six-year deadline under Article 4 of the Habitats Directive. This is an important shortcoming as legally Member States are not committed to apply conservation measures in SCI's (Art 6.1) only to prevent threats/pressures (Art 6.2-6.4). The European Commission has started infringement procedures against all three countries for not designating their sites within the deadline. Additionally, the five case study countries have operated differently in setting conservation objectives. While The Netherlands, Finland and France have set at least general conservation objectives for each site, Slovakia and Ireland have not. In both countries, this mainly appears to be a matter of resources committed. However, in Slovakia it is also a matter of time because a significant share of Natura 2000 sites are not national protected areas and therefore did not have a management plan and site-specific objectives to build on, which are required under Slovak law. For sites with conservation objectives, in each of the five countries shortcomings were found in the way they have been set. Primarily, objectives were deemed too general and lacked quantification (in Finland, Ireland, The Netherlands, France for some sites) or were incomplete, since they were based on a national approach that does not address all EU-protected species and habitats (Slovakia). Of the five countries analysed, only The Netherlands appears to have made an explicit link between site-specific objectives and the achievement of FCS.

Management plans were published in France for all sites and in The Netherlands for nearly all sites, while in Slovakia only 97 out of 642 SCI's management plans have been published (or 15%). In both Ireland and Finland, the exact number of Natura 2000 sites with management plans is unknown. The Finnish Ministry of Environment estimated in 2016 that 58% of the area of the Natura network has up-to-date and comprehensive plans in place. In Ireland some protected areas have conservation plans (or precursor conservation statements) and broad conservation measures in place that are likely to be contributing to the objectives of the Nature Directives. However, most do not address the requirements of the habitats and species that the Natura 2000 site was designated for, and lack a systematic approach to establishing conservation measures linked to the site's specific conservation objectives and pressures and threats. The exception to this is for Natura 2000 sites with raised bogs, for which detailed assessments and restoration plans were prepared, mostly with support of EU-funding.

Significant differences in approaches to governance were also found, partly driven by different contexts in land ownership and use. In each of the five countries, national authorities took a coordinating role in establishing the Natura 2000 network through designation and setting of conservation objectives. However, while in Ireland, Finland and Slovakia management planning is still mostly driven by national authorities, in France and The Netherlands this responsibility has in recent years been largely delegated to regional authorities. In Finland, approximately 80% of Natura 2000 sites are state-owned, governed and mainly managed by a single state-owned enterprise (Metsähallitus). Similarly, in The Netherlands and France the largest share of the network is publicly owned, but management is contracted to a wider variety of stakeholders such as NGO's, farmers and foresters or local authorities. In Ireland and Slovakia, a significant share of the Natura 2000 network is under private ownership or commonage, which greatly changes planning challenges and needs. The responsibilities of local authorities in management planning are relatively small in all five

countries, however Finland's 311 municipalities do prepare protection proposals, management plans for protected sites and decide on protection of natural monuments. Another interesting actor in Finnish Natura 2000 governance are 15 regional '*Centres for Economic Development, Transport and the Environment*' that promote and supervise nature and landscape protection in their region. They establish nature conservation areas in privately owned land, buy land for nature conservation purposes and also approve management plans for protected areas. Additionally, they safeguard natural values in land use planning and participate in planning the management and use of Natura 2000 sites in co-operation with Metsähallitus. In The Netherlands, where agriculture and land management are very dominant, and necessary to maintain several protected habitats such as semi-natural grasslands and meadow birds, a dedicated organisation of 39 agricultural nature management collectives was set up to more effectively govern agricultural nature management (for a more detailed description, see section 4.3).

In terms of participatory approaches in management plan design, Finland and France have been most progressive, integrating stakeholder participation in site designation and management guidelines from the start. In France, each site has an independent facilitator who drives management planning and implementation between the regional government and stakeholders which, despite being quite administratively heavy and time-consuming, has ensured full participation and a relatively high ownership. In the northern Finland regions of Oulu and Lapland, as well as in Northern Karelia (eastern Finland), the Ministry of Agriculture and Forestry has appointed advisory boards with representatives from various interest groups. These groups advise Metsähallitus on regionally significant land issues concerning state-owned lands. According to the Nature Conservation Act, such advisory boards can also be appointed for national parks (such as Urho Kekkonen National Park). The Participatory Planning Guide published by Metsähallitus provides guidelines for stakeholder participation in planning processes, the recommended level of which varies depending on the situation and can include methods ranging from public events to bilateral discussions. The 15 regional centres play a significant role in this process. For each site in the Netherlands, government authorities are required to consult with a steering group including key stakeholders and are obliged to publish designation acts and management plans for public consultation. Despite this set-up, stakeholders indicated they had been included too late into the planning process, when designation acts and objectives were already in an advanced stage, which resulted in anxiety on their adequacy and consequences. Also in Ireland, stakeholder participation during the site designation process has not received the required attention or resources, and landowners and farmers generally perceive Natura 2000 site designations as instruments that have been imposed on them. While stakeholders were consulted on management plans where they have been developed, this appears in most cases to have been through passive consultation only and not through a collaborative effort in the development of plans. Participation in designation and management planning in Slovakia has been challenging too. In part due to a historical distrust caused by the top-down designation of national protected areas in the past, complex and varying patterns of landownership and land tenure, the high pace of Natura 2000 implementation and a lack of resources of competent authorities to set-up adequate consultation beyond the passive public consultation required by law.

In terms of financial planning, each of the five analysed Member States prepared a PAF for the 2014-2020 period. However, some significant shortcomings have been identified, strongly

correlated with a poor understanding of actual needs in terms of meeting objectives and the necessary measures to meet them. For example in Ireland, the PAF does not provide an explanation of how measures and costs were defined for sites without established conservation objectives and management measures. As a consequence, investment needs for marine habitats appeared to have been greatly underestimated. In addition, certain species/habitats with an unfavourable-bad conservation status were not identified as priorities in the Irish PAF. Similarly, in The Netherlands, a detailed needs assessment was lacking in the PAF as well as clarity on how much investment would be met from national sources and how much additional co-funding would be required from EU sources. An important reason for this was political uncertainty at the time of writing the PAF, which cast large uncertainty on national budgets for nature conservation. In Slovakia, the 2014 PAF was the first time different ministries actually met to discuss Natura 2000 investments, illustrating how some Member States had to come a long way to establish an integrated funding model in their countries.

4 Management adequacy and appropriateness

Key messages

1) Member States have taken diverging approaches to the management of inputs and processes, however most Member States are still in relatively early stages and little evaluation evidence on process is available yet.

2) The analysis shows significant remaining funding gaps in most Member States, which in many cases grew with a fuller overview of investment needs identified in management planning. PAFs for 2021-2027 published so far show significant funding gaps both for recurring management and restoration. Experience with actual uptake of funds show scope for improvement among Member States to better integrate EU co-funding from different funds.

3) Significant differences were found in progress between the countries analysed regarding their operationalisation of management measures at site level. The lack of defined site-specific objectives and measures addressed in Chapter 3 has been a key limitation. A recurring challenge is how to square ecological accountability with reasonable administrative costs for both authorities and site managers, especially in countries with large shares of their protected network under agricultural management. Some countries made great steps forward to respond to this.

4) Member States have taken different approaches to deal with pressures and threats partly driven by different operational contexts. Although the scoping points to many local successes, in most cases, these have not been implemented at the required scale. The causes for this differ, but seem mostly related to high administrative burdens and the often voluntary nature of agreements.

5) Even though site-level management in some countries as The Netherlands and France is evaluated as sufficient, ecological objectives are not met because of pressures coming from outside the sites e.g. nitrogen pollution through air and water or human-induced changes to hydrological regimes. Therefore, complementary broad environmental measures across the wider environment remain important to meet conservation objectives, for example through implementation of the Water Framework Directive and National Emission Ceilings Directive.

As mentioned in the previous chapter, large remaining gaps in the setting of site-specific conservation objectives and establishment of measures, make it currently impossible to get a clear picture of the adequacy of management at EU, national, biogeographic or site level in most cases. Moreover, Member States with more developed objectives and measures only established these recently and the survey undertaken for this study highlights that even for some older EU Member States the latest Article 12 and 17 reports provide the first account of how management measures contributed towards outcomes. The lack of detailed objectives and measures have also frustrated financial planning, since no clear estimates of needs could be established. This has led to underestimations of needs and has made it impossible for

competent nature authorities to approach colleagues in other relevant authorities, such as agriculture and fisheries, with clear integration requirements.

The last attempt at estimating Natura 2000 investment needs was done based on MS survey in 2008-2010 which found a total need of €5.8 billion/year[xxxix]. In 2011 a review of Natura 2000 investment allocations estimated they were between €0.6 and 1.2 billion/year (Kettunen et al, 2011) or only 9-19% of the investment need. The real actual gap may well be larger as at the time MS did not yet have a clear picture of implementation needs especially in the marine environment. Moreover the allocation to Natura 2000 did for different reasons not reflect the actual uptake, so the lower estimate of allocations seems more accurate of the actual situation than the higher one. Preliminary assessment of new draft PAFs submitted seems to confirm the previous underestimation of needs, and the European Commission in the 2030 EU Biodiversity Strategy estimates an annual investment need of €20 billion which however also includes estimated protection and restoration needs outside of the Natura 2000 network.

Input needs for regular management and restoration differ greatly between habitats and species and the locations where they occur, for example with some sites recovering from long periods of degradation and others still in good condition. Some protected habitats such as grasslands are fully dependent on recurring human management while others such as caves or mudflats are not. Also socio-economic contexts greatly differ, sometimes even between sites with comparable natural values in the same country. All these aggravate or reduce threats to conservation values at site level and thereby the level of additional action required to meet conservation objectives. Although many of these contextual factors change slowly, sometimes they do so in fast and unforeseen ways. Responding to contextual variation and unpredictability over time requires adaptive management to ensure effectiveness over time towards more static objectives.

For terrestrial ecosystems in the EU, the most frequently reported pressures and threats are agriculture (including both intensification and abandonment) and the modification of natural conditions (e.g. hydrology). The most important pressures and threats for marine ecosystems are the use of living resources (i.e. fisheries, especially for species), followed by modification of natural conditions (especially for habitats) and pollution[xl]. Many of these pressures can only be effectively addressed with economic stakeholders, some at site-level, but in most cases additional measures are required transcending site-level. The threats and pressures in the five countries analysed for this study share several threats reported at EU level, for example, in striking the right balance with agriculture and forestry in and around Natura 2000 sites. However, each also have distinct national and sub-national challenges.

This section tries to highlight common challenges and solutions between the five analysed Member States analysed in providing adequate input to 1) maintain and restore habitats in Natura 2000 sites (and outside where it prevented the achievement of site objectives) and 2) respond to threats and pressures on them. It will also identify how processes have been influential for adaptive management or not. The findings from this scoping study suggested there is a great deal of interesting information available in EU Member States on experience with different methods and responses to different challenges. However, because of time constraints only the key developments have been highlighted in this chapter.

4.1 Inputs: Actual investment and integration

Clear figures on Natura 2000 investment needs and progress on actual investment were not available for any of the five Member States. However, each Member State has made significant investments through national and EU sources[8]. Private funding is more uncommon.

In The Netherlands, for 2014-2020 €315 million / year is available for nature management, of which a large but unknown share directly benefits Natura 2000. In addition, €200 million / year is available for one-off investment for acquisition and restoration in the wider Dutch national nature network that includes Natura 2000. Recently, the government announced an additional one-off investment of €250 million for additional restoration measures to increase the resilience of Natura 2000 against negative impacts of nitrogen pollution (more on nitrogen in the next section). In terms of EU co-funding, The Netherlands rely significantly on EAFRD (more than €0.5 billion for 2014-2020, through M4 and M10) and to a lesser extent Interreg (€25.5 million in 2016-2018) and LIFE (€39.7 million thus far). Somewhat surprisingly, The Netherlands have not used European Marine and Fisheries Fund (EMFF) despite a significant marine Natura 2000 network with a sizeable management gap. Also interesting is the significant investment by the Dutch Postal Code Lottery of €46 million / year to nature projects in The Netherlands. Similar for the EU co-funding however, no exact figures are available to what extent this directly contributes to Natura 2000 management. The draft PAF estimates significantly higher investment needs than currently covered of €1.1 billion / year on regular management and €5 billion of one-off investments over the entire period. It demonstrates a significant investment challenge.

In Slovakia, protected areas are mainly financed through the state budget and EU funds. Assessment of funding sources for nature conservation available to statutory agencies between 2010-2016 estimate that approximately half the funding sources come from state budget sources and the other half from EU structural funds (Haluš et al. 2017). Slovakia makes use of European Development Funding (ERDF) in different ways for nature conservation and GI activities (codes 85, 86) such as through cross border cooperation (€88.8 million), Interreg for GI development in cities (€44.8 million), and projects implemented in regional cooperation under the Danube Strategy (€2.02 million). Slovakia uses the EAFRD for which in 2014-2020 €297.6 million is allocated for nature conservation. Slovakia also utilises Cohesion funding for nature for the preparation and implementation of management plans for Natura 2000 sites, preparation and implementation of action plans for priority species and habitats, enhancement of the monitoring and reporting, green infrastructure and control of invasive alien species (€88.4 million 2014-2020), as well as LIFE funding (€13.5 million thus far).

The French PAF for 2014-2020 pointed to a significant underestimation of both one-off and recurring management costs in the period up to 2013, and a significant funding gap between estimated needs and available funding. One-off costs were estimated at €24 million per year for one-off actions such as finalising management plans, but in reality only €11 million per year were spent on such activities. Recurring costs were estimated at €454.3 million per year,

[8] For Ireland, The Netherlands and Slovakia, the draft PAFs for 2021-2027 periods could be consulted. For Finland and France such drafts were not yet available.

but in reality only €95.7 million per year was invested[xli]. The gap was primarily explained through an increase in management needs with further operationalisation of management plans and –contracts, increased knowledge and monitoring intensity and an underestimation of public funding available. France mainly makes use of structural funds (EFRD, EAFRD) and LIFE, but their contributions to Natura 2000 appear relatively modest compared to national investment and no clear figures are available.

Also in Ireland, EU nature policy is mostly nationally funded to the amount of €143 million in 2014, the majority for bog conservation and authority staffing costs. As mentioned in previous sections, Ireland has made extensive use of the EAFRD (€0.6 billion for 2014-2020), mostly through the use of M10 agri-environment-climate measures (AECM) and the LIFE programme (€44 million thus far). Ireland also has made good use of Interreg for nature, amounting to €92.3 million (of which 15% nationally co-funded). Although Ireland has made use of EMFF funding for Natura 2000 (€5.6 million thus far), it is relatively small considering Ireland has one of the largest marine and coastal Natura 2000 network in the EU.

In Finland, the 2014-2020 PAF was criticised by NGO's for not including any EU-funding, while the €372 million of national funding for the entire 2014-2020 period was considered largely insufficient[xlii]. Specifically, NGO's point out that Finland is not taking advantage of CAP funding, for example to fund forest Natura 2000 management plans. As mentioned in previous sections, due to funding cuts in Finnish public investment in nature conservation since the preparation of the last PAF in 2013, the allocated €372 million has not been invested. NGO's point to a significant shortfall in staff members, call for increased investment in the management and restoration of protected areas, and also highlight the need to fill gaps in the protected area network. In particular, NGO's call for permanent budget funding for habitat management instead of relying on project funding. The Finnish Association for Nature Conservation estimated that the Ministry of the Environment alone would require an additional €100 million more per year to finance the National Biodiversity Strategy and Action Plan, new conservation programme for mires, new national parks etc. A national project (ELITE) estimated restoration needs many times higher. Although the previous Government cut two-thirds of the existing nature conservation money in 2015, Finland's new government has substantially increased the nature conservation budget and has ear-marked funds to support operational planning and implementation of habitat management/restoration and species conservation measures (Interview with national protected area expert).

Overall, the findings illustrate the significant remaining funding gap in most Member States, which in many cases grew with a more complete overview of investment needs identified in management planning. The analysis also shows the vulnerability of management to politically motivated budget cuts. Moreover, there still seems to be scope for improvement among Member States to better integrate EU co-funding from different funds. For example the EMFF seems underused in The Netherlands, while CAP funding is not utilized for Natura 2000 sites in Finland. Also the use of ERDF including Interreg for Natura 2000 does not seem to meet its potential.

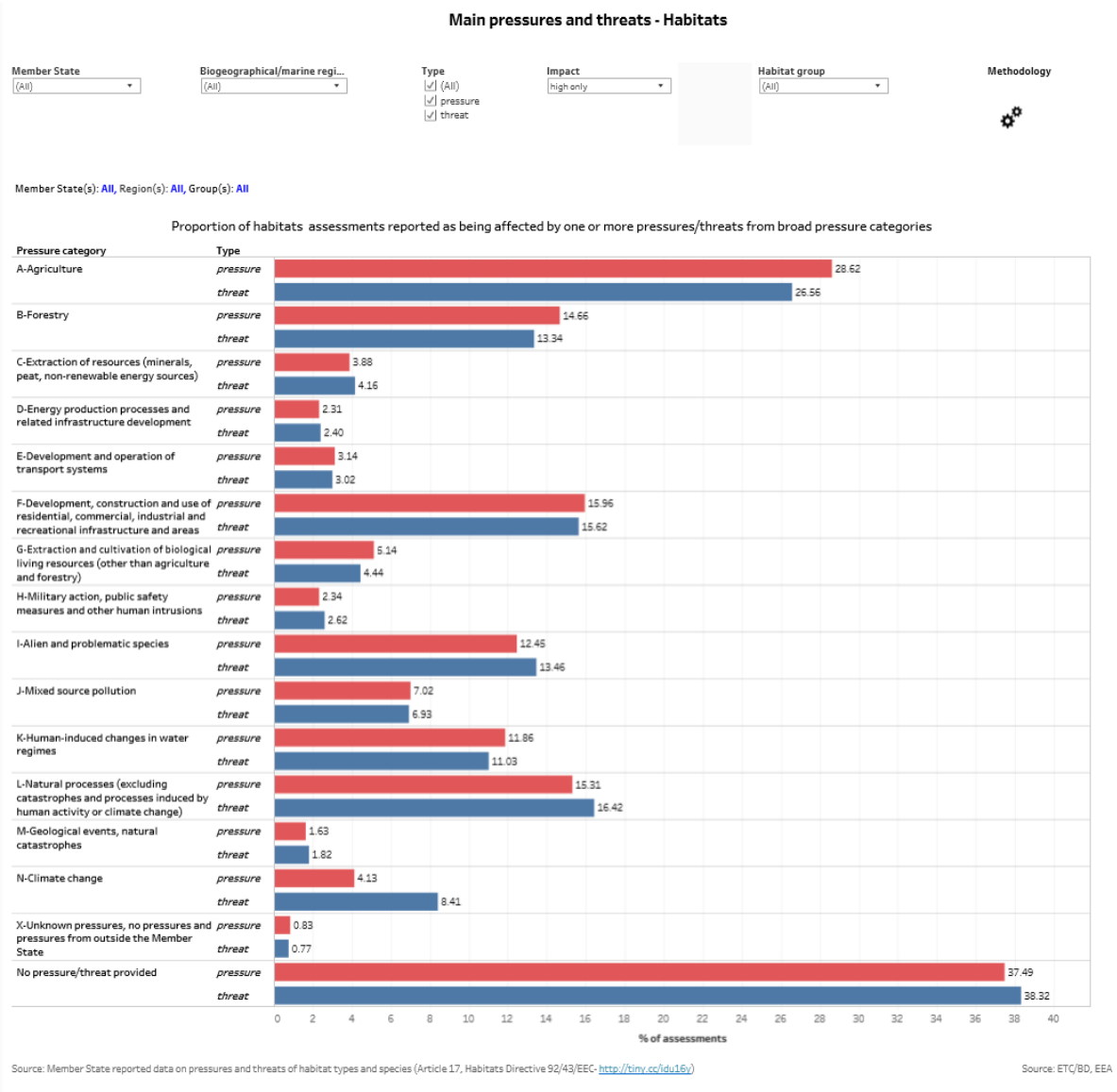
4.2 Inputs: Managing structural pressures and threats

Member States are facing significant challenges in reducing pressures and threats that undermine the effectiveness of their measures taken in Natura 2000 sites, to maintain and restore protected habitats and species. State of Nature reporting on pressures and threats (Figure 4-1) shows that agriculture and the modification of natural conditions (e.g. through man-made modification of hydrological regimes and infrastructure development) are still the most-reported[9]. Notable changes are a significantly higher reporting of pressures and threats from alien and other problematic species, forestry and natural processes (e.g. vegetation succession after the abandonment of former grazing land) as well as lower reporting of use of agriculture and forest resources. For most pressures and threat categories the number of assessments has increased, which may be explained by increased knowledge and more thorough reporting.

[9] Some caution should be taken in comparison between the two different periods since reporting categories were changed

Figure 4-1: Proportion of habitats assessments reported as being affected by one or more high-ranking pressures/threats from broad pressure categories

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/main-pressures-and-threats



4.2.1 *Natura 2000 management and agriculture in the case study countries*

As mentioned in the previous section, in Ireland where 70% of land area is under agriculture, structural changes in agricultural management location and practice pose the largest challenge to Natura 2000 implementation mainly due to loss of grazing in highlands and negative effects of intensification in lowlands (e.g. through diffuse nitrogen pollution).

Ireland has used a number of CAP measures to address biodiversity issues, most importantly various EARDF-supported agri-environment schemes (AECMs) since 1994 which were considered to have been too broad and not sufficiently targeted (Ireland PAF, 2014). In the SWOT analysis of Ireland's current 2014-2020 CAP the Irish authorities recognized that '*One*

of the clear priorities for investment … was the requirement for comprehensive and integrated support for a range of environmental, climate change and biodiversity issues.' (DAFM, 2018a: Section 5). Amongst other things, the need for '*the protection and maintenance of Natura sites*' and '*the protection of habitats for specified species, and associated biodiversity challenges the protection and maintenance of high status water areas*' were highlighted. Consequently, the current Rural Development Programme (RDP) and its suite of measures have undergone considerable changes and now focus more on addressing the pressures affecting habitats and species covered by the Nature Directives, and the need for conservation measures in Natura 2000 sites. Natura 2000 management plans and/or conservation objectives must be taken into consideration when agri-environmental agreements are being drawn up for farmland in Natura 2000. These agreements are administered through national agriculture- and nature authorities with individual farmers and no systematic evaluation and assessment is in place, and monitoring is dependent on irregular inspections by national authorities. Because of this set-up, ownership among farmers of the conservation outcomes are relatively low while the administrative burden is relatively high. Some more bottom-up pilot projects (Burren, Shannon Callows and Leitrim), in which local operational groups of farmers, farm advisors, scientists and public authorities come together to design and deliver their own results-based agri-environment, have demonstrated more positive outcomes.

Results-based management of Natura 2000 by Irish farmers

Following a failure of Natura 2000 protection and agri-environment schemes to prevent the negative effects of land abandonment in the HNV landscape of The Burren, between 2005 and 2010 the BurrenLIFE (EU LIFE) project was implemented to develop and test more targeted, action-based solutions with local land managers. BurrenLIFE was a great success, particularly in building partnerships and finding local solutions. However, the project alone failed to address the underlying economic drivers that made nature management unattractive for the majority of farmers. Therefore, in 2010 the Irish Department of agriculture granted €1 million for 6 years to expand Burren LIFE (using unspent Pillar 1 CAP funding) and pilot a new farmer-centred result based payment scheme with 160 farmers on 12,500 ha of land. Based on a relatively simple, farmer-friendly scoring system, participants were able to demonstrate continuous conservation improvement over the six-year cycle, prompting the Irish authorities to expand the programme further under the current rural development programme. Farmers who failed to achieve good scores could apply for targeted investment support to overcome structural barriers. Today 328 farmers participate in the scheme, managing 23,000 ha of SAC habitat with a €12 million budget for 2016-2022. Approximately 15% of this budget was reserved for a tender awarded to a locally-based team to cover farmer and advisor training/support, admin, monitoring, and reporting. Farmers generally like the scheme as they feel it is fairer, allows greater freedom to farm, provides more targeted and useful advice, and a better incentive to manage rougher areas all contributing to greater ownership. Evaluations also found that once established, result based payments were significantly cheaper to administer than action based payments (c.8% of allocation versus c.25%) while adding greater value for money.

Building on the positive experiences in the Burren, a consortium of Irish and Spanish stakeholders responded to a call for proposals from the European Commission to pilot results-based payment schemes. This resulted in a €1.4 million project between 2015 and 2018 (of

which 70% EU funded) to pilot schemes with results based scorecards and indicators for wet grasslands, breeding waders and Marsh Fritillary (*Euphydryas aurinia*) in three new areas including two in Ireland (County Leitrim and Shannon Callows). In addition, the ArranLIFE project (LIFE12 NAT IE 000995, 2014-2018) piloted a similar approach on the Arran islands off the coast of Galway County. Through the European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) results-based approaches were implemented by 9 more operational groups, for example to support the conservation of the breeding Eurasian Curlew (*Numenius arquata*), Hen Harrier (*Circus cyaneus*) and Freshwater Pearl Mussel (*Margaritifera margaritifera*). Currently it is too early to say to what extent this model will be further scaled up under the future Irish CAP Strategic Plan, but given the positive results this seems likely.

With respect to EU-wide RDP Regulation Priority 4a on biodiversity and nature, the RDP has a target (T9) of achieving 20.8% of agricultural land under management contracts supporting biodiversity and/or landscapes, using the above combination of measures. Ireland also used Pillar 2 support to top-up basic payments for farmers in Areas of Natural Constraints (ANC). Although this measure does not have environment objectives, or additional environmental conditions, it is likely to help maintain agricultural systems and practices that are at risk of abandonment, and thereby indirectly provides some benefits for biodiversity. However, its actual biodiversity impacts are unknown. Other CAP measures used in Ireland are the protection of grasslands and other semi natural habitats. Firstly Ireland designated all grassland in Natura 2000 as Environmentally Sensitive Permanent Grasslands (ESPG) under the CAP Pillar 1 greening instrument, but it must be recognized it only represents 4% of permanent grassland in Ireland[xliii]. Although solid evidence of effectiveness is missing, a recent evaluation of biodiversity impacts of CAP in Ireland demonstrated that even though measurable reductions in land abandonment were achieved, it had not happened at a sufficient scale. Moreover, authorities still face a challenge to encourage more intensive farms in lowlands to take up actions for biodiversity[xliv].

The Netherlands, where 50% of land is under agriculture, faces similar challenges, with intensive livestock farming impacts on Natura 2000 implementation, most notably through nitrogen pollution, modification of hydrological regimes and intensification of grassland management. The Netherlands have a relatively long history of agricultural nature management, and have in the past also tailored CAP implementation for this purpose almost exclusively through Pillar II. Both in the 2007-2013 CAP cycle as under the current one, the Netherlands reserved a significant share of its RDP budget for biodiversity-supporting measures under the agri-environment and climate sub-measure (M10.1) and non-productive investments sub-measure (M4.4). The 2014-2020 RDP therefore introduced a more focussed approach to agricultural nature management (see box in next chapter). Although first experiences seem rather positive and have shown better conservation outcomes, a recent evaluation for the European Commission[xlv] also demonstrates a number of challenges. In relation to Natura 2000 site management, the voluntary nature of AECM remains a principal challenge as farmers are often still reluctant to engage with the high-level schemes. As the previous chapter showed, like Ireland, The Netherlands has integrated nature management in the implementation of its agricultural policy, and supports this through significant EAFRD support in particular through AECM and investment support (M4). Like Ireland, The

Netherlands also designated all grassland in Natura 2000 as ESPG, but also here a significant share of HNV grassland is located outside of Natura 2000 hampering its protection.

In France, agriculture is the most reported pressure, and various strategies have been implemented to address this. The most relevant for Natura 2000 are the contracts with farmers managing Natura 2000 through CAP Pillar 2. In particular, AECMs are used to target key biodiversity areas and are the principal tool for financing nature conservation actions in Natura 2000 sites. Like in The Netherlands, the implementation of rural development was recently decentralised. A recent evaluation for the European Commission[xlv] shows diverging success but overall positive outcomes in reducing agricultural pressure in Natura 2000. An ongoing assessment of the effectiveness of Natura 2000 policy, conducted by the National Museum of Natural History (UMS Patrinat), has provided preliminary results on the benefits of AECM in France. Researchers carried out statistical analyses at the scale of biogeographical regions, on certain indicators (e.g. permanent grassland area, in the agronomical sense, and bird monitoring data, STOC), comparing trends within and outside Natura 2000 sites. Between 2000 and 2010, the decline of permanent grasslands was more limited in Natura 2000 sites than outside. According to the researchers, this is mainly thanks to the AECMs as the impact assessment for ploughing grasslands in Natura 2000 areas has been compulsory only since 2008. Similarly, the scientists observed that farmland birds declined less in Natura 2000 areas than outside. This difference was not observed for forest- or generalist bird species. The evaluation also demonstrated various local AECM conservation successes. One barrier highlighted in one of the French regions, studied in more detail for the evaluation (Centre Val de Loire), is that stakeholders lacked the time to properly implement, monitor and assess the implementation of AECMs which reduced their effectiveness.

In summary, the case study evidence suggests that the CAP implementation measures in Member States have supported the implementation of Natura 2000 both through protective measures such as designation of ESPG, through providing subsidy for income foregone e.g. Natura 2000 payments, and through active management schemes under AECM. However, despite this, it appears that supporting measures have not always been adequate mainly due to a lack of effectiveness of AECM schemes, for example caused by low uptake because of the voluntary nature of schemes (or their more ambitious ones) and capacity constraints of land managers to undertake monitoring and evaluation of management measures. The positive contribution of the LIFE programme to support the piloting of agri-environment schemes for consequent wider application in RDPs should be noted (see also sections 4.3 and 0).

4.2.2 *Natura 2000 management and forestry in the case study countries*

In Finland, forestry is the most-reported pressure on Natura 2000 sites, affecting 37% of sites. Finland has about 20 million hectares forests, three-quarters of which is privately owned and economically used forests. Of the 12 forest habitats reported by Finland, ten have an unfavourable status, six have an unfavourable-bad status and are declining, and no habitat has improved since the last reporting round. NGO's in their recent assessment ask Finnish authorities specifically to ensure better management of forests and to increase the protection of old-growth forest. The Finnish Biodiversity Strategy emphasises the need to continue on-going conservation measures to protect and restore Finnish forest biodiversity. The Forest Biodiversity Programme METSO for Southern Finland (2008-2025)[xlvi] aims to halt the ongoing

decline in forest biodiversity by increasing the area of protected forests in Southern Finland, improving management of economically used forests, improving co-operation between forest and environmental organisations, and in the training of forest professionals and awareness raising among forest owners. METSO also aims to improve the connectivity of the protected area network of forests. Private forest owners are encouraged to include their high-nature value forest habitats under legal protection under the Nature Conservation Act especially when they exist close to existing reserves. The main challenge in the implementation of the METSO Program however has been significant budget cuts in 2016, as well as the voluntary nature of the policy. This could have been co- funded through EU CAP funding, however Finland did not make use of the possibility to use CAP for forestry.

In Slovakia, Target C.5 of the Updated National Strategy for the Protection of Biodiversity to 2020 [xlvii] includes a specific target to '*Implement national programs of forest management so as to achieve a measurable improvement in the condition of species and habitats dependent on a suitable forest environment and those, which are significantly affected by forestry practices, and to ensure a measurable improvement in the provisioning of ecosystem services in accordance with sustainable forestry practices as compared to the EU reference condition (2010).'* According to the Strategy, Slovakian forest management plans should take expert opinion and consultations into consideration and propose effective measures for the conversion and restoration of protected habitats, species and associated ecosystem services. In addition, when defining measures within forest management programmes in protected areas, approaches that are most likely to bring the greatest benefit in terms of biodiversity protection and its sustainable use should be used. Slovakia also chose to support the implementation of this action through its rural Development Programme, however its uptake only covers approximately 10% of the Slovak forest area.

4.2.3 *Natura 2000 management and fisheries in the case study countries*

Another key pressure in the marine environment remains fisheries. Fisheries in Natura 2000 sites in Ireland are regulated through dedicated Natura 2000 Sea-Fisheries Regulations. It requires actors that conduct sea fishing activities for commercial purposes within Irish waters to first develop a Fisheries Natura Plan (FNP) assessed by the Irish Marine Institute. Their development and assessment aims to reduce negative environmental impacts on the marine environment through fishing activities and to assist in the achievement of the conservation objectives of the Natura 2000 sites. The regulation also allows the government to issue Natura 2000 declarations that restrict fisheries, for example for certain species or in certain locations. No evaluation of the regulation appears to have been undertaken.

To reduce the impact of coastal fisheries on Dutch Natura 2000 areas, in 2011 the VIBEG (Visserij in Beschermde Gebieden) agreement was signed between the government, nature conservation NGO's and the fisheries sector which since the end of 2012 regulates zoning of fisheries activity and the use of certain fishing techniques. Following the realization in 2015 that the necessary support from the fisheries sector for VIBEG was lacking, in 2017 a new agreement was signed (VIBEG2). Both VIBEG 1 and 2 included the agreement that in 10% of the Natura 2000 marine area all fisheries activities are legally prohibited. Furthermore, sea floor impacting fisheries are prohibited in additional areas. Although the agreement has improved dialogue, it has been a difficult one, not least because fishermen feel they are losing

ground, including through rapid wind energy development and the consequences of Brexit. An evaluation expected in 2019 appears not to have been published yet. A preliminary assessment on Dutch reporting on implementation of the MSFD shows that measures taken to achieve Good Ecological Status are appropriate, although uncertainties remain on the monitoring of effectiveness. Results will be dependent in particular on the achievements in reducing eutrophication under the WFD, and implementation of the CFP and other relevant fisheries agreements such as VIBEG2. However, GES will not be achieved by 2020 for biodiversity, commercial fish and shellfish, due to eutrophication and contaminants. For eutrophication and contaminants, exemptions are applied. However, the draft European Commission Staff Working Document assessing the Member State MSFD programmes of measures concludes that the Netherlands provide insufficient justification for the reasons why GES will not be achieved by 2020 for commercial fish and shellfish and biodiversity. Moreover, it asks the Netherlands to better address certain pressures and activities, specify timelines, improve monitoring and measurability, and specify spatial MPA protection measures by habitats and species.

Although this section could only address a number of examples of dealing with key pressures in management, it illustrated to some extent how EU Member States have taken different approaches, partly driven by different operational contexts. For example, The Netherlands, with relatively small sites and high environmental pressures e.g. in nitrogen pollution, had a higher urgency to develop strategies beyond what could be achieved through management at site level to achieve its objectives. In France, for example this urgency was lower (see e.g. Bouwma et al[xlviii]). Although the scoping points to many local successes, in most cases their implementation has not been at the scale required. The causes for this differ, but seem mostly related to too high administrative burden for both management authorities and site managers and the often voluntary nature of agreements. What is obvious is that each of the five countries studied still have a large remaining challenge to effectively manage pressures and threats, the drivers of which go well beyond what can be achieved at site level. Additionally, CAP and marine funds could be better used in terrestrial- and marine resource use. The implementation and enforcement of (other) legal commitments, for example implementing Good Environmental Status under the EU Water- and Marine Strategy Framework Directives, will also be important to improve environmental baseline conditions in Natura 2000 sites and beyond.

4.3 Process: Implementation of management planning

In Slovakia, the absence of dedicated protected area site management plans for Natura 2000 sites means that operationalisation in these sites is often still relatively low. To overcome the management gap the Slovak Nature and Landscape Protection Act also recognizes three different types of dedicated action plans with measures defined specifically for 1) EU priority species and habitats; 2) threatened species requiring urgent protection; and 3) non-threatened species, which nonetheless need dedicated management for protection, for example large carnivores. Forest management plans may be considered equivalent management plans in Natura 2000 sites too, provided they respect the requirements for the conservation and improvement of protected habitats and species. This is significant in Slovakia where almost half of forests are in Natura 2000 sites. However, there is a large gap between necessary measures and those included in management plans, mainly because of a

lack of capacity in authorities. Moreover, even where measures were agreed, unsustainable forest management continues even in nationally protected areas such as national parks.

In Ireland, no common national or regional standards were used for Natura 2000 management at site level. Management plans only describe general objectives and not specific measures. Whilst active management is mostly financed through national funding in Natura 2000 sites on public land, the EAFRD is by far the main source of EU funding for Natura 2000 in Ireland, and offers the largest potential for nature financing, despite competing priorities (as described in more detail in section 4.2.1).

In France, the contractual system with site-managers, directly based on site-specific Natura 2000 site management plans, is considered potentially effective by site managers and stakeholders. However, several factors have been found to currently hinder its effectiveness according to the literature review and interviews with practitioners undertaken for this study:

- Management plans are considered as too superficial by operational site managers, with too little detail on timelines, indicators, quantifiable objectives, and overall cost estimates and providing too little guidance for contractors, for example farmers receiving rural development funding in Natura 2000 sites;
- Plans are considered too static – with only one annual opportunity for revisions by the steering group and limited resources for site facilitators to provide support throughout the remainder of the year, which has knock-on effects on stakeholder involvement;
- Too limited coordination between the environmental and agriculture services and governments in the development and implementation of contracts;
- High administrative burden for farming contracts compared to their conservation outcomes; and
- Insufficient monitoring of compliance with conservation measures.

Operationalisation of measures is very diverse in Finland depending on the site. This is partly the result of different requirements of operationalisation for different types of sites. Another reason is a significant shortage of administrative manpower to update and add necessary detail to management plans. Significant national budget cuts to nature conservation since 2005 forced authorities and stakeholders to focus on larger sites, and many smaller Natura 2000 sites still lack adequate management plans according to NGOs. Similar to Slovakia, Natura 2000 management measures in forests are often insufficiently established and implemented, as these sites are not protected under the Nature Conservation Act but by weaker tools such as the Forestry Act and Outdoor Recreational Act.

Of the five countries analysed, The Netherlands appear to have the most comprehensive approach to operationalisation of management. Most Natura 2000 management plans include an operational planning chapter which was included in the template for management plans. Site management plans are further operationalised for each site in annual Provincial nature management plans, which can be updated annually. On this basis of Provincial plans calls for tenders are opened to which site managers can apply for management grants, and site managers draw up detailed site management plans in consultation with Provincial authorities. All plans must come with a quality handbook that includes a quality management system. Access to subsidy is available to site managing organisations, private land owners as

well as associations of farmers (agricultural collectives) but since 2017 only for nature managers and farmers, both of which must be certified. Nature managing organisations/private land owners managing less than 75 ha can only receive a subsidy if they are part of a certified nature management collective.

Similarly, farmers can only receive a subsidy if they are part of one of the 40 certified agricultural nature management collectives. Nature managing organisations and private land owners managing more than 75 ha can receive subsidy directly, but again only if they are certified. An independent certification body (Part-Ner) is set up mandated by the 12 Provinces to assess and decide on certification requests; grant, suspend and withdraw certificates; perform audits; inform and advise Provinces and others on each of these issues. With the collective approach to agricultural nature management, The Netherlands have already implemented country-wide a similar approach to the Irish pilot projects.

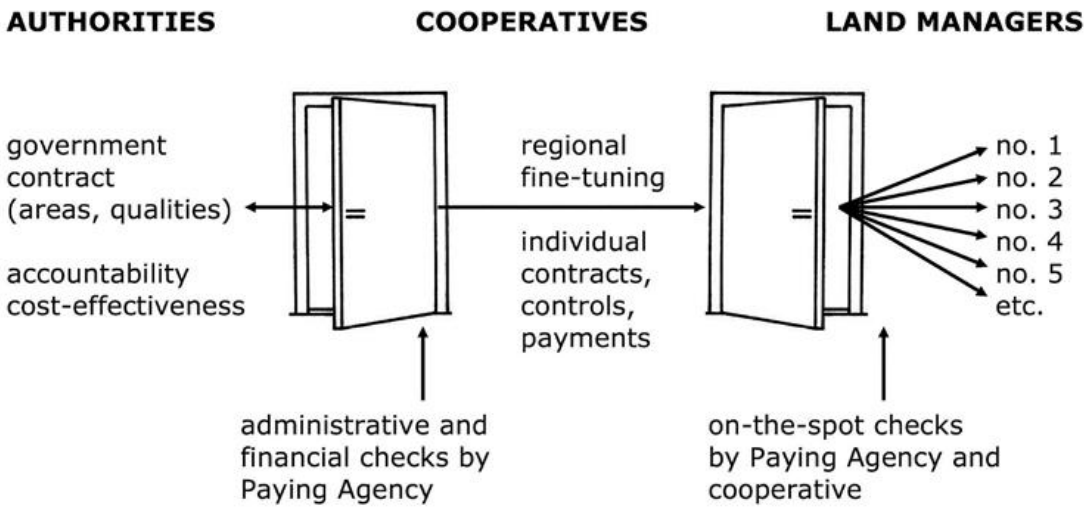
In conclusion, this chapter shows significant differences in progress between the analysed countries in their implementation of management measures at site level. It also shows that the experiences of some Member States, or for certain regions/or habitats within Member States, may be worth examining in more detail as case studies. A recurring challenge is how to square ecological accountability with reasonable administrative costs for both authorities and site managers, especially in countries with large numbers of relatively small (often private) land managers as in Ireland and Slovakia. The experiences in The Netherlands seem to have partly overcome these challenges by taking more cooperative approaches between land managers, focussing on key areas and reinvesting (part of) the administrative savings in increasing ecological justification, monitoring and quality control in local implementation.

Agricultural nature management in The Netherlands

Following a damning evaluation of the effectiveness of agricultural nature management in The Netherlands, in 2016 a new approach was launched (Agrarisch Natuur- en Landschapsbeheer or ANLb) which refocuses management to high-nature value areas in the Dutch National Nature Network -of which Natura 2000 sites form the backbone- rather than be open to any farm willing to participate. Moreover, land managers are required to apply through cooperatives instead of individually, which take greater responsibility to work towards results instead of mere management effort. Similar to the Irish pilots, the new scheme design uses the so-called “front door – back door principle” (Figure 4-2). At the front door, the government signs a contract with a regional cooperative, setting the agri-environment targets and describing the types of conservation activities that will be used to achieve these targets. The agreement establishes a six-year, results-based obligation to realise specific habitats on a specified land area with a budget per habitat based on the average payments per hectare for the different activities. At the back door, the cooperative concludes contracts with individual land users. These contracts include all the specific activities and payments needed at field level to realise the habitat at a landscape level. Between the front door and the back door, the regional fine-tuning of conservation activities and payments takes place.

Figure 4-2: 'Front door – back door principle' applied in The Netherlands' agricultural nature management

Source: Ministry of Economic Affairs, 2016. Available at: https://enrd.ec.europa.eu/sites/enrd/files/w12_collective-approach_nl.pdf



In June 2019 a progress report on the new Agricultural Nature- and Landscape management (ANLb) scheme was published[xlix], which indicated that since the ANLb's introduction in 2016 the annual investment by the 12 Dutch Provinces to the 40 collectives has increased from €42.4 million in 2016 to €61.4 million in 2018 out of a €70 million budget. The number of participants to ANLb increased from 6400 to 9300 in 2018, which is only 11% below the participation rate under the last full year of the previous farm-based scheme (2013). A recent evaluation for the European Commission of the impact of the CAP on habitats, landscapes, biodiversity[l] which included a case study of The Netherlands further confirms that –despite several remaining challenges- the new approach has achieved a significant reduction in administrative burden of both paying agencies as well as land managers, greater ownership, better steering of conservation outcomes, better cross-fertilisation between farmers and better knowledge sharing between ecologists and farmers. Despite these improvements, whether cost-effectiveness and achievement of conservation objectives has improved at the scale envisioned remains to be confirmed. The Dutch authorities are expecting to finalise an in-depth effectiveness evaluation in 2020 and conservation outcomes will become clearer after the end of the first monitoring cycle in 2021.

5 Systems for assessing management effectiveness

Key messages

1) Preliminary reporting under the EU Nature Directives indicates that none of the five analysed Member States show significant increases in the proportion of habitats and species with a FCS. It demonstrates the significant management effectiveness improvement required to capitalize on recent progress made on planning and process.

2) All five MS show significant variation in evaluation and assessment of management effectiveness: In Finland a standardized assessment is undertaken for all protected areas by the national agency responsible for management, although only once every 6-12 years. In France the site steering committees are responsible for periodic evaluations of management effectiveness, but lack the tools to do so which has recently triggered a national programme to help fill this gap. In The Netherlands Provinces have largely outsourced management assessment to site managers, agricultural collectives and external consultants as part of the implementation of the Dutch nature subsidy scheme, which allows for annual adjustments. Ireland and Slovakia do not have national approaches to the assessment of management effectiveness.

3) Despite recent efforts to improve monitoring and evaluation of PAME in some Member States, including for Natura 2000 sites, this appears to be at a preliminary stage. Adequate funding, even for basic measures known to help increase management effectiveness such as the establishment of management objectives and measures and monitoring systems, have been highlighted in several Member States.

4) The findings from the five case study countries suggest that significant steps will have to be made in tracking management and the assessment of its effectiveness, in particular on process indicators beyond ecological indicators.

As highlighted in section 3.1, despite the significant efforts made to implement Natura 2000, they have not yet resulted in a clearly observable conservation success at scale. The previous chapters highlighted some of the key defining factors underlying why. This chapter considers in-depth, the progress towards achieving FCS in the five case study countries for this report, and key evaluations undertaken to assess outcomes at site and/or national level.

As part of this study a questionnaire was used to gather views from members of the Eionet National Reference Centres for Biological Diversity (NRC BD) and Land Use and Spatial Planning (LUSP). Its purpose was to help get a better overview of progress in different key stages of Natura 2000 management, experiences with PAME assessment and levels of active/integrated management. Responses to the questionnaire were received from 19 EEA Member Countries and 3 cooperating countries, of which 19 EU Member States or one or more of their regional authorities (in case of Spain and the UK). Respondents from 12 EU

Member States reported management effectiveness evaluations for Natura 2000 sites, and eight Member States appear to have a coordinated national approach. As reasons for not systematically undertaking management effectiveness assessments, respondents mostly pointed to a lack of time and expertise by authorities or a lack of financial resources to procure it.

Nonetheless, nearly all countries do have some experience with established methods such as METT, Important Bird Area (IBA) assessment or national approaches tailored to national protected area systems such as national parks. The integration of such evaluations within subsequent management planning is not systematically done in seven EU Member States, which mostly has to do with delays in the development of site management plans. However, most Member States indicate findings are usually integrated in management decisions nonetheless, and various Member States indicate the preparation of more systematic effectiveness evaluation in the near future.

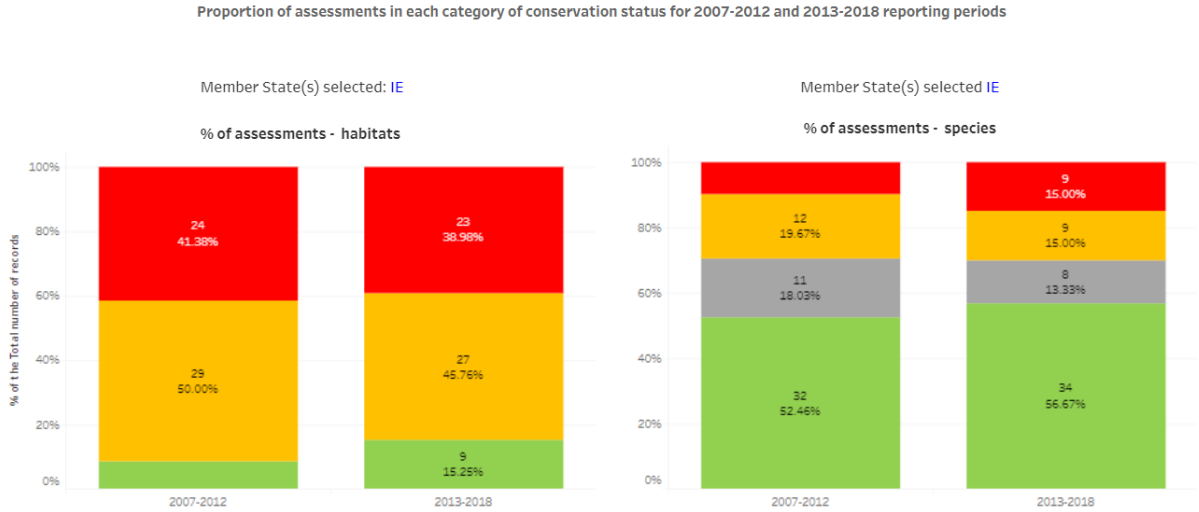
5.1 Ireland

According to Ireland's 2013-2018 Article 17 national report[li], 9 out of 56 assessed habitats are in favourable- (15%), 27 in unfavourable-inadequate (46%) and 23 in unfavourable-bad (39%) condition (Figure 5-1). Overall, species are doing slightly better than habitats, although the conservation status for 8 species is unknown. Of 60 assessed species, 34 are in favourable condition (57%), 9 in unfavourable-inadequate condition (15%), and 13.2% in unfavourable-bad condition (15%). Although direct comparisons between the two reporting rounds need to be made carefully, because of possible changes in methods or quality of data, this latest reporting suggests only a marginal improvement in overall conservation outcomes.

Figure 5-1: **Conservation status of habitats (left) and species (right) protected under the Habitats Directive in Ireland in 2007-2012 (left columns) and 2013-2018 (right columns)**

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends



Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State' s conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

Ireland does not have a comprehensive system for carrying out management effectiveness assessments. There is no established systematic national process for integrating results from management effectiveness assessments into management plans for relevant sites. Protected area management effectiveness assessments carried out include the European Diploma, which has been awarded to three Burren SACs. In addition, one site (Skellig Michael) is a World Heritage Site and also a SPA under the EU Birds Directive.

Nonetheless, site inspection reporting and national monitoring of features (habitats and species, not sites) identify the pressures that are being experienced nationally and at site level. Although far from a site management effectiveness tool, it is used to inform responses, including the delivery of conservation measures. Monitoring programmes assess conservation condition for each annexed habitat and species across a representative national sample, both inside and outside the Natura 2000 network. The monitoring methods used are fully aligned with Article 17 conservation status assessment requirements. At the site level, where a feature has been surveyed within a Natura 2000 site, the resulting condition assessment is used to inform the site specific conservation objectives and targets. The condition assessment results also guide any management recommendations needed to address any pressures or threats identified through separate surveillance and reporting. Payments to participants in many agri-environmental schemes in Natura 2000 sites are directly linked to achieving improvements or maintenance of conservation status (condition). Overall, national assessments are also used to inform national policies which are in turn implemented at site level, such as the PAF, the 2015 National Peatland Strategy[lii] and the National Raised Bog Special Areas of Conservation (SACs) Management Plan 2017 – 2022)[liii].

Results-based agri-environment schemes, LIFE projects and some European Innovation Partnerships (EIPs) measure the effectiveness of management as it relates to relevant Natura

2000 sites in Ireland. For raised bogs, the ecological and hydrological monitoring specifications for the assessment of the effectiveness of restoration measures are described in the raised bog restoration best practice guidance Irish Wildlife Manual (IWM) publication[liv] and are implemented in the dedicated raised bog restoration project "Living Bog" project. The raised bog restoration planning system has a feedback loop that informs future management. Management conservation effectiveness is assessed in the case of the raised bog SAC network thorough the establishment of a sustainable and effective management system. To this end, best practice guidelines in raised bog restoration have been published by the Department of Culture, Heritage and the Gaeltacht (DCHG) focusing on practical aspects of restoration measures.

The Birdlife IBA system is not used in Ireland. Although initially planned, Ireland has not taken on board the measuring of state pressure response assessments due to a lack of time and/or resources.

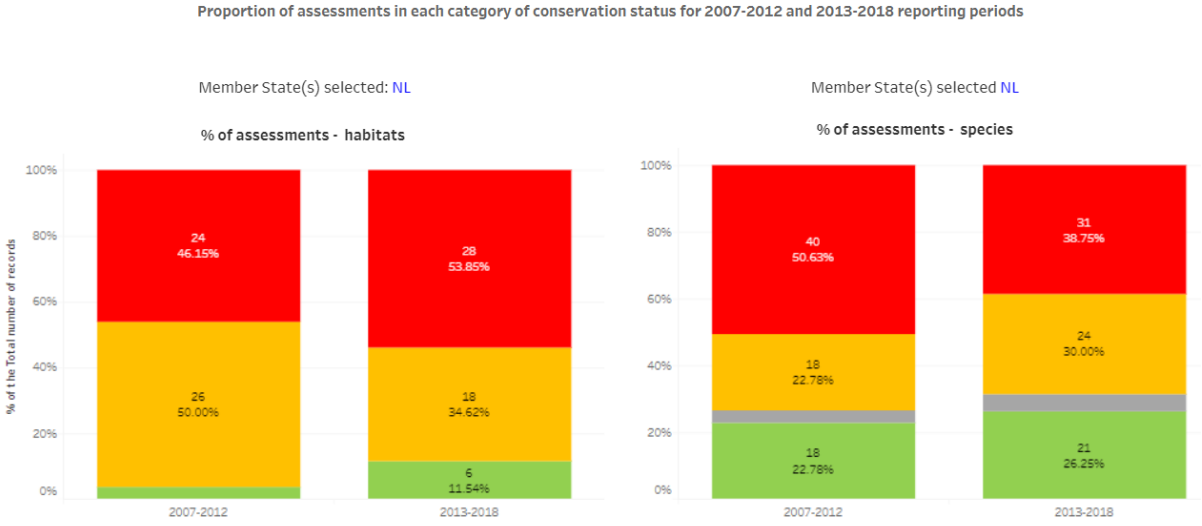
5.2 The Netherlands

According to The Netherlands 2013-2018 Article 17 national report[li], 6 out of 52 assessed habitats are in favourable- (11%), 18 in unfavourable-inadequate (35%) and 28 in unfavourable-bad (54%) condition (Figure 5-2). Species are doing slightly better than habitats, although the conservation status for 4 species is unknown. Of 81 assessed species, 21 are in favourable condition (26%), 24 in unfavourable-inadequate condition (30%), and 31 in unfavourable-bad condition (38%). The Netherlands reported three dune habitats in favourable condition which were in unfavourable status in the previous reporting. Of these, only one represented a genuine change and two others because of different methods. At the same time, four more habitats were reported to be in unfavourable-bad status where they were unfavourable-inadequate before, of these also for only one habitat did this represent a genuine change. Overall, as in Ireland, there has been no significant improvement in conservation status of protected species.

Figure 5-2 Conservation status of habitats (left) and species (right) protected under the Habitats Directive in The Netherlands in 2007-2012 (left columns) and 2013-2018 (right columns)

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends



Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State' s conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

The Netherlands has a comprehensive national monitoring system and recently integrated management effectiveness evaluation into its nature management subsidy scheme including both status- and process indicators. As such, authorities have an increasingly complete overview of management effectiveness in The Natura 2000 network.

No central overview is kept on the implementation status of agreed management measures, so it is difficult to be conclusive. However, both the new systems for nature management and agricultural nature management offer better opportunities for quality control, accountability and enforcement and the Subsidy Scheme for Nature and Landscape (SNL) offers opportunities for annual adjustments if necessary. However capacity issues in inspection and enforcement in the field, for example in regulating tourism and recreation, have been raised as a barrier to practical implementation. Moreover, NGO's have pointed to different levels of ambition in the implementation and enforcement of nature policy between Provinces.

The 2016 progress report on the implementation of Dutch nature policy[lv] for the first time included a chapter on nature quality based on data from the Dutch Network for Ecological Monitoring (NEM), the National Flora Monitoring (LMF) and trend analyses from the Environmental Compendium (clo.nl). The assessment shows that following a general decline in quality of different ecosystem types, this decline has recently levelled off, but with significant differences between habitats. The report mentions, as a positive example, semi-natural grasslands and marshland, while species of open dune and heath are still in decline. A separate assessment looked into the ecological potential of the National Nature Network

(which includes Natura 2000), comparing the current presence of representative species against those that could be present under undisturbed conditions (without nitrification, desiccation, fragmentation, etc.). This assessment showed that only 40% of the potential of the network is met.

The progress report also mentions a third assessment by the Dutch Environment Assessment Agency (PBL) which estimated that the state of environmental- water- and spatial conditions in 2015 would facilitate the achievement of 55% of the Dutch Nature Directives' target range[10] and that if the Provinces would reach their 2027 targets, this would increase to 65%[11]. It demonstrates the need for more significant contributions beyond nature policy. PBL identified the acquisition of land as a main barrier to further progress on the target, which would require spatial planning and agriculture departments to be bolder in their use of existing tools and/or develop new ones. Another barrier PBL identified is the unclear division of responsibilities on achieving the remaining 35% of the target range which primarily requires a significant greening of agricultural practices, in particular around Natura 2000 areas. This would require more concrete agreements between key public and private stakeholders, but also more systemic changes, in particular stronger conditionality under agricultural policy for example through CAP cross-compliance or rural development.

In the last annual national nature reporting[lvi] a dashboard of policy-relevant nature indicators is provided, which shows a bleak picture especially on habitats and species in agricultural and urban areas. However, information on birds and habitats protected under the Nature Directives is still based on the 2007-2012 reporting and therefore does not provide an up-to-date status. Nonetheless, the report points to a difference in trend between nature in protected areas compared to other areas as proof that targeted conservation starts to have effect (Figure 5-3).

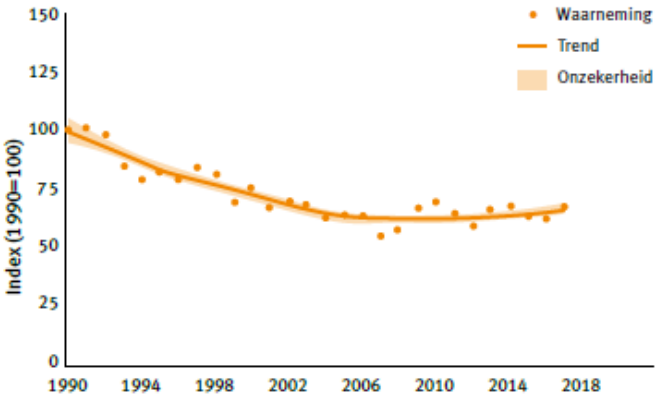
[10] Calculated as the conditions required to ensure a favourable conservation status at national level of all terrestrial habitats and species of community interest in the Netherlands

[11] For an explanation on how the target range is calculated, and the foreseen contribution by the different provinces, please see the website of the Dutch Environmental Data Compendium (CLO): http://www.clo.nl/indicatoren/nl1606-provinciale-bijdrage-svi-vhr-ex-ante

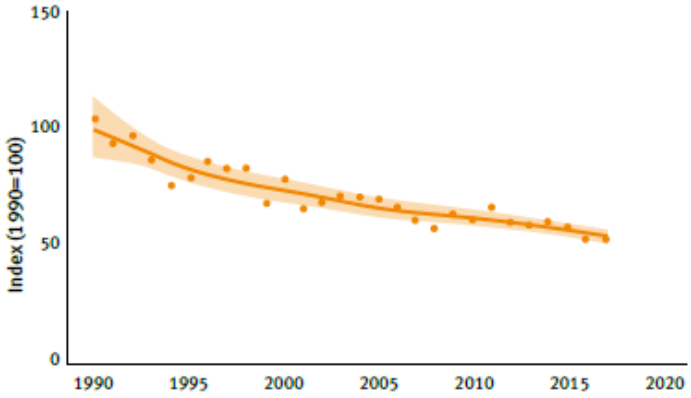
Figure 5-3: Trends in terrestrial fauna in (from top to bottom) protected nature-, agriculture- and urban areas in the Netherlands between 1990 and 2018

Key: Y-axis = Index from 1990 baseline. X-axis = Year. Dot = Observations. Line = Trend. Orange field = Uncertainty.

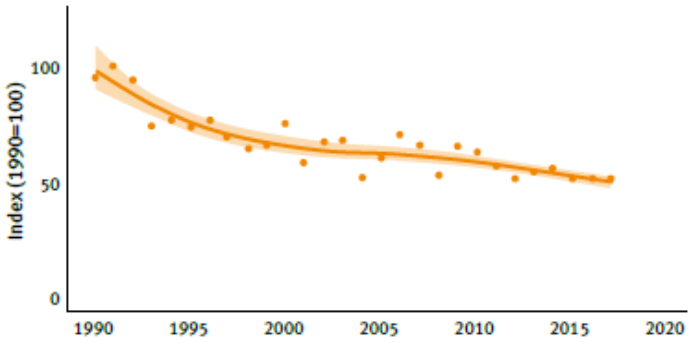
Source: The Netherlands, 2019, Vijfde Voortgangsrapportage Natuur: Natuur in Nederland. Available at: https://www.bij12.nl/wp-content/uploads/2019/09/Vijfde-Voortgangsrapportage-Natuur-Provincies-en-LNV.pdf



Figuur 11: Fauna in natuurgebieden op land.
Bron: https://www.clo.nl/indicatoren/nl1581-trend-alle-natuurgebieden



Figuur 12: Fauna van agrarisch gebied.
Bron: https://www.clo.nl/indicatoren/nl1580-trend-fauna-agrarisch



Figuur 13: Fauna van stedelijk gebied.
Bron: https://www.clo.nl/indicatoren/nl1585-trend-fauna-stad

The latest progress report on agricultural nature management (ANLb)[xlix] does not include any information on ecological effectiveness and only refers back to the ex-ante evaluation of the new system. The evaluation concluded that the new approach i.e. to have a smaller area under management but with more intensive schemes and a more focussed approach to core areas with existing natural values, would lead to an increase in ecological effectiveness and should be further implemented. An in-depth evaluation on the effectiveness of ANLb is expected in the 2nd half of 2020, which will feed into the new CAP Strategic Planning process. Conclusions on ecological outcomes will however only be drawn after that when the first monitoring cycle (2016-2021) ends.

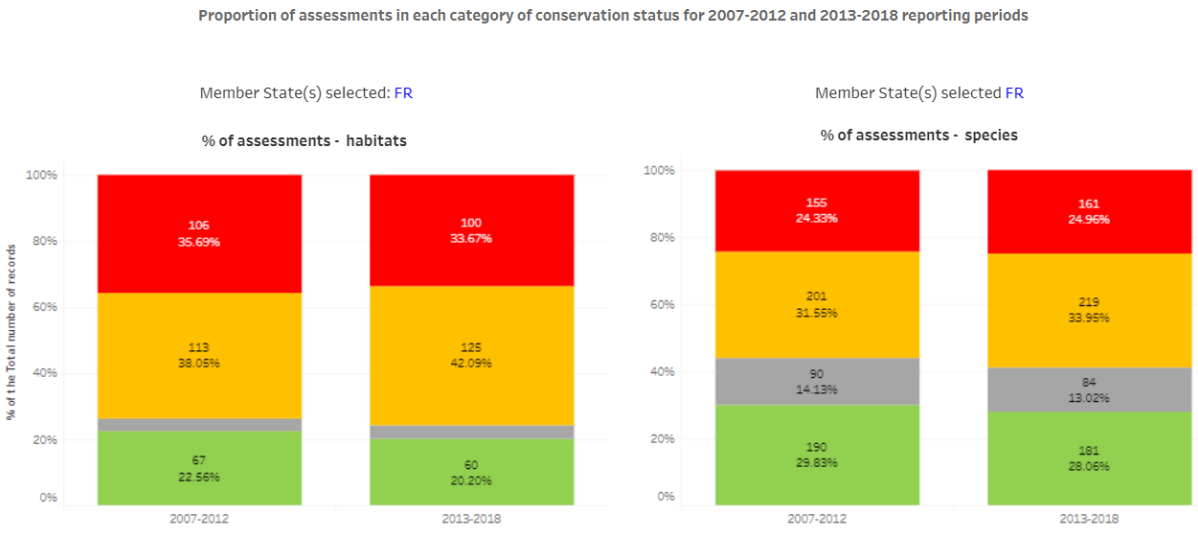
5.3 France

According to France's 2013-2018 Article 17 national report[li], 60 out of 297 assessed habitats are in favourable- (20%), 125 in unfavourable-inadequate (42%) and 100 in unfavourable-bad (34%) condition (Figure 5-4). For 12 habitats (4%) the status could not be assessed. Species are doing slightly better than habitats, although the conservation status for 84 species is unknown (13%). Of 645 assessed species, 181 are in favourable condition (28%), 219 in unfavourable-inadequate condition (34%), and 161 in unfavourable-bad condition (25%). Overall, like for Ireland and The Netherlands, no significant improvements in conservation status across the board are observable.

Figure 5-4 Conservation status of habitats (left) and species (right) protected under the Habitats Directive in France in 2007-2012 (left columns) and 2013-2018 (right columns)

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends



Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State' s conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

In France, every Natura 2000 site has its own steering committee and its own dedicated Natura 2000 management plan called the DOCOB (*Document d'objectifs*). The steering committees are responsible for periodic evaluation of conservation results. A national study looking into the effectiveness of Natura 2000 sites found that overall, the management measures put in place to curb the threats to sites are considered effective across all biogeographic regions in the country (Locquet, 2016). To implement Natura 2000, France has developed a voluntary contractual system through one of three contracts or the Natura 2000 Charter. This system has reduced the need for legal instruments to implement Natura 2000 sites at a national level. However, as the contract system is voluntary, not all Natura 2000 sites have a signed Charter or contract. Looking more specifically at the contracts used to guide the management of Natura 2000 sites in France, the most effective contract is the 'neither agriculture nor forest contract'. This is probably because the actions are easily adaptable to local contexts.

The AECM contracts are implemented in agricultural areas where improved management is the main aim. It is difficult to assess the efficacy of AECM interventions as research has provided inconclusive results. The AECM contracts do, however, seem to be less effective than 'neither-nor' contracts, likely because these actions are not being adapted locally. However, some effective actions that have been identified under this contract include those involving site maintenance, with mowing and grazing having the biggest positive impact on achieving outcomes. The forest contract can be effective, particularly with restoration activities, however there is not enough research on the effectiveness of these measures to be conclusive.

Stakeholders have highlighted that although the contracts support a high number of actions, they have not led to satisfactory conservation in terms of reducing threats from habitat degradation, invasive species, and climate change[lvii]. All contract types are necessary as they are complementary and site maintenance and improvement need to occur in parallel. Planning and proposing activities are vital components of Natura 2000 because they allow for the implementation of management tools (e.g. contracts) and for site level adaptation. The regulatory component of Natura 2000, which includes impact assessments, is vital as it allows for the consideration of small projects that were not previously subject to evaluations[lviii].

Overall, site managers interviewed for this case study said that it is currently unclear whether the DOCOB has a positive conservation impact or not, and that it is complicated to measure with the available tools[lix]. It is currently difficult to assess the level of management effectiveness in Natura 2000 sites in France as there is a lack of national monitoring data and indicators. In order to address this, a programme to monitor the effectiveness of the measures implemented in Natura 2000 is being developed by the "UMS Patrimoine Naturel" (PatriNat). In 2019, the French agency for biodiversity (AFB) launched two calls of interest for sites to assess within 5-year projects the effectiveness of open areas and ponds[lx], and on planting hedgerows and delayed mowing regimes[lxi].

5.4 Finland

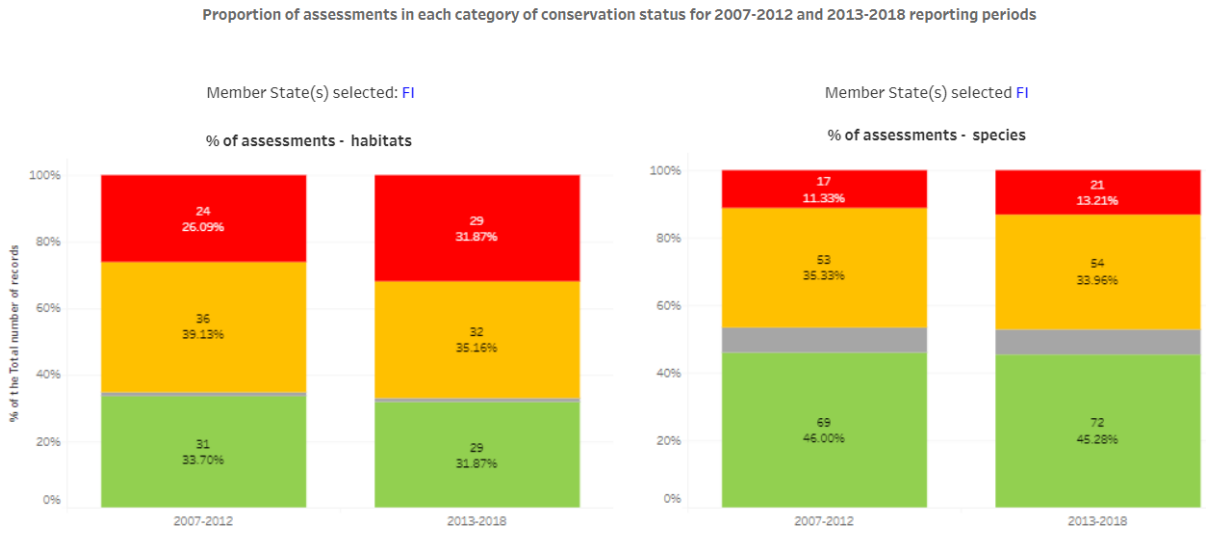
According to Finland's 2013-2018 Article 17 national report[li], out of 91 assessed species, 29 of assessed habitats are in favourable- (32%), 32 in unfavourable-inadequate (35.2%) and 29

are in unfavourable-bad conservation status (32%) (Figure 5-5). Overall, species are doing slightly better than habitats, although the conservation status for 12 species is unknown. Of 159 assessed species, 72 are in favourable condition (45%), 54 in unfavourable-inadequate (34%) and 21 in unfavourable-bad status (13%). However, for both habitats and species the overall picture shows no significant improvement in conservation status.

Figure 5-5 Conservation status of habitats (left) and species (right) protected under the Habitats Directive in Finland in 2007-2012 (left columns) and 2013-2018 (right columns)

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends



Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State' s conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

LIFE funding has supported the implementation of management measures and has had a significant impact on the trends of many key habitats (e.g. forests, mires, coastal habitats) and threatened species groups.

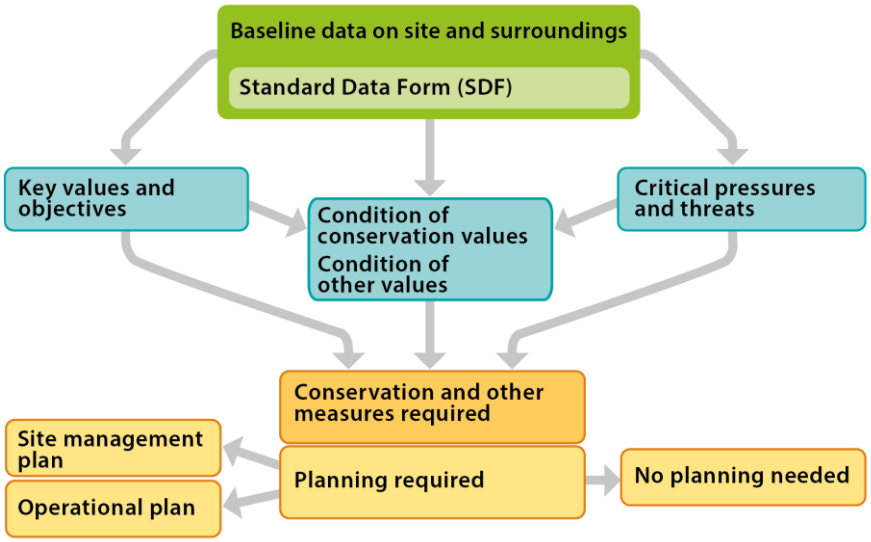
Finland's planning and monitoring system for protected areas is called SASS (Suojelualueiden suunnittelun ja seurannan tietojärjestelmä). SASS includes nature site condition assessments (NATA), which assess the status of habitat types and species as well as the efficacy of implemented conservation measures. To date, NATA assessments have been carried out for around 70% of the Finnish Natura 2000 network sites, equivalent to around 85% of the network surface area[lxii]. The intention is that NATA assessments will be carried out in all Natura 2000 sites by 2020.

NATA assessments involve defining the key on-site natural, cultural, and use values and their status, the pressures and threats that impact on them, as well as the measures and planning needed to maintain these values or restore them to the target condition (see Figure 5-6). Assessments are executed by Parks & Wildlife Finland (P&WF) in cooperation with 15 Centres for Economic Development, Transport and the Environment (ELY Centres). Several dozens to

hundreds of sites are assessed each year and the ultimate aim is to assess each site and the whole network regularly (at 6-12 year intervals)[lxiii].

Figure 5-6: Natura 2000 site condition monitoring and assessment

Source: Reproduced from Metsähallitus, 2016[lxiv]



The first round of NATA assessments has been conducted for almost all state-owned and managed sites. By surface area these cover most of the Natura 2000 network in Finland. Once the rest of the assessments are completed, a new round is planned. Priorities for an assessment schedule update are currently being formulated, as sites are very different in terms of site condition status and the management measures they need. The cycle of reassessment may vary by site, and will probably be every six-years (Finnish response to questionnaire conducted as part of this contract).

The protected area management planning, monitoring and evaluation systems used in Finland have been part of Nordic-Baltic coordination meetings involving Estonia, Latvia, and Lithuania. Ideas have been transferred, although technical solutions are more difficult to exchange, as every country has its own data systems and planning and evaluation procedures (Interview with protected area expert).

Prior to the establishment of NATA, other methods (e.g. Rapid Assessment and Prioritisation of Protected Area Management; Management Effectiveness Tracking Tool) were used to assess large areas, such as national parks and wilderness reserves. These are seen to be very resource demanding methods and have mostly been abandoned, because the information they provided was considered to be too general (Finnish response to questionnaire conducted as part of this contract). They were also not seen to have an impact on management. European Diploma assessments are used for some national parks (overlapping with Natura 2000 sites) [lxv] and some sites have been assessed using the Important Bird and Biodiversity Areas (IBAs) assessment tool. Only Birdlife IBA and RAPPAM assessments have been reported to the Global Database of Protected Area Management Effectiveness (Table 5-1). IBA assessments were conducted in 2010, RAPPAM assessments in 2004.

Table 5-1 PAME assessments for Natura 2000 reported in the Global Database of Protected Area Management Effectiveness (GD-PAME, 2019).

	Birdlife IBA	**RAPPAM**
Site of Community Importance (Habitats Directive)	33	2
Special Protection Area (Birds Directive)	31	0

One of sites that was assessed using the IBA method in 2010 is Nuuksio, a protected area west of Helsinki encompassing different types of forest, small bogs, numerous lakes, ponds, hills, glacial ridges and rocky ledges[lxvi]. Overall, the assessment concluded that the site is subject to a range of threats including recreational activities, pollution from agriculture and forestry and commercial and industrial development. The threat score for the site was rated as high and the site was found to be in an unfavourable condition. The existing management plan was found to be out of date/not comprehensive. No subsequent reports are available to ascertain whether there has been an improvement in status since this initial assessment was conducted.

A comprehensive international management effectiveness evaluation of the Finnish protected area system was commissioned by the Metsähallitus in cooperation with the Ministry of the Environment and stakeholders in 2004[lxvii].

Overall, the report found that Finland's protected areas are well managed, and with some exceptions, appeared to be achieving their aims of conserving biodiversity. However, the evaluators gave a number of recommendations for improvements, including:

- Adopting an ecosystem approach to planning / developing regional landscape plans for conservation to help form more effective ecological networks;
- Addressing invasive species and climate change through systematic planning;
- Developing strategic targets and milestones to support site-level planning and management;
- Conducting risk assessments to identify priority sites;
- Increasing focus on conservation outcomes when managing protected areas;
- Increasing involvement of stakeholders and engagement with rural local communities;
- Conducting assessments of visitor impacts and strengthening public awareness;
- Developing a strategy to assess the cultural values of Finland's protected areas;
- Developing a Natura 2000 master plan for monitoring; and
- Conducting regular State of the Parks reports.

A number of these recommendations have been adopted since this report was commissioned. Regional master plans for Natura 2000 site management planning and assessment were completed in 2016 including the development of SASS and NATA assessments.

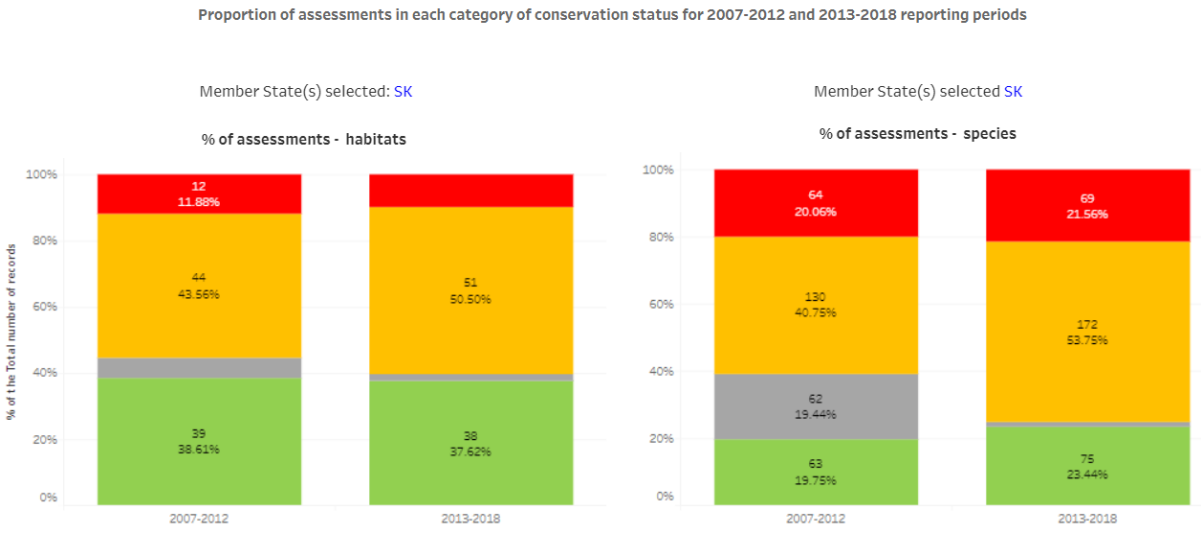
5.5 Slovakia

According to Slovakia's 2013-2018 Article 17 national report[li], 38 out of 101 assessed habitats are in favourable- (38%), 51 in unfavourable-inadequate (51%) and 10 in unfavourable-bad (10%) condition (Figure 5-7). For 2 habitats (2%) the status could not be assessed. Species are doing significantly worse than habitats: Of 320 assessed species, only 75 are in favourable condition (23%), 172 in unfavourable-inadequate condition (54%), and 69 in unfavourable-bad condition (22%). Slovakia made significant improvements in understanding. Under the previous reporting, the status of 6 habitats and 62 species could not be assessed, while this national report showed only 2 habitats and 4 species respectively could not be assessed. Nonetheless, like for the other four country case studies, no significant change in conservation status was observable.

Figure 5-7 Conservation status of habitats (left) and species (right) protected under the Habitats Directive in Slovakia in 2007-2012 (left columns) and 2013-2018 (right columns)

Key: Red = Unfavourable-bad; Orange = Unfavourable-inadequate; Grey = Unknown; Green = Favourable

Source: EEA, 2020, State of Nature 2020. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends



Note: The figures shown for 2007-2012 and 2013-2018 are not necessarily directly comparable because changes in Member State' s conservation status may be due to changes of methods or to better data rather than reflecting genuine changes.

Slovakia has so far focussed its efforts in designation of the network and the development of management plans, and no national approach to the evaluation of management effectiveness in Natura 2000 or protected areas more generally appears to be in place.

Švajda and Fenichel (2011)[lxviii] analysed management of all nine Slovak national parks using the Integrated Protected Area Management (IPAM) toolbox and found significant weaknesses in planning, stakeholder communication and –management, ecological and socio-economic justification of measures and indictors to evaluate success. They found that communication and participation are critically lacking from the basic planning phase.

The Carpathian Protected Area Management Effectiveness Tracking Tool (CPAMETT) was developed specifically for measuring the management effectiveness in Carpathian countries. It was designed by WWF as a simple and rapid site assessment tool based on the Management Effectiveness Tracking Tool (METT). The CPAMETT database enables a systematic tracking of social and ecological threats to the protected area complex and the protected areas' overall performance across a range of metrics. It should be used annually, however there is little interest from managers to utilise it as they are overloaded with other tasks and do not have sufficient human resources. No comprehensive results for Slovakia were found in the preparation of the study.

Nonetheless, the study found effective management approaches, in particular in the protection of grasslands. In Slovakia, based on satellite imagery, about 306,000 ha of High Nature Value grasslands (HNV) were identified and mapped (6% of Slovakia) representing 56% cent of total grassland area in Slovakia. The Information System for Grasslands (ISG) was created, containing information on habitat types, species composition, land management, threats and boundaries of mapped vegetation units.

For the preparation of Slovakia's RDP 2007-2013, mapped grasslands were certified for farmers interested in joining agri-environmental schemes. Protection of biotopes of natural and semi-natural grasslands (Sub-measure M10.1 of RDP) is a very successful measure and a key tool for maintaining and improving the favourable status of grassland Natura 2000 habitats, as well as grassland habitats of national importance. The sub-measure is divided into seven ecological types (management models) of grasslands that require different management methods and conditions to protect and maintain them.

In the current programming period 150,000 ha are to be supported and actual uptake is 135,234 ha, demonstrating a significant increase in uptake comparing to previous period (72,169 ha). The number of beneficiaries has increased from 370 on 834 compared to the previous programming period. It is a traditional, well-established measure, but it is necessary to raise farmers' awareness of the importance of HNV grassland, not only in terms of financial benefits, but also of their position in a healthy farming ecosystem. Currently, it is seen as financial support for extensive undemanding land management.

6 Options for better PAME for Natura 2000

Key messages

1) A comparison of assessment criteria for the IUCN Green List of Protected and Conserved Areas against requirements under the Nature Directives shows that there are significant overlaps, in particular in management design and planning. It demonstrates that a more full and timely implementation of the Nature Directives would provide an important contribution to achieving management effectiveness in Natura 2000 sites.

2) However, the comparison also shows important gaps, for example in requirements for good governance, such as stakeholder participation and in demonstrating successful conservation outcomes at site level. A greater application of standardized PAME assessment tools, such as the GLPCA in Natura 2000 sites could therefore provide invaluable insights to enhance the network's effectiveness.

3) Practitioners that responded to the questionnaire for this study would welcome a stronger, common focus on Natura 2000 management effectiveness, but raise concerns over the suitability of current EU reporting tools to help better capture management effectiveness at site level and current capacity gaps to implement more systematic and detailed PAME assessments.

4) The study explored, based on common challenges to management effectiveness observed in the questionnaire and country case studies, which GLPCA indicators would be most relevant to explore, in order to better monitor and report on Natura 2000 management effectiveness. These relate mostly to those assessing governance vitality and capacity to respond adaptively, the availability of long-term management strategies, the management of threats and the measurement and demonstration of the conservation of major associated ecosystem services and cultural values.

5) Next to exploring PAME monitoring and reporting scenarios as a policy option, the scoping also points to the important contribution EU cooperation could make in terms of sharing of PAME best-practice, targeted investment in PAME capacity at regional and site level, and for legal enforcement of key existing legal management requirements under the Nature Directives.

Based on the collected evidence of this scoping exercise on the availability of protected area management effectiveness tools and the current state of play in implementing Natura 2000, this chapter makes some recommendations on how the EU could increase Natura 2000 management effectiveness in the coming years.

6.1 Natura 2000 and IUCN Green List criteria

As outlined in section 2.2, the IUCN Green List of Protected and Conserved Areas offers a global framework for good governance, effective management and sound ecological design

of protected areas that can be tailored to local contexts. The LIFE Green List for Natura 2000 project compared the site-specific requirements of Natura 2000 sites based on the provisions of the EU Nature Directives and Commission guidance, and their relation to the Criteria and Generic Indicators of the GLPCA standard. It found that 19 of the 50 Generic Indicators (38%) would be expected to be met by Natura 2000 sites since they are legal requirements. In addition, a further six Generic Indicators are at least partial legal requirements. This scoping study further illustrated how MS have gone about implementation (for a summary, see **Error! Reference source not found.**).

Table 6-1: Summary comparison GLPCA standards against Natura 2000 criteria under the Nature Directives (based on IFE Green List for Natura 2000 project and scoping study)

Key: Red = significant gaps; orange = some gaps; green = few gaps

Source: Prepared for this study.

Good Governance	Sound Design and Planning	Effective Management	Successful Conservation Outcomes
The Nature Directives do not include provisions on governance as set out in the GLPCA beyond legal designation of sites. EC notes provide some guidance, but largely leave governance to MS. Poor Natura 2000 governance frameworks, for example because of low standards on transparency and stakeholder participation (e.g. in designation), insufficient capacity in national and regional authorities, and lack of knowledge have hampered early implementation.	Both Nature Directives and extensive EC guidance encourages identification of site values, adoption of objectives to ensure their conservation, the understanding of social and economic context as well as threats & challenges. Management plans or the equivalent integration of established measures in other plans is required. Despite progress in recent years, and ambition of most MS to use site-specific management plans, many MS still face challenges e.g. in knowledge and SMART objectives.	BD Art. 3 requires MS to manage sites according to ecological needs. HD Art. 6(1) commits MS to take conservation measures, survey and evaluate their impact, and to manage ecological condition and threats. The Nature Directives include less requirements to manage resource constraints, - stakeholder participation, resource use and – visitation, enforcement and the measurement of success at site level. Despite local successes, on all of the above aspects,	The State of Nature reporting demonstrates progress on the conservation of major natural values, but it does not include information on progress towards ecological objectives at site level. Moreover, the absence of legally binding deadlines for progress towards FCS means incentive to go beyond no-deterioration is lacking. The demonstration of conservation of major associated ecosystem services and cultural values is not included in the Directives and only partly covered in EC guidance.

		significant gaps remain compared to the GLPCA standard.	

In regards to good governance, the Nature Directives are framework directives and only broadly set out objectives for EU Member States to achieve, like transposing the Directives in national law and formally designating Natura 2000 sites. Beyond that, the Directives leave considerable freedom to Member States to adapt governance to their needs. Other GLPCA criteria to guarantee legitimacy and voice, such as a clear governance structure at site and local level, sufficient stakeholder involvement in decision-making (planning, processes and actions) and a process to identify, hear and resolve conflicts are not specifically required. Although, the Commission guidance documents on conservation measures and objectives suggest that successful conservation relies on ensuring participation, consultation and communication mechanisms are in place and utilized, this scoping study showed how this standard in many cases was not met. Moreover, while the GLPCA includes four criteria to assess transparency and accountability, the Nature Directives do not. There are no requirements to ensure that governance arrangements and decision-making processes are transparent and appropriately communicated across EU Member States. Although designation acts, management plans (if developed) and the SDFs are generally publicly available, the competent authority varies across Member States and so does the manner in which information on the decision-making body is displayed. In regards to governance vitality and being able to respond adaptively, the Natura 2000 framework is in partial alignment with the GLPCA. The Nature Directives require Member States to regularly report on FCS and in particular, how conservation measures and their effectiveness relate to the site objectives. Furthermore, there is flexibility to adapt the conservation measures to the site-level requirements using relevant technical and scientific knowledge. However, an important gap is the lack of a binding requirement to consider historical changes and future projections in social, ecological and climate conditions. For example, although a guidance document on Natura 2000 and climate change exists[12], the suggestions are not legally binding. Ultimately, the lack of such considerations may limit management effectiveness in some Natura 2000 sites in the future.

In relation to actual management effectiveness, the Natura 2000 framework fulfils many of the mentioned criteria in the GLPCA. Although management plans are not a legally binding requirement, Article 6.1 of the Habitats Directive stipulates that management plans or equivalent mechanisms need to be in place to ensure conservation measures at site level relate to reaching FCS of the target habitats and species. This is also included as an objective in the EU Biodiversity Strategy to 2020. More specific measures included in the GLPCA criteria that are not considered in Natura 2000 site management are focused on ensuring an adequate number of trained staff onsite, considering equity issues and ensuring financial constraints are not threatening management capacity. The evidence collected for this report confirms the importance of these criteria, in particular financial constraints. Nevertheless, the extensive site designation process ensures that the ecological requirements of the target species and habitats within the social and economic context of the specific site are

[12] European Commission (2013) Guidelines on Climate Change and Natura 2000 (Technical Report - 2013 – 068). https://ec.europa.eu/environment/nature/climatechange/pdf/Guidance%20document.pdf

considered. Furthermore, Member States identify threats at the site level in the SDFs and address these with relevant conservation measures. However, establishing patrol and surveillance systems and legal or customary compliance mechanisms remains in the decision of site managers.

A weakness of Natura 2000 identified by the comparison to GLPCA criteria is that there are no specific timelines by which FCS of focal species and habitats must be achieved (or significant progress towards this must be proven). In addition, as conservation status is assessed at the national biogeographical level, its achievement is based on the management effectiveness of all relevant Natura 2000 sites as well as measure taken outside the Natura 2000 network, which for some habitats and species is significant. This makes it difficult to evaluate the adequacy of measures. Furthermore, there is no requirement in Natura 2000 that relates to the performance measures of ecosystem services or that ensures their provisioning does not impair the ecological value of a site. Additionally, there are no requirements to meet or exceed performance measures for the conservation of cultural values. However, the conservation of cultural values is often addressed through other types of designation that have a considerable overlap with Natura 2000 sites[lxix].

Overall, the Natura 2000 requirements provide a comprehensive management framework that fulfils the majority of criteria set out in the GLPCA. However, there are gaps, which may be relevant to address in the context of ensuring management effectiveness and the evaluation thereof. The following sections highlight three key ways in which EU cooperation could help identify and address remaining gaps.

6.2 Monitoring and reporting

This scoping study identified in each of the five case study countries some kind of protected area management effectiveness monitoring and evaluation, including for Natura 2000 sites. However, none of the countries seems to have a national overview, and this is certainly missing at a European level. This is also reflected in European reporting to GD-PAME in which information for The Netherlands is missing altogether, and others appear to have significantly underreported PAME assessment in their countries. This makes it challenging to assess the state of play, and progress made over time including on existing global reporting commitments.

Current six-yearly reporting under the Birds Directive (Article 12) and Habitats Directive (Article 17) includes a lot of relevant information to inform effectiveness assessments, results from which are incorporated in this report. In addition to information on FCS, Member States report on the number of sites for which conservation measures have been established and if they were set out in a management plan, the pressures and threats each site faces, and management measures undertaken. Annex B, Section 9 of the 2013-2018 Article 17 reporting template for Annex II species asked specifically for a list and status of measures, their purpose, location and desired response time (Annex C, section 8 for Annex I Habitats). However, the reporting template currently does not specifically ask authorities to report on management effectiveness assessments undertaken. An advantage of including management effectiveness assessment information in Article 17 reporting is that it could help strengthen the justification of changes in status (whether positive or negative) and help to identify and focus follow-up

action. As the majority of Member States will have a six-yearly management planning cycle coinciding with Article 12/17 reporting, the inclusion of a reporting requirement on management effectiveness evaluation would help to provide a better overview and support the process of making GD-PAME a more comprehensive repository of PAME information.

The EEA provides annual updates of the Natura 2000 database which includes the Standard Data Form (SDF). The SDF provides an assessment of site-condition, demonstrating the conservation value of the site, but also includes relevant ecological information about each habitat and species present at the site (sections 3.1 and 3.2), threats, pressures and activities with impacts on the site (section 4.3), and a section on management (section 6) with links to a management plan if in place. However, even though the database is updated annually, SDFs are usually not. The survey conducted as part of this study asked practitioners if the SDF would be a good mechanism for reporting on site-specific information on management effectiveness for Natura 2000 sites. Although nearly all experts were in favour of better reporting on management effectiveness, experts from 13 Member States disagreed that the SDF would be the right tool. Different reasons were given, listed below in order of frequency:

- Information in SDF is too general and abstract to follow progress, as letter codes hide the multi-dimensional aspects of concepts such as 'quality' (3x).
- SDF not updated frequently enough and assessment cycle may be different from SDF updates (3x).
- The SDF has already been amended too frequently which is bad practice (1x).

Two experts recommended that a separate data form should be developed for reporting PAME information. This form would be easier to update on a more frequent basis. If PAME were to be reported through the SDF, one expert argued, it would lose its clarity and comparability, especially without current standardization in management effectiveness assessment. If this is deemed to be too labour-intensive, a start could be made with priority habitats, species or habitats for which the site is particularly representative. One expert suggested that more resources should be invested in sharing qualitative and scientific information on management effectiveness, as is currently being done through biogeographical seminars.

Overall, the feedback demonstrates the need for a careful balance between reporting burden and usability. The GLPCA set of indicators provides the most comprehensive, recent and peer-reviewed approach and is based on established systems. Its systematic application at site-level would therefore certainly benefit insight in Natura 2000 management effectiveness. However, currently only 15 protected areas in the EU[13] have been Green List-certified of which 14 are also fully (9) or partly (5) designated as Natura 2000 site. Of these 14 sites, 11 are located in France, 2 in Spain and 1 in Italy showing that from a European perspective experience with the GLPCA is still limited.

More importantly, with 50 indicators of which 25 currently not explicit Nature Directive requirements, using the GLPCA approach in each Natura 2000 sites would require a significant

[13] Excluding two sites in French overseas territory, for a full list of certified sites: https://www.iucn.org/theme/protected-areas/our-work/iucn-green-list-protected-and-conserved-areas/iucn-green-list-areas

investment of resources. Some respondents to the questionnaire indicated that such resources are currently not available for many sites. Nonetheless, a key research question of this scoping study was therefore to identify which currently missing criteria, considering current implementation and common barriers and opportunities to improve effectiveness, would be most relevant to report on, to get better insight on progress. Based on this analysis, the eight criteria outlined in Table 6-2 seem to correspond best.

Table 6-2: Proposed IUCN GLPCA criteria and indicators to consider for improving Natura 2000 management effectiveness measurement

Source: Prepared for this study.

Component	Criterion	Indicator	BHD requirement	Justification
Good governance	Governance vitality and capacity to respond adaptively	Procedures are in place to ensure that results from monitoring, evaluation and consultation are used to inform management and planning processes including the establishment of goals and objectives.	Yes	Although this is an explicit objective in the HD, the scoping study found significant scope for improvement between and within MS e.g. in the design of adaptive governance processes, specific procedures for connecting monitoring and evaluation, the frequency of monitoring and evaluations and the filling of structural knowledge gaps.
Good governance	Governance vitality and capacity to respond adaptively	Planning and decision-making recognises relevant conditions, issues and goals at national and regional scales that impact the protected area.	Yes	This is a more implicit requirement in the preambles of the HD and the EC note on conservation objectives and appears to be a structural challenge across MS. In particular the recognition of structural threats at national/regional level and their drivers, for example related to natural resource use or pollution, are often not sufficiently recognized in planning and/or not followed-up on in decision making. Similarly, ecosystem services in and around the sites are usually not considered in planning.
Effective management	Long-term management strategy	The site can demonstrate that management activities and policies, and/or legislation and regulations are being implemented and are	Yes	Although both taking measures and monitoring and evaluating their impacts are explicit objectives and are implemented in most MS and sites, a lot of information on their consistency with the management plan and its

		consistent with the management plan (or equivalent).		objectives (for example in terms of scale, intensity, location , effectiveness, etc.) appear to be missing in some MS or only assessed infrequently.
Effective management	Long-term management strategy	The site has adequate numbers of appropriately trained staff allocated or hired by the responsible entity, properly supervised to implement all aspects of its management plan or equivalent in the long term.	**No**	Lack of adequate and trained staff at regional and site level has been a recurring challenge in all MS studied, and also identified as a clear bottleneck for the development for more comprehensive PAME assessment in Natura 2000.
Effective management	Long-term management strategy	Financial constraints are not threatening the capacity of management to achieve the site's objectives	**No**	Insufficient financial resources appear to have been a constraint in different ways in each of the MS analysed. For example for investing in restoration measures to improve FCS (e.g. restoration of hydrological conditions) beyond achievement of no-deterioration through recurring management.
Effective management	Manage threats	The site management is implementing a work programme that identifies effective responses to each of the major pressures and threats to target habitat types and species, the ecological coherence of the site, as well as other major site values	Yes	Despite significant progress which appears to have been made in some Member States, for a large number of sites management plans or operational/work programmes are still missing, fail to respond to some key pressures and threats identified in the SDF/management plan or lack SMART indicators on the who/where/when/how. Increasing transparency on the use of work/operational programmes would provide valuable insight for management effectiveness evaluation.
Effective management	Measure success and impact	A threshold level has been specified in relation to each set of performance measures that relate to natural values that, if achieved, is considered to demonstrate objectively that the associated major	Yes	Natura 2000 is special since conservation objectives principally need to describe the condition to be achieved by species and habitat types within the respective sites in order to maximise the contribution of the sites to achieving FCS at the national, biogeographical or European level. The questionnaire for this scoping study

		site value is being successfully conserved. As appropriate, threshold determination can include the assessment of conservation impact based on change in major values over a specified time period compared to those anticipated without the protected and conserved area.		however showed that in several MS only site-specific objectives are set without national/regional coordination on what would be required to reach FCS. Getting a better overview for how many sites this requirement is actually implemented would provide important insights on the likelihood of the most appropriate management being implemented.
Conservation outcomes	Demonstrate conservation of natural values	The site meets or exceeds [agreed] performance thresholds for the conservation of major natural values	**No**	Related to previous indicator. Since the Nature Directives only commit MS to meet FCS at biogeographic level and do not set a deadline for its achievement, currently there is little incentive to set specific time-bound performance thresholds at site level. However, having such thresholds would be critical to be able to assess management effectiveness in individual sites. Therefore it would be interesting to know for sites which have such thresholds whether they are actually met.

Although the selection of indicators in Table 6-2 reflect common European challenges to further improve management effectiveness, it must be stressed that given the diversity between Member States, for example in their progress of Natura 2000 implementation, core natural values and pressures/threats, legal systems, land ownership, etc. and even larger diversity between individual sites, cherry-picking indicators for EU-wide reporting may risk limiting their relevance to a large number of sites. Alternatively it may mean that they are too general to provide qualitatively interesting information at the EU level. Ideally, one would need to do a full assessment for each site at the start of the management cycle to understand where the weak points in effectiveness assurance are, and then follow up with more focussed monitoring and reporting based on indicators relevant to the site in question.

Ultimately, it is a strategic policy decision, whether to choose such a 'high ambition' approach to aim for full assessments for all Natura 2000 sites, a 'medium ambition' approach (e.g. focus efforts on a limited number of indicators, or full assessments on a limited number of EU-priority sites), or stick with the current 'low ambition' approach (e.g. by investing more in the quality, evaluation and assessment of existing Natura 2000 reporting data, which as shown overlooks a few critical components of Natura 2000 effectiveness). This decision should take into account the cost-effectiveness, in terms of nature conservation outcomes, of these various options, which is likely to differ between Member States. Besides the important question on monitoring and reporting, the next two sections make two concrete suggestions on how EU cooperation could help build up capacity to improve Natura 2000 effectiveness.

6.3 Exchange of best-practice

The findings of this study confirm that most EU Member States have only recently started addressing the monitoring and assessment aspects of PAME more systematically. The survey conducted as part of this study showed that most Member States currently lack the expertise or, more often, resources at the administrative level to assess and report on management effectiveness. At the same time, some Member States seem to have advanced further than others. This suggests that a more targeted EU-wide process to increase knowledge sharing and dissemination on ensuring management effectiveness could help improve common standards and increase its efficiency. It should be emphasized that the European Commission has developed best-practice guidance on management in recent years[14]. However, there are some areas that could benefit from more targeted guidance.

The first is on **multi-level governance** approaches: A real challenge countries seem to have is how to strike the right balance between being able to adapt management to local contexts and making sure management is still accountable and can be shown to deliver on national and biogeographical conservation status. The regionalisation of management planning and -evaluation to regional authorities in France and The Netherlands, although certainly posing new challenges of maintaining common standards and political interference, appears nonetheless to be more effective than approaches where regional capacities were significantly cut (Finland) or remain mostly owned by national authorities (Slovakia, Ireland).

[14] See for example dedicated webpage 'Management of Natura 2000 sites: Best Practice': https://ec.europa.eu/environment/nature/natura2000/management/best_practice_en.htm

Regional authorities are able to more quickly adapt to local opportunities and are better trusted and usually more accessible to local stakeholders. LIFE Strategic (formerly Integrated) Nature Projects can help support the transitions, as highlighted at a recent LIFE Integrated Project platform meeting organised by the Belgian authorities[lxx].

Another area where there still seems to be scope for improvement is on how to effectively ensure **public participation** at different stages of protected area management. The French model, which has a legal requirement for an independent facilitator and steering group for each site, is something other countries may want to consider, but the more agile Finnish approach for developing site-specific guidance sensitive to different types of context also offers interesting avenues for learning. This type of system may help fill the legislative deficit that the Natures Directives have in relation to public participation, as for example compared to requirements for stakeholder participation in river-basin management under the Water Framework Directive. The case studies demonstrated a wealth of local successes, which also supported the ownership and effectiveness of measures taken by economic stakeholders for example in agricultural nature management.

The experiences in The Netherlands and Ireland with more bottom-up and **results-based approaches** to agricultural nature management appear to hold a lot of lessons that may be applicable to other EU Member States with similar challenges. In particular, making collectives of land managers co-responsible for management in their region, although also posing new challenges of accountability and common standards, may be a win-win by facilitating landscape-scale impacts, reducing administrative costs of striking individual contracts as well as increased understanding and ownership with land managers and between land managers and ecologists. The European Commission in recent years invested significantly in supporting best-practice exchange on results-based agri-environment schemes[lxxi]. This work could be complemented with more regionalised approaches for example through the biogeographic process or CAP instruments on knowledge and cooperation.

6.4 Ensuring investment

Lack of resources to ensure management at the required standard was found in this scoping exercise to have hampered effectiveness of measures along the management cycle, and they reflect the structural funding gap for nature conservation identified in the PAFs.

For many habitats and species, in particular in the marine environment, there is still insufficient ecological **knowledge** to establish effective conservation objectives and measures and track their effectiveness, as demonstrated in Ireland. Such elementary knowledge gaps have knock-on effects not only on the assessment of FCS but on the entire management cycle and must be overcome urgently. Knowledge gaps are currently not sufficiently made explicit in management planning or they are not always followed up on. A recent European Commission study of the drivers of successful genuine measure-driven improvements in FCS confirmed that positive cases were nearly all made possible because of reliable, up-to-date and context relevant knowledge of the ecological requirements of the targeted habitats and species and the pressures affecting them[lxxii]. Several cases also showed the value of investing in improving scientific knowledge, and the benefits of carrying out trials to test the practicality, efficacy and efficiency of measures, before rolling them out more widely. It is

striking that in at least three of the analysed Member States, LIFE projects have been one of the few that could demonstrate effective outcomes – underlining the importance of availability of targeted investment in combination with strong monitoring evaluation. Although LIFE funding was considered by some as burdensome, examples such as the Burren LIFE case demonstrate the importance of innovation and having proof of tested methods. Once measures are implemented, then adequate, appropriately designed and targeted monitoring can facilitate adaptive management (such as refinements to the practical measures), as well as providing important assessments of trends and conservation status that can feed into Article 12 and 17 reports.

Another urgent investment priority is to ensure adequate number of **trained staff** onsite with sufficient time to help site managers to operationalise and track management planning and adapt where necessary. Again, the drivers of success study highlighted this as a key enabling factor for genuine measure-driven improvements in FCS. Currently for many sites, even rudimentary recording and tracking of agreed management measures and regular evaluation of outcomes is not in place even in sites with established management plans. Six-yearly status reporting seems to be the only established evaluation opportunity which is inadequate for effective process management and adaptive management. Experiences from France and The Netherlands demonstrate that this capacity does not necessarily need to be in competent authorities themselves, but can also be undertaken by more independent external advisors and facilitators. To ensure learning by other land managers, staff need to understand ecological requirements and effects of pressures and threats. However, process management and evaluation may also require skillsets that may not necessarily be present in nature authorities. Alongside lacking trained staff to support operational management, most countries analysed within this study also appear to lack institutional capacity to set up coherent national management effectiveness assessment and tracking processes. Lastly, lack of inspection and enforcement capacity at site level, for example to manage tourism pressures or illegal logging, seems a recurring investment need to ensure effectiveness of other measures. Better cost estimates for the development and maintenance of assessment tracking, for example in the PAF, would help to plan adequate input. Moreover, Member States could make better use of EU or national funding to support this work, for example using the MFF for capacity development in the marine environment (e.g. in Ireland and The Netherlands) and rural development funding for forestry measures (e.g. in Finland and at a larger scale in Slovakia).

The preliminary PAFs currently under review suggest significant improvements in most Member States in regards to mapping investment priorities. However, once finalised, a significant challenge remains to ensure actual **integration of investment needs in programming** of European, national and sub-national funding programmes such as the CAP Strategic Plans and Regional Development Plans. Although dedicated public nature funding remains of critical importance for Natura 2000 implementation, there is a need to share experiences in making better use of other public and private investment to support management, following increasing insights in the ecosystem services provided by nature in the network. Although this study did not look for such efforts specifically, it appears there is still very little practical experience with this while a significant body of knowledge has been developed over recent years.

6.5 Enforcement of existing legal requirements

As different chapters in this report demonstrated, in many Member States significant gaps exist on critical structural requirements under the Nature Directives (and subsequent EC guidance) that would, if implemented following the recommended standard, go a long way to improve Natura 2000 effectiveness and its conservation outcomes. The absence of any legally and time-bound targets for Member States to achieve their contribution to FCS has meant that progress has strongly relied on often short-term political willingness and on active enforcement on specific requirements by the European Commission and Court of Justice (EJC). In particular since the 2007–2012 financial and subsequent European economic crisis, both political priority given to nature conservation in many Member States as well as the Commission and with it progress in Natura 2000 has slowed down. The regulatory fitness check of the Nature Directives moreover created a policy vacuum between 2014 and 2017. The revitalisation of a more active dialogue between Commission and Member States on implementation of the Directives, and legal enforcement where requirements are not met, will also be an important enabler to filling the current effectiveness gap. This holds not only for the EC and EJC, but also national authorities and courts where regional/local authorities fail to meet their requirements which is increasingly critical. As the case studies showed, some Member States have decentralised Natura 2000 implementation once management planning has been set up. It would require targeted investment in administrative capacity to follow-up on complaints at different levels. Moreover, enforcement would benefit from more binding EU-wide agreements to achieve FCS by a certain deadline.

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