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Integration approach to EU biodiversity financing

Evaluation of results and analysis of options for the future

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THE REPORT IS SUPPORTED BY THE FOLLOWING STAND-ALONE DOCUMENTS

Kettunen, M., Illes, A., Rayment, M., Primmer, E., Verstraeten, Y., Rekola, A., Ring, I., Tucker, G., Baldock, D., Droste, N., Santos, R., Rantala, S., Ebrahim, N. and ten Brink, P. (2017) Summary report - Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London

Kettunen, M. and Illes, A. (eds.) (2017) Opportunities for innovative biodiversity financing in the EU: ecological fiscal transfers (EFT), tax reliefs, marketed products, and fees and charges. A compilation of cases studies developed in the context of a project for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London

CORRESPONDING AUTHOR

Marianne Kettunen (mkettunen@ieep.eu)

PROJECT TEAM

IEEP - Kettunen, M., Illes, A., Tucker, G., Baldock, D. and ten Brink, P.
ICF - Rayment, M., Verstraeten, Y. and Ebrahim, N.
SYKE - Primmer, E., Rekola, A. and Rantala, S.
UFZ - Ring, I. and Droste, N.
2Eco - Santos, R.

INSTITUTE FOR EUROPEAN ENVIRONMENTAL POLICY (IEEP)

London Office
11 Belgrave Road
IEEP Offices, Floor 3
London, SW1V 1RB
Tel: +44 (0) 20 7799 2244
Fax: +44 (0) 20 7799 2600

Brussels Office
Rue de la Science, 4
1000 Bruxelles, Belgium
Tel: +32 (0) 2738 7482
Fax: +32 (0) 2732 4004

@IEEP_eu

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Introductory summary

This report provides an analytical review of the experience to date on the integrated approach to co-financing Natura 2000 and wider biodiversity conservation from the EU budget. In particular, the study focuses on identifying the overall performance of the integrated approach in meeting estimated biodiversity financing needs and assessing how the approach could be developed and used more effectively in the future.

On the basis of the assessment, the study provides a synthesis of the overall performance of the EU co-financing framework, outlining its pros and cons, strong and weak points. This synthesis explores to what extent the integration approach remains appropriate and sufficient for EU biodiversity and Natura 2000 financing in the future, and identifies and analyses opportunities for possible improvements of the framework in terms of its scope, management and governance.

Finally, a set of possible options for the post-2020 EU framework is provided, including a preliminary assessment of their foreseen impacts. The option analysed in explicit detail is the establishment of a dedicated EU fund for biodiversity, managed jointly by the EU and Member States.

Acknowledging the insufficiency of financing, a dedicated element of the study explores the potential of innovative non-EU sources of finance to complement the existing funding framework. The insights on non-EU sources are gained by dedicated case study analysis of key financing instruments: ecological fiscal transfers, marketed products, tax reliefs, and fees and charges.

A summary of the results can be found in a standalone document:

Kettunen, M., Illes, A., Rayment, M., Primmer, E., Verstraeten, Y., Rekola, A., Ring, I., Tucker, G., Baldock, D., Droste, N., Santos, R., Rantala, S., Ebrahim, N. and ten Brink, P. (2017) Summary report - Integration approach to EU biodiversity financing: evaluation of results and analysis of options for the future. Final report for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London

Furthermore, a compilation of case studies on innovative (non-EU) instruments developed in the context of this study can be found in:

Kettunen, M. and Illes, A. (eds.) (2017) Opportunities for innovative biodiversity financing in the EU: ecological fiscal transfers (EFT), tax reliefs, marketed products, and fees and charges. A compilation of cases studies developed in the context of a project for the European Commission (DG ENV) (Project ENV.B.3/ETU/2015/0014), Institute for European Policy (IEEP), Brussels / London

Executive summary

The review of existing evidence reveals a range of shortcomings in the EU financing framework for biodiversity. These shortcomings limit the ecological effectiveness, cost-effectiveness and legitimacy of the framework, which risks jeopardising the successful delivery of EU's biodiversity objectives and targets.

The review also highlights a number of positive aspects of the current EU financing approach. Some existing EU funds (LIFE, EAFRD and, to some extent, ERDF) have been shown to be able to deliver a range of conservation outputs in a relatively effective and efficient manner when the funded measures have been appropriately designed and properly implemented. By engaging stakeholders at different governance levels and at different stages of decision-making, integrated biodiversity financing has demonstrated a potential to advance the legitimacy of biodiversity conservation.

The following necessary improvements to the existing framework are identified:

- Earmarking expenditure for biodiversity priorities under the sectoral EU funds
- Addressing eligibility gaps
- Improving coordination and coherence
- Reducing the administrative burden
- Improving monitoring
- Continuing efforts in awareness raising and stakeholder cooperation

The adoption of a new dedicated EU fund for biodiversity is considered to have the potential to address a number of the current shortcomings, in particular to lessen the competition for funding between biodiversity and other sectoral priorities, improve the match between the funding framework and priority funding needs, and facilitate the monitoring and evaluation of ecological effectiveness. However, the risks associated with a dedicated EU funding instrument for biodiversity are significant. Seeking to establish a dedicated fund may reduce the potential for integrating biodiversity financing needs in other funds. There are also no foreseen guarantees that the level of funding made available would be able to match the needs any better than under an integrated approach. The benefits and risks of adopting such a dedicated EU biodiversity fund would need to be considered in adequate detail, reflecting the possible scope and priorities for such a fund.

Mainstreaming the use of a range of different innovative (non-EU) instruments, while understanding the role that they can play in the overall conservation policy mix, has a considerable potential to contribute to the existing funding basis. However, it is unlikely to transform biodiversity funding in the EU, at least in the short to medium term.

Finally, the common assessment framework developed in the context of this study is considered to provide a good systematic basis for identifying and assessing the key attributes determining the overall success of biodiversity funding arrangements, i.e. ecological effectiveness, cost-effectiveness, institutional aspects and legitimacy. The framework is designed to be applicable at all levels of biodiversity financing in the EU, allowing the integration of local, national and regional funds with the EU co-funding framework.

Résumé

L'examen des données existantes révèle une série de lacunes au sein du cadre de financement de la biodiversité de l'UE. Ces lacunes limitent l'efficacité écologique, le rapport coût-efficacité et la légitimité du cadre, risquant de compromettre la bonne réalisation des objectifs et cibles de l'UE en matière de biodiversité.

L'examen met également en évidence un certain nombre d'aspects positifs de l'actuelle approche de financement de l'UE. Il a été montré que certains fonds existants de l'UE (LIFE, FEADER et, dans une certaine mesure, FEDER) ont été en mesure de fournir une série de résultats de conservation d'une manière relativement efficace et efficiente lorsque les mesures financées étaient convenablement conçues et correctement mises en œuvre. En impliquant les parties prenantes aux différents niveaux de gouvernance et aux différents stades de la prise de décision, le financement intégré de la biodiversité a démontré disposer d'un potentiel pour faire progresser la légitimité de la conservation de la biodiversité.

Les améliorations au cadre existant identifiées comme nécessaires sont les suivantes:

- Affectation des dépenses aux priorités en matière de biodiversité dans le cadre des fonds sectoriels de l'UE
- Combler les lacunes en matière d'admissibilité
- Améliorer la coordination et la cohérence
- Réduire la charge administrative
- Améliorer la surveillance
- Poursuivre les efforts de sensibilisation et de coopération des parties prenantes

L'adoption d'un nouveau fonds de l'UE consacré à la biodiversité est considéré comme ayant le potentiel de remédier à un certain nombre de lacunes actuelles, en particulier réduire la concurrence entre le financement de la biodiversité et d'autres priorités sectorielles, améliorer l'adéquation entre le cadre de financement et les besoins prioritaires de financement ainsi que faciliter le suivi et l'évaluation de l'efficacité écologique. Cependant, les risques associés à un instrument de financement de l'UE consacré à la biodiversité sont notables. En effet, chercher à établir un tel fonds peut réduire le potentiel d'intégration des besoins de financement de la biodiversité dans d'autres fonds. Il n'y a pas non plus de garanties prévues telles que le niveau de financement mis à disposition serait en mesure de mieux répondre aux besoins que dans le cadre d'une approche intégrée. Les avantages et les risques liés à l'adoption d'un tel fonds de la biodiversité de l'UE devront être examinés de manière suffisamment détaillée, en tenant compte de l'étendue et des priorités possibles d'un tel fonds.

Intégrer l'utilisation d'une série de différents instruments innovants (hors UE), tout en comprenant le rôle qu'ils peuvent jouer dans l'ensemble des politiques de conservation, présente un potentiel considérable de contribution à la base de financement existante. Toutefois, il est peu probable que le financement de la biodiversité au sein de l'UE soit transformé, du moins à court ou à moyen terme.

Enfin, le cadre commun d'évaluation élaboré dans le contexte de cette étude est présumé fournir une bonne base systématique en vue d'identifier et d'évaluer les attributs clés déterminant le succès global des modalités de financement de la biodiversité, à savoir l'efficacité écologique, le rapport coût-efficacité, les aspects institutionnels et la légitimité. Le cadre est conçu pour être applicable à

tous les niveaux de financement de la biodiversité dans l'UE, permettant l'intégration des fonds locaux, nationaux et régionaux dans le cadre de cofinancement de l'UE.

1 Introduction

1.1 Background and context

Evidence to date suggests that EU funding plays an important role in the implementation of the EU biodiversity objectives, including Natura 2000 network. The EU's approach to financing biodiversity and nature is based on the so-called "integrated financing" approach, in which, rather than relying on a single biodiversity focused fund, the EU relies on a range of existing funding instruments - including a range of instruments financing the EU's sectoral policies - to further biodiversity and nature objectives, and seeks to integrate biodiversity and nature priorities into these different funds.

However, experiences with the EU integrated co-financing approach for biodiversity and the Natura 2000 network (see Box 1.1) have been both positive and negative; while the efforts to mainstream biodiversity across sectors have increased, there continue to be constant challenges to the actual uptake of opportunities. It is therefore appropriate to take stock of the aspects of the integrated approach which are working and of those which do not deliver the expected results (particularly in view of achieving the 2020 biodiversity targets).

Furthermore, in view of increased pressure on public budgets due to spending cuts and slow recovery of the economy and amidst calls to improve the efficiency of public spending, it is becoming even more important to use existing sources of financing effectively and efficiently and to diversify sources of financing for nature protection and biodiversity (including through innovative instruments).

The study builds on and integrates the findings from a range of previous EU studies, using them as material to evaluate the success of integrated financing to date and support the thinking on the post-2020 financing period.

In this report – and in line with the terms of reference – we use the term "integrated approach" to refer to the current model of financing biodiversity through the EU budget. It should be noted, however, that while the current model does rely on a range of sectoral funds to contribute to biodiversity priorities, it also delivers dedicated funding for biodiversity through the LIFE fund. It could be argued therefore that the current model actually involves a mixed approach which combines some dedicated biodiversity funding with efforts to integrate biodiversity priorities into sectoral funds.

Box 1.1 EU financing framework for biodiversity and Natura 2000 in a nutshell

Since 2007, EU funding for biodiversity and the Natura 2000 network has been made available by integrating biodiversity goals into various existing EU funds or instruments. This integrated co-financing model supports the strategic goal to further embed the implementation of the EU's biodiversity policy into other relevant policy sectors and their financing instruments and, at the practical level, to link biodiversity goals with the broader management of land and natural resources.

The EU funds available for financing Natura 2000 during the periods of 2007-2013 and 2014-2020 include:

- European Agricultural Fund for Rural Development (EAFRD);
- European Fisheries Fund (EFF), succeeded by European Maritime and Fisheries Fund (EMFF);
- European Fund for Regional Development (ERDF);
- European Social Fund (ESF);
- Cohesion Fund;
- European financial instrument for the environment (LIFE[1]) currently called Programme for the Environment and Climate Action; and
- Framework Programmes for research and innovation (FP7 and Horizon 2020).

It is important to note that under this integrated framework only LIFE provides dedicated support to biodiversity and Natura 2000; whereas all other EU funding instruments are primarily targeted to deliver the EU goals on rural, regional, infrastructural, social and scientific development. While this allows the integration of biodiversity into broader rural and regional contexts, it also makes the availability of funding dependent on the overall goals and mechanisms of the given funding instruments, thereby creating a need to demonstrate compliance with each funds' specific rules.

To strengthen coordination and integration of financing for biodiversity and Natura 2000, there was an agreement to adopt Prioritised Action Frameworks (PAFs) for the 2014-2020 period. The development of PAFs is based on the provisions of Article 8 of the Habitats Directive. The purpose of these documents is to establish a national or regional strategy for protection and management of Natura 2000 within the context of the relevant EU financial instruments. In other words, PAFs are planning tools aimed at identifying required Natura 2000 conservation priorities and management measures as well as their related costs and potential financing sources, matching the former with the latter.

Source: Kettunen, M., Torkler, P. and Rayment, M. (2013) Financing Natura 2000 in 2014-2020: Guidance Handbook, a publication commissioned by the European Commission DG Environment

1.2 Study objectives

The purpose of the study is two-fold, focusing on both EU and non-EU funding for biodiversity.

Firstly, the study seeks to review the experience to date of the integrated approach to co-financing Natura 2000 and wider biodiversity conservation from the EU budget. In particular, the study focuses on identifying the overall performance of the integrated approach in meeting estimated financing needs and assessing how the approach could be developed and used more effectively in the future.

[1] In 2007-2013 it was called "LIFE+"

Secondly, acknowledging the insufficiency of public financing, the study supports the ongoing efforts to identify and assess alternative funding sources that could complement EU funds. Building on the above, the study explores and defines possible mixes of financing instruments (EU and non-EU) that could better meet EU financial needs for Natura 2000 and for biodiversity more widely. While doing so, the study develops and builds on a methodology that can be operationalised to assess success of funding at different levels.

These overall objectives are to be achieved through the following specific study components:

Development of a common methodology: The study first outlines a common framework for assessing the overall effectiveness of biodiversity financing arrangements, applicable at different levels of governance in the future. This assessment framework is applied throughout the following elements of the study.

Assessment of ecological / conservation effectiveness and cost-effectiveness: This element of the study reviews the existing information on the ecological- and cost-effectiveness of financing of EU biodiversity and Natura 2000 from the EU budget. It provides an overview of the current situation as regards the application of EU funds with respect to their contribution to and delivery of EU biodiversity targets and priorities.

Assessment of institutional and legal fit, legitimacy and impacts on stakeholders: This element of the study analyses the institutional, legitimacy and social challenges associated with the integrated approach to EU biodiversity financing. The aim of the analysis is to identify institutional constraints and opportunities for improving biodiversity financing in the future. The analysis focuses on exploring the role of institutions and governance structures and practices (e.g. how 'fit for purpose' they are to address the financing challenge) as well as the perceived social impacts and legitimacy challenges associated with the deployment of the current EU co-financing instrument mix and the design and implementation of a more integrated policy instrument mix. Targeted empirical analysis of social impacts, legitimacy and institutional aspects of the current funding framework are also carried out, uncovering challenges related to the biodiversity financing decision-making. This empirical analysis has been informed by interviews (EU authorities) and a survey (Member State) targeting authorities responsible for EU funding.

Synthesis assessment of the EU co-financing framework and the future of EU co-financing: On the basis of the above results, a synthesis of the overall performance of the EU co-financing framework is developed, outlining its pros and cons, strong and weak points. This assessment aims to explore to what extent the integration approach remains appropriate and sufficient for EU biodiversity and Natura 2000 financing in the future, and identifies and analyses opportunities for possible improvements of the framework in terms of its scope, management and governance. Finally, a set of possible options for the post-2020 era is provided, including a qualitative assessment of their foreseen impacts within the common methodology.

Scoping for opportunities for complementary financing: This part of the analysis explores the potential of non-EU sources of finance to complement EU funding priorities in the instrument mix. The insights on non-EU sources are gained by dedicated case study analysis carried out in the context of this study on a number of key financing instruments: ecological fiscal transfers, marketed products, tax reliefs, and fees and changes.

1.3 Content of the report

The report consists of the following elements:

Chapter 2 Common methodology for assessing the overall effectiveness of biodiversity financing arrangements being operationalised in the context of the study

Chapter 3: Assessment of the ecological effectiveness and efficiency of financing

Chapter 4: Assessment of institutional and legal fit, legitimacy and impacts on stakeholders (i.e. EU level interviews and Member State stakeholder survey)

Chapter 5 Synthesis assessment of the existing EU co-financing framework and scoping for the future EU co-financing framework

Chapter 6 Opportunities for complementary financing and the EU – non-EU policy mix

Chapter 7 Conclusions in the light of the EU and non-EU policy mix for biodiversity financing

Annex 1 Member State expert survey

2 Conceptual approach and methodology for assessment

2.1 Introduction

The assessment of current and future financing arrangements for biodiversity should include the analysis of available funding as well as assessment if this funding is appropriately spent (i.e. targeted to the right areas, stakeholders and measures, and achieving the expected results). This analysis should help to understand why EU funding potentially available for financing biodiversity is often not accessible to beneficiaries and what type of actions might help to address this.

Furthermore, public funding for biodiversity alone is widely acknowledged to be inadequate to fully cover all actions required to meet conservation targets (see Chapter 3 below). Harnessing funding from broader sources (e.g. economic instruments and/or private funding) could help to close the funding gap while also helping to implement the EU polluter pays principle (i.e. internalise the cost of conservation into the economic activities that drive biodiversity loss). However, existing experience shows that stimulating broader finance for biodiversity is not easy and that economic instruments and/or private funding are applicable only in certain circumstances. Therefore such instruments alone are not capable of delivering the existing EU and national biodiversity goals. They can, however, have a potentially important supplementary role to play, and therefore better understanding of the existing financing arrangements is needed to further identify how to blend public and private finance and use the range of available economic instruments.

A systematic assessment of the current and potential biodiversity funding arrangements is helpful both in reviewing the existing EU integration approach to biodiversity financing, and in appraising potential new instruments to be added to the mix. The common assessment framework developed and applied in the context of this study facilitates such assessment. This framework draws from the key existing literature and assessments (e.g. EU FP7 POLICYMIX project and the EU nature directives fitness check). The framework is designed to be applicable at all levels of biodiversity financing in the EU, allowing the integration of local, national and regional funds with the EU co-funding framework.

2.2 Conceptual approach and methodology

The overall adequacy of the funding arrangements for biodiversity – as well as the role of specific elements within it – should be assessed with respect to four criteria:

Ecological / conservation effectiveness – degree to which the level of funding and the chosen mix of funding instruments address the identified needs and reach the specified objectives for biodiversity, taking account of the range of different priorities and contexts within which they operate.

Efficiency and cost-effectiveness – the relationship between the conservation results achieved (i.e. delivered conservation objectives) and financial resources used. This builds on the relation between benefits and costs, and considers instruments' ability to provide cost-effective solutions that meet the targets for biodiversity and the needs of stakeholders.

Institutional and legal fit – the match of the financial policy instrument mix with the existing institutional framework, and the ability of the institutions in place to harness and successfully apply the available funding.

Legitimacy and impacts on stakeholders – the acceptability of the instruments among stakeholders; perceived fairness and compatibility with societal goals as well as the legitimacy of decision-making processes in designing and allocating funds.

Table 2.1 outlines the common methodology for assessing the arrangements for biodiversity financing including these four key criteria, their definition, and sub-criteria and evidence foreseen to be required for assessment. Furthermore, in order to undertake an assessment of the existing funding arrangements for biodiversity, a certain type of key information on the following aspects is required: the status of the delivery of biodiversity objectives, level of funding required (potentially available and actually used), and institutional and governance arrangements for funding. These information requirements are outlined and further elaborated in Table 2.2 below.

The common methodology has been used to frame and inform the analysis of the successes and shortfalls of the EU co-funding arrangements (Chapter 3), with a focus on ecological effectiveness and cost-effectiveness. Similarly, an assessment related to the institutional framework, legitimacy and stakeholder impacts of the EU funding arrangements has been carried out (Chapter 4). Finally, the common methodology has been used to assess possible future financing arrangements in the EU, both in terms of the EU co-financing framework and complementary non-EU instruments (Chapters 5 and 6).

Table 2.1 Outline for the common methodology: elements, criteria and evidence required for assessment

Ecological / conservation effectiveness	Cost-effectiveness
Definition: degree to which the level of funding and the chosen mix of funding instruments address the identified needs and reach the specified objectives for biodiversity, taking account of the range of different priorities and contexts within which they operate.	**Definition**: relationship between the conservation results achieved (i.e. delivered conservation objectives) and financial resources used. This builds on the relation between benefits and costs and instruments' ability to provide cost-effective solutions that meet the targets for biodiversity and the needs of stakeholders.
Criteria: • Degree to which the amount of funding available matches the estimated funding needs • Suitability of current funding arrangements - Degree to which the funding priorities align with conservation objectives - Degree to which the geographic distribution of funding available matches the geographic distribution of conservation objectives - Degree to which the structure and timing of funding available aligns with conservation objectives (e.g.	**Criteria:** • The cost-effectiveness of interventions (e.g. cost per unit of benefit delivered) • The balance of costs and benefits (e.g. benefit/cost ratios) • The efficiency of funding processes (e.g. administrative burdens in accessing and allocating funds)

one-off investment vs. on-going management actions vs. personnel costs) - Accessibility of available funding • Degree to which the funding delivered achieves the results anticipated	
Type of evidence required: • Evidence of funding availability allowing implementation and achievement of objectives • Evidence of effectiveness in terms of results of individual conservation measures, projects and programmes (e.g. expansion of protected areas, species action plans), that are known to receive funding, and their overall impacts on biodiversity (i.e. outcomes with respect to conservation objectives) • Examples of the effects of funding constraints on implementation and achievement of objectives *Note:* evidence can be both qualitative and, where available, quantitative.	**Type of evidence required:** • Evidence of conservation benefits obtained (as per Table 3.1) • Transaction costs and administrative costs • Examples of the effects of funding constraints on the efficiency of implementation *Note:* evidence can be both qualitative or, when available, quantitative.
Comments: Effectiveness is significantly affected by the wider contextual determinants (e.g. possible limitations) related to EU and national sectoral funding. The lack of specific indicators for assessing conservation outcomes in the programmes for EU funds hinders the assessment.	**Comments:** Efficiency is significantly affected by the wider contextual determinants (e.g. possible limitations) related to EU and national sectoral funding.
Institutional and legal fit	**Legitimacy and impacts on stakeholders**
Definition: the match of the financial policy instrument mix with the existing institutional framework and the ability of the institutions in place to harness and successfully apply the available funding.	**Definition:** procedural legitimacy of funding allocation processes; the acceptability of the instruments among stakeholders and compatibility with societal goals, addressing societal challenges
Criteria: • Legislative basis for financing framework • Effectiveness of the process by which attaining the goals / progress towards goals are evaluated (i.e. monitoring and evaluation) • Limitations of different EU / national funds, with respect to their objectives and eligibility criteria • Degree of policy coherence between funding instruments • Level of capacity for allocating and/or applying for the funds	**Criteria:** • Procedural legitimacy (inclusion, deliberative quality, transparency, accountability, ownership over decisions) • Effectiveness of stakeholder engagement processes • Fairness and sense of justice • Impacts on wellbeing and distributive equity • Consideration of stakeholder concerns (e.g. conflict or complementarity between biodiversity and other priorities – economic, social and environmental).
Type of evidence required:	**Type of evidence required:**

• Legislation and other regulations (e.g. guidelines of managing authorities) underpinning biodiversity financing • Legal and other competence for allocating the funds (including knowledge support systems, and procedural competence for administering different instruments)? • Other sectors' influence on financing priorities • Constraints on effective allocation for biodiversity of funds within current instruments	• Perceived and experienced levels of satisfaction with existing schemes • Perceived fairness of possible new / modified schemes • Comparisons of the perceived and experienced levels of satisfaction between existing schemes and potentially new / modified schemes
Comments: The institutional and legal fit can be expected to influence the ability to secure and apply funding, but also the ecological effectiveness and efficiency of applying funding. It is therefore linked to the other aspects above.	**Comments:** Legitimacy covers two aspects: the legitimacy of the funding allocation which is related to the distributional aspects and the procedural legitimacy, i.e. the processes by which funding is allocated which rests on the existing institutions.

Table 2.2 Systematisation of information and evidence required for the purpose of the assessment

Level of funding: *required*	**Level of funding:** *potentially available*	**Level of funding:** *actual used*	**Institutional and governance arrangements**	**Biodiversity output delivered by funding**
Definition: level of funding required to deliver biodiversity objectives	**Definition**: level of funding potentially available for biodiversity conservation	**Definition**: level of funding actually used for biodiversity conservation	**Definition**: the context in which funding for biodiversity and other sectoral priorities is organised, planned and delivered, the different institutions and actors involved, and their capacity and governance (EU, nation-state and regional/local levels)	**Definition:** degree to which the expected biodiversity objectives have been achieved
Indicators: • Financial outlay required to implement the different biodiversity objectives, (e.g. as indicated in the prioritised action frameworks PAFs)	**Indicators:** • Availability / number of dedicated financing instruments (EU / national / regional) supporting biodiversity conservation • Concrete opportunities provided for biodiversity and Natura 2000 by EU sectoral funds / national and regional public funding instruments (e.g. national and regional OPs and RDPs for EU funds) • Levels of co-financing allocated under EU-funds that can support biodiversity conservation (e.g. the Natura 2000)	**Indicators:** • EU / national / regional funding actually used to measures that can support biodiversity conservation related activities (e.g. the Natura 2000 implementation) • Identified problems concerning the level of integration in practice	**Indicators:** • Degree of alignment of biodiversity priorities with those of funding institutions and stakeholders • Level of competence of funding institutions to address biodiversity issues and biodiversity institutions to apply for and deliver funding (e.g. administrative capacity) • Level of public awareness on biodiversity and stakeholder engagement	**Indicators:** • Improved understanding of distribution, trends and conservation requirements of habitats and species • Improved understanding of protected area requirements, and increased designation of sites • Development of site management plans and species action plans • Extent of conservation activity undertaken (e.g. habitat created, restored, area under required conservation

			Factors affecting performance: • Legislation and internal procedures • Organisational culture (e.g. level of trust) • Administrative capacity • Involvement of stakeholders • System of evaluation and adaptive management	management • Increase in green infrastructure • Improved conservation status of habitats and species covered by the Birds and Habitats Directives) • Number of (new) biodiversity management instruments
Comments: Often not well known. Estimates may be imprecise, available only for certain things (e.g. Natura 2000) or for certain locations. Estimates may vary according to estimation methods and levels of ambition, as found by Gantioler et al. (2010). Aggregation may therefore be problematic. Needs may vary over time and estimates may not be up to date.	**Comments**: Key challenge is to determine how to apportion funds when knowing that only a small proportion will go to biodiversity in practice. E.g. what % of funds is potentially available?	**Comments**: Not always easy to estimate – depends on quality and detail of reporting, degree of disaggregation (categories of expenditure) etc. – thus some assumptions may be necessary. Results of work on biodiversity tracking (ex-ante and ex-post) will be considered helpful in this context, particularly in terms of allocations to categories of expenditure not indirectly relevant for financing biodiversity (such as climate change adaptation).	**Comments**: Indicators are largely qualitative. They are an important factor in influencing relationship between other variables – e.g. funds that are potentially made available for biodiversity action; funds that are actually applied to biodiversity action; efficiency and effectiveness of application of funds in pursuit of biodiversity objectives.	**Comments**: Not just dependent on funding but also linked to a number of different variables (e.g. institutional setup and governance).

3 Ecological effectiveness and efficiency of financing biodiversity from the EU budget

3.1 Introduction

The results of the EU integrated financing approach to date can be examined in relation to its ecological effectiveness (i.e. the degree to which funding contributes to the delivery of objectives for biodiversity and Natura 2000 in the EU) and cost-effectiveness / efficiency (i.e. the relationship between the results achieved and the resources used).

In order for EU funding to be ecologically effective and efficient, it needs to be delivered on a sufficient scale, allocated to the right priorities, and accessible to relevant stakeholders without excessive transaction costs. Furthermore, it needs to be demonstrated that the activities funded deliver the required ecological results at reasonable cost.

As per the common assessment framework in Chapter 2, assessment of the ecological effectiveness and efficiency of current financing for biodiversity and Natura 2000 needs to take account of:

- **Level of funding** provided compared to needs
- **Suitability of current funding arrangements**, including the structure and timing of funding provided, alignment of funding with biodiversity priorities and objectives
- **Ecological results achieved**
- **Cost-effectiveness**, including relationship between results achieved and resources used (cost per unit of benefit delivered, benefit/cost ratios) and the efficiency of funding processes (e.g. administrative burdens in accessing and allocating funds)

This Chapter therefore employs four criteria to examine these questions of ecological effectiveness and cost-effectiveness. The criteria each build on more specific judgement criteria as defined in the assessment framework in the previous section. The following four sections address these four criteria, while section 3.6 presents the overall conclusions from the analysis.

3.2 Level of financing vs. financing needs

3.2.1 Estimates of Financing Needs

Financing needs of Natura 2000

Key conclusion

The financing needs of the Natura 2000 network are understood better than those for most other EU biodiversity priorities. The best available estimates put the funding required at around €5.8 billion per year across the EU 27 (now 28). Although this estimate is now a few years old and subject to some methodological issues, subsequent evidence indicates that it is likely to broadly reflect ongoing financing needs. More recent estimates for some countries – provided in prioritised action frameworks (PAFs) – do not give a comprehensive picture and provide higher estimates for some countries and lower estimates for others – but are broadly consistent with the earlier estimates.

Gantioler et al. (2010) made an overall estimate of the costs of fully implementing and managing the Natura 2000 network in the EU. Their study based its cost estimate on questionnaire returns by Member States estimating financial resource needs over the period 2010 to 2015 and focused on the costs to the public sector, rather than providing an overall assessment of the economic costs of the network. The result of their work gave an overall cost estimate for the Natura 2000 network in the 25 responding Member States (covering approximately 88% of the total Natura 2000 network) of €5.1 billion per year. The results of extrapolating the cost across the EU-27 gave an estimated annual total for the EU-27 of between €5,479 million and €5,772 million per year.
In terms of cost types, the report found that two thirds of these annual costs were recurrent costs (mostly habitat management and monitoring), and the remainder one-off costs (land purchase, infrastructure and management). It was found that, with only a few exceptions (i.e. Belgium, Cyprus, Denmark Estonia, Latvia, Luxembourg, Netherlands and Slovenia), recurrent costs were higher than one-off costs for the 25 respondent countries. Habitat and management costs (e.g. conservation management, measures and monitoring) made up the bulk of these recurrent costs. As regards one-off costs, infrastructure costs (e.g. equipment acquisition, signage, trails, and observation platforms) were almost twice as large as land purchase costs.

Furthermore, the results of breaking down the overall cost estimate by land use type across EU27 found that 35% (€2,025 million) of the overall cost estimate were linked to agriculture, 33% (€1,915 million) to forests and 11% (€649 million) to other terrestrial use. The remainder of the costs (less than 20%) were equally shared between inland waters, wetlands and coastal areas (Gantioler et al. 2010).

Expressed in terms of average annual cost per hectare of the Natura 2000 network, the average cost of implementing the network were estimated by Gantioler et al. (2010) at €63/hectare/year across the EU. This comprised recurrent costs of €43 /hectare/year and one-off costs of €21/hectare/year. However, mean costs per hectare tended to vary significantly across Member States. Small Member States, such as Cyprus, Luxembourg and Malta, for example, estimated very high costs (at over €800/hectare/year). The authors suggested that, among other factors, this could reflect a significant

element of fixed costs, irrespective of the size of the network. Average per hectare costs were also relatively high in the Netherlands (€281/hectare/year), Belgium (€195/hectare/year), Ireland (€139/hectare/year), Spain (€110/hectare/year), Latvia (€109/hectare/year) and Germany (€107/hectare/year), and lowest in Poland, Slovakia, Italy and Greece.

It was mentioned that a great cause of variation in the estimates related to the interpretation of conservation objectives and needs by Member States, as well as the estimation methodologies applied. It has also been argued that the estimate is likely to be a significant underestimate of the total costs needed to bring Natura 2000 sites into favourable conservation status (Tucker et al. 2013). The reason for this cautioning was twofold: several countries simply presented actual funding, rather than estimates on what was needed to comply, and most countries focused on the costs of the site and/or presented only the incremental costs linked to the Natura 2000 network. In comparison to the €63.4/hectare/year estimate from Gantioler et al. (2010), the Commission's earlier figures suggested an annual cost of around €107/hectare and a BirdLife International (2009) report indicated costs associated with management of the Natura network at €128/hectare/year, based on estimates from six Member States provided by the organisation's national partners (Tucker et al. 2013).

Although the Gantioler et al. (2010) study is now relatively outdated, their estimate remains the most comprehensive work carried out across EU. More recent national estimates can be found in the prioritised action frameworks (PAFs) which were submitted by Member States to inform their funding needs for implementing the Natura 2000 priorities during the 2014-2020 funding period, and evidence reviewed in the evaluation study to support the nature directives fitness check (Milieu, IEEP and ICF, 2016). The data provided in PAFs was based on different methodologies and therefore it does not allow the aggregation and formation of a comprehensive picture of the costs of implementing Natura 2000 across EU. However, the evaluation of PAFs suggests that, with few exceptions, the scale of the costs reported by individual Member States are broadly similar to the Gantioler et al. estimates from 2010 (Milieu, IEEP and ICF, 2016). Box 3.1 summarises this evidence at Member State level on the funding needs for implementing the Natura 2000 network[2].

Box 3.1 National estimates of the funding needs for implementing Natura 2000

Belgium: The potential costs of implementing the network were estimated in Gantioler et al. (2010) at approximately €76m per annum. This is lower than the more recent estimate of €85- 97 million per year (valid for Flanders only) put forward by the Flemish Agency for Nature and Forests for the period 2014-2020 (EC, 2015). Around 60% of this recent estimate comprises recurrent costs (e.g. costs resulting from administration, management and restoration measures, surveillance and monitoring, communication and capacity building) and 40% one-off costs (e.g. land acquisition, nature development). This estimate compares to a current available annual budget of approximately €60 million, but does not include costs incurred by other authorities or stakeholders. Land acquisition and maintenance and management (including both one-off and management costs) make up around 50% of the total estimated costs (European Commission, 2015c).

Bulgaria: The potential costs of implementing the network were estimated at approximately €155 million per annum (Gantioler et al. 2010). This compares to total costs of €132 million per year for the period 2010-2020

[2] Sources: Questionnaires submitted by Agency for Nature and Forests, Government of Flanders, Public Service of Wallonia, Natuurpunt vzw and Natagora (Belgium), WWF Bulgaria, Department of Environment (Cyprus), BirdLife Cyprus, Ministry of the Environment (Estonia), Ministry of the Environment (Finland), Federal Ministry for the Environment (Germany), National Parks and Wildlife Service (Ireland), Vogelbeschirming Nederland, Latvian Fund for Nature, SPEA (Portugal), Ministry of Environment, Waters and Forests (Romania), Federația Coaliția Natura 2000 Romania, Ministry of the Environment of the Slovak Republic; National Missions.

most recently reported by Bulgaria in the questionnaire responses to the nature directives fitness check (Milieu, IEEP and ICF, 2016). These include annualised one-off costs of €20 million and €14 million for management and investment respectively and recurrent costs for management planning (€67 million) and habitat management and monitoring (€30m) (EC, 2015).

Czech Republic: In the Czech Republic, annual costs for managing the Natura 2000 network were estimated at €105 million according to the 2014-2020 PAF submitted by the national authorities. The largest share of the costs (one-off and recurrent) was attributed to conservation measures for the sites (approximately €67 million) and to legislative based procedures (€31 million) such as designation of new protected areas and preparation and update of site conservation management (EC, 2015). This compares to a national estimate of €84 million provided by Gantioler et al.

Cyprus: The potential costs of implementing the network were estimated in Gantioler et al. (2010) at approximately €201 million per year. Gantioler et al. noted at the time that this estimate was very high in relation to the area of land involved, being based on a strategy of purchasing all land in the Natura 2000 network. A much lower estimate of €255 million for the seven-year period 2014-2020 was made in the PAF (Milieu, IEEP and ICF, 2016). This includes staff costs, scientific studies, infrastructure for improvement and restoration of sites, habitat and species mapping and monitoring, as well as management planning. It includes an amount for land purchase, but notes that this does not represent the current situation of prices in the country, and that the acquisition of private land is not always a necessary measure to achieve efficient management of a Natura 2000 site. The questionnaire response by BirdLife Cyprus argues that this figure is an overestimate, and suggests that a total of €99 million would be more realistic for the seven-year period. BirdLife argues that the projected costs of land purchase are overstated. Resource allocation may be further limited by the capacity of the authorities to absorb and spend the financial resources available (Milieu, IEEP and ICF, 2016).

Estonia: The potential costs of implementing the network were estimated in Gantioler et al. (2010) at approximately €54.1 million per annum. According to the Estonian 2014-2020 PAF, the financial needs for management of Natura 2000 amount to €405 million between 2014 and 2020 (i.e. approximately €58 million per year). The most recent estimate is a similar order of magnitude as the one in 2010 and includes studies, inventories, management planning, habitat restoration, management and monitoring, support payments, investments and land purchase, but excludes administration costs.

Finland: Finland reported estimated costs of €313 million for the period of 2014-2020 according to its PAF, which corresponds to €45 million annually (Milieu, IEEP and ICF (2016)). This is the same as the potential costs of implementing the network estimated in Gantioler et al. (2010) at approximately €45 million per annum.

Germany: The cost estimate of €620 million per annum provided by Gantioler et al. (2010) compares to the German 2014-2020 PAF estimates of €627 million per year. Given the overall Natura 2000 area of 8,083,224 ha in 2014, including a terrestrial area of 5,503,033 ha, this amounts to costs of €77 - 114 per hectare per year. Some of these costs meet national requirements and would arise without the EU nature directives.

Greece: The total funding needs for the programming period 2014-2020 were estimated at €685 million in the Greek PAF (Greece, 2014). This represents around €97.8 million annually, an estimate that compares closely to the Gantioler et al. (2010) estimate of €97.1 million per annum. Around 70% of the total expenses are recurrent costs.

Hungary: In the 2014-2020 PAF, Hungary estimated the costs linked to Natura 2000 and Water Framework Directive Payments at around €153 million (planned for the whole period 2014-2020). This figure is much less than the Gantioler et al. estimate of €180 million per annum.

Romania: Romania's 2014-2020 PAF estimates the cost for the Natura 2000 network at a minimum of €413 million, or €183/hectare/year. The costs of an optimal level of management would be €504 million (€223/ha/year). Romania did not respond to the survey used to inform the Gantioler et al. report.

These figures do not allow a comprehensive comparison with the Gantioler et al. estimates, but are generally

of a similar order of magnitude. There are some differences for particular Member States – in some cases the PAFs have provided lower estimates and in some cases higher ones. As highlighted by Gantioler et al. it is clear that the estimates are sensitive to the assessment methods and assumptions employed.

Source: Gantioler et al. (2010) and questionnaires submitted to the nature directives fitness check[3]

Financing needs of wider EU biodiversity priorities

Key conclusion

Achieving wider EU biodiversity targets requires substantial additional funding on top of that required to be allocated to the Natura 2000 network.

As well as the Natura 2000 objective (Target 1, above), the EU Biodiversity Strategy to 2020 sets out five other targets related to the maintenance and restoration of ecosystems and their services (Target 2), the role of agriculture and forestry in maintaining and enhancing biodiversity (Target 3), the sustainable use of fisheries resources (Target 4), tackling invasive alien species (IAS) (Target 5), and averting global biodiversity loss (Target 6).

Various studies have attempted to provide an estimate of the level of funding required to deliver the various commitments and targets under the EU Biodiversity Strategy. The key conclusions of these studies are outlined below. In general, the various estimates of the funding needs for implementing wider biodiversity priorities suggest that associated costs are often much larger than the costs resulting from implementing Natura 2000 alone. Overall estimates differ in their definitions and assessment methods, and no precise estimate is available for overall biodiversity funding needs at EU level. However, the available evidence suggests that total funding required to meet biodiversity targets is likely to be at least double that needed for Natura 2000 alone (Kaphengst et al. 2011), and probably several times higher (Tucker et al. 2013, Hart et al. 2011).

Kaphengst et al. (2011) estimated the overall costs of EU biodiversity and ecosystem policy as set out under the previous EU Biodiversity Action Plan. This included broad estimates of the overall costs of implementing Natura 2000, national (terrestrial) protected areas, species conservation, conservation and restoration of high nature value farmland (HNV), conservation and restoration of forest areas, wider environmental policy measures positively affecting biodiversity, EU strategy to combat invasive alien species and EU research on biodiversity. The study estimated that the combined cost of these different policy actions would amount to €10.6 billion per year. Roughly 50% of the total costs would result from the management of Natura 2000.

Target 2

A study by Tucker et al. (2013) estimated the additional costs of maintaining and restoring 15% of degraded ecosystems as set out by Target 2. The estimates were additional to the costs of existing measures and others that are expected to be taken up to 2020 under a reference scenario: Common

[3] http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm

Agricultural Policy (CAP) payments, and funding of EU Water Framework Directive (WFD) and Marine Strategy Framework Directive measures (MSFD). The study estimated the expenditures required in 2020, which include annual maintenance measures and the one-off costs of restoration and re-creation spread evenly over the 2010 to 2020 period. It was found that average total additional costs of maintenance, restoration and re-creation requirements for arable land, permanent crops, improved grasslands and semi-natural grasslands amount to €9.6 billion annually.

The maintenance of the ecological condition of all ecosystems was found to have an annual additional cost of €618 - 1,660 million. Observed variations were explained by the size and type of area at play and the relative need for management measures (in different areas and Member States). It was found that the highest maintenance costs are for arable and forest ecosystems, requiring approximately €220 to 556 million and €196 to 488 million respectively. In contrast, there are no additional maintenance costs for lakes and rivers up to 2020 because it is anticipated that measures required under the WFD to maintain the condition of water bodies will be sufficient to achieve Target 2 maintenance needs. The study did not make a clear distinction between degraded ecosystems within and outside the Natura 2000 network, and the estimates are therefore likely to overlap with Natura 2000 costs.

Another study by ICF et al. (2012) estimated that the cost of green infrastructure restoration averages €3,900 per hectare across the EU, without estimating the overall level of green infrastructure restoration required under the Biodiversity Strategy.

Target 3

A study estimating the costs of meeting the environmental needs associated with agricultural and forestry land use found that €34 billion per year would be needed for maintenance, restoration and re-creation requirements on arable land, grassland and permanent crops until 2020 (Hart et al. 2011). This sum relates to both Natura 2000 and non-Natura 2000 areas, and includes wider environmental priorities as well as biodiversity, therefore exceeding the above estimation of the costs of meeting Target 2 by a factor of 3 (Tucker et al. 2013).

Kaphengst et al. (2011) estimated the costs associated with HNV forestry in the EU27 to be €1.5 billion per year for 40 million hectares. Applied to the total area of semi-natural forest in the EU-27 of 150 million hectares, these costs were found to reach €4.5 billion per year. However, according to Hart et al. (2011), this figure is likely to be an overestimate.

Beaufoy and Marsden (2010) calculated the funding needed under pillar 1 of the CAP to maintain the economic viability of HNV farming systems. Their study suggested that expenditure of €16 billion per year was necessary to maintain HNV farming systems in all Member States, which corresponds to an average payment for HNV farming of €200/ha per year over an estimated HNV farmland area of 80 million hectares (likely to be a significant overestimate of the actual HNV farmland area).

Target 4

Target 4 of the Strategy relates to the achievement of sustainable fisheries. No dedicated estimates for achieving this target are available. However, the EU is attempting to achieve this through reforms to the Common Fisheries Policy, which do not necessarily require increased budgetary expenditures or give rise to additional financing needs.

Target 5

ICF et al. (2012) estimated that the annual costs of action for IAS in the EU27 would range from €40 million to €193 million depending on the scale of activity implemented. The costings indicate that the majority of costs relate to staff time and overheads, and use a typical cost range of €40,000 – €75,000 per employee, which include not just salaries but also overheads and support costs (ICF et al. 2012).

Target 6

An estimate of the global resource requirements of meeting the twenty Aichi Targets was made by the High-Level Panel (HLP) on Global Assessment of Resources for implementing the Strategic Plan for Biodiversity 2011-2020. The Panel estimated that around US $150 to US $440 billion per year would be required to deliver the Aichi Biodiversity Targets globally. It was highlighted that upfront investment needs tend to be greater than the resources required to fund ongoing activities. The study also indicated that one-off investments account for between 60% and 70% of the overall global resource needs for delivering the Targets over the 2013 to 2020 period (HLP 2012).

While the EU contributes to the costs of achieving global biodiversity priorities, EU finance would only be expected to meet a small proportion of these overall needs.

3.2.2 Current EU funding for nature and biodiversity

Current EU funding for Natura 2000

Key conclusion

No current or precise estimate is available of current EU funding for Natura 2000 although the most recent assessments suggest that it meets at most 20% of the estimated costs of managing the network (e.g. restoration).

The integration approach for biodiversity financing stems from and is underpinned by the Lisbon Treaty on the Functioning of the EU (TFEU). Article 11 of the Treaty states that “environmental protection requirements must be integrated into the definition and implementation of all Union policies and activities, in particular with a view to promoting sustainable development”. EU case law has already established this so-called integration principle as a binding principle. The TFEU also provides legally binding force to the Charter of Fundamental Rights of the EU, which requires that a “high level of environmental protection and improvement of the quality of the environment must be integrated into the policies of the Union” (Art. 37).

In more concrete terms, Article 8 of the Habitats Directive commits the EU to co-financing the implementation of the Natura 2000 network. It calls on Member States to submit estimates of co-financing needs for the conservation measures required to meet the needs of priority habitats and

species, and for the Commission to work with Member States to identify measures requiring co-financing and allocate resources accordingly.

The EU 2014-2020 Multiannual Financial Framework offers opportunities for financing of biodiversity and Natura 2000 mainly through the following funds:

- LIFE instrument
- European Structural and Investment Funds
    - European Regional Development Fund (ERDF)
    - European Social Fund (ESF)
    - Cohesion Fund (CF)
    - European Maritime and Fisheries Fund (EMFF)
    - European Agricultural Fund for Rural Development (EAFRD)
- Horizon 2020 and related initiatives, including COST (European Co-operation in Science and Technology)

In addition to the above, biodiversity conservation in the EU is also supported by the European Agricultural Guarantee Fund (EAGF). The EAGF differs from the other funds in that, rather than supporting projects, it provides financial support for the agricultural sector as a whole, helping to sustain farming systems which may (or may not) support biodiversity. Certain conditions are attached to this support through cross compliance and the so-called "greening" measures. In this sense it is a rather blunter instrument that supports the agricultural sector as a whole and cannot be targeted at particular needs or priorities. Unlike the other funds, which employ a co-financing model, EAGF support is wholly financed through the EU budget.

Despite efforts to integrate Natura 2000 objectives into EU funds, it was estimated in 2011 that only approximately €1 billion a year of EU funding is allocated to the implementation of the network (EC, 2011b).

Kettunen et al. (2011) estimated the financial resources leveraged through the EU funds foreseen to be relevant for / benefiting Natura 2000 during the 2007-2013 funding period. Despite the difficulty of estimating the exact funding directly benefiting Natura 2000 under certain funds (e.g. ERDF), the study found that only a low level of EU financing, around €3.8 billion in total, was directly and specifically allocated to support the management of the Natura 2000 network during this period (e.g. restoration needed to achieve favourable conservation status). This financing, amounting to around €550 million / year, comes mainly from the "most apparent / relatively dedicated funding lines"[4] for Natura 2000 and biodiversity. Over the whole period, around 20%, or €750 million, of the budget originated from LIFE Nature & Biodiversity; 15%, or €573 million, from the Natura 2000 payments related to the European Agricultural Fund for Rural Development (EAFRD); and 65%, or €2,526 million, from the European Regional Development Fund (ERDF) category 51 for biodiversity and Natura 2000[5]. When other funding instruments with a more indirect support to Natura 2000 are taken into account (e.g. EAFRD agri-environment payments, European Fisheries Fund – Axis 3), total

[4] These measures are LIFE+ Nature & Biodiversity, EAFRD Natura 2000 payments and ERDF category 51

[5] More recent estimates provided by the Commission give a figure of €2,546 million from two categories 51+55, and from both ERDF and CF

(direct and indirect) financial allocations from Natura 2000 under the EU budget are estimated at between €550 – 1150 million / year.

Some specific findings relating to the individual funds are presented below (Box 3.2).

Box 3.2 Estimates of support for Natura 2000 and wider biodiversity priorities under different EU funds

EAFRD: Kettunen et al. (2011) estimated that EU funding for dedicated Natura 2000 management payments amounted to €574 million over the 2007 to 2013 period, an average of €82 million per year. In addition, they estimated that perhaps one quarter of broader agri-environment payments, amounting to EU funding of €5,443 million over the seven year period, or €777 million per year, could have contributed to Natura 2000 management. These figures refer to EU funds only, and are supplemented by Member State co-financing. Rates of co-financing vary and tend to be lower for the lower income Member States. Overall rates of Member States co-financing averaged 41% for agri-environment payments and 36% for Natura 2000 management payments over the 2007-2013 period (Kettunen et al. 2011).

EFF: Total EFF commitments to support projects intended to protect and develop aquatic fauna and flora, such as the construction or installation of static or movable facilities, rehabilitation of inland waters or protection and enhancement of the environmental framework of Natura 2000, amounted to €56 million at the end of 2010 (EC, 2011e). In general, the contribution of EFF funding to Natura 2000 activities has been very modest, in the order of €2.8 million per year (Kettunen et al. 2011). Whilst the levels of Member State co-financing remain unclear, the EFF interim evaluation report indicated that low level of public co-financing from national sources is seen as an obstacle to the implementation of projects in Belgium, Sweden and UK (EC, 2011e).

ERDF and CF: For ERDF and CF, five budget categories contributed to biodiversity goals to varying degrees. Expenditures under category 51 (promotion of biodiversity and nature protection (including Natura 2000)) and category 55 (promotion of natural assets) had a direct impact on biodiversity, while categories 46 (water treatment (waste water), 49 (mitigation and adaption to climate change), and 56 (protection and development of natural heritage) also contributed to biodiversity priorities. The European Court of Auditors (2014), using Commission data, estimated that during the 2007-2013 programming period, Member States allocated €2.8 billion of ERDF funds (approximately €400 million per year) to promote biodiversity and nature protection (including Natura 2000), some 0.8% of overall ERDF funding over the period.

LIFE: The estimated EU funding under LIFE to support biodiversity and nature in 2007-2013 was around €750–837 million (around €107–120 million/ year, actual and planned allocations respectively), as per Kettunen et al. (2011). This represented around 35-39% of the total LIFE budget. In comparison, for the 2014-2017 funding period, the estimated planned LIFE contribution to biodiversity and nature will be around €610 million (around €153 million/ year). This represents only 2.6% of estimated Natura 2000 funding requirements, while LIFE also supports nature and biodiversity priorities outside the Natura 2000 network. Overall, LIFE funding represents less than 1% of the total EU budget (Milieu, ICF, and IEEP, 2016).

Horizon 2020: Biodiversity related actions can potentially be funded by a wide range of expenditure lines across the Horizon 2020 budget, including through each of the three priorities of "societal challenges", "industrial leadership" and "excellent science". Analysis by DG Research and Innovation has applied the Rio markers to analyse biodiversity-related expenditures in the annual programme statements. The analysis identified three lines of expenditure considered to be significantly biodiversity related: two Societal Challenges (Food Security, Sustainable Agriculture, Marine and Maritime research and the Bio-economy; and Climate Action, Environment, Resource Efficiency and Raw Materials) as well as the Non-Nuclear Direct Actions of the Joint Research Centre. The analysis estimated that biodiversity-related expenditures amounted to €269 million in 2014 and €278 million in 2015, comprising just less than 3% of the Horizon 2020 budget. No separate analysis for Natura 2000 is available.

Current EU funding for wider biodiversity priorities

Key conclusion

The amount of EU funding potentially benefiting biodiversity – either directly or indirectly – appears to be much larger than that allocated to the implementation of the Natura 2000 network. However the extent to which funding contributes towards the EU's specified biodiversity priorities and targets is not clear.

The EU has committed around €420 billion to support "sustainable growth: natural resources" under its 2014-2020 Multiannual Financial Framework (MFF). However, only a small proportion of this sum is currently allocated to biodiversity priorities.

To allow for a more explicit estimate of EU's biodiversity related expenditure, a study for the European Commission (Medarova-Bergstrom et al. 2014) developed overall guidance for tracking biodiversity expenditures in the EU budget based on the application of the Rio-markers methodology, as well as specific guidance for assessing biodiversity-relevant expenditures for particular funds. This methodology seeks to quantify biodiversity related expenditures by identifying those expenditure items or which biodiversity is a principal objective (for which a 100% weighting factor is applied), significant objective (40% weighting factor) or not a significant objective (0% weighting factor). There are significant challenges in applying this methodology in practice, in part as a result of simplicity. For example, the overall estimates of biodiversity-relevant expenditure are very sensitive to the treatment of particular expenditure lines (such as Pillar 1 of the CAP, which accounts for 75% of expenditures under the "sustainable growth: natural resources" commitment), about which there has been much debate among stakeholders. On the basis of the current methodology employed, Pillar 1 of the CAP is estimated to contribute biodiversity relevant expenditures of more than €6 billion in 2016 (European Commission, 2016)[6].

Some estimates are available using this methodology for specific funds – for example the joint contribution of the ERDF and Cohesion Fund to biodiversity-related expenditure[7] was estimated to amount to 3.6% (or €7,476 million) of overall expenditure by these funds in the 2007 to 2013 period.

Unpublished estimates submitted to the CBD put EU biodiversity-related expenditures in the draft 2016 EU budget at €13.6 billion, including expenditures from EAFRD (€5.3 billion), EAGF (€6.1

[6] In the Draft Budget 2016, with the new direct payments schemes fully implemented, the contribution to biodiversity is calculated as follows:
- for the payment for agricultural practices beneficial for the climate and the environment (budget item 05 03 01 11, the so-called "greening" measures) a Rio marker of 40% is applied;
- a Rio marker of 40% is applied to 10% of the remaining direct payments taking into account cross-compliance (i.e. 4% of budget chapter 05 03 Direct payments without payment for agricultural practices beneficial for the climate and the environment).

[7] This includes categories 46, 49, 51, 55 and 56.

billion), ERDF (€0.8 billion), CF (€0.7 billion), EMFF (€0.2 billion) and Horizon 2020 (€0.2 billion)[8]. These figures suggest that EU funds are capable of delivering substantial levels of funding for biodiversity. However, they are based on estimates of biodiversity-related expenditures, and do not therefore necessarily correspond to identified biodiversity needs. For example, expenditures under pillar 1 of the CAP and investments in wastewater treatment financed through Cohesion Policy, though they may contribute to biodiversity objectives, may not correspond to the types of activities included when assessing biodiversity expenditure needs.

A subsequent study for the European Commission applying the Rio markers methodology to track biodiversity expenditures in the EU budget has yet to be published.

These findings relating to funding gaps are reinforced by those of the N2K Group (2016), which found that integration of Natura 2000 and biodiversity into EU funding programmes in the 2014-2020 period is variable, with in general better integration into the RDPs than in the OPs funded by ERDF, CF and ESF. The report concluded that the exact allocation of resources to Natura 2000 is difficult to know, especially in the RDPs as funding allocations are usually defined at measure level, while Natura 2000 is often covered by sub-measures or specific operations. In contrast, the OPs to be financed by the ERDF and the CF provide more precise information on the EU contribution foreseen under relevant categories of intervention (biodiversity and Natura 2000). A preliminary estimate of total resources contributing to Natura 2000 and biodiversity conservation in six countries with available data indicates that in all but one the resources are not sufficient to cover the financial needs identified in the PAFs for Natura 2000 for 2014-2020 (Figure 3.1). Inclusion of needs for wider biodiversity priorities would increase this gap.

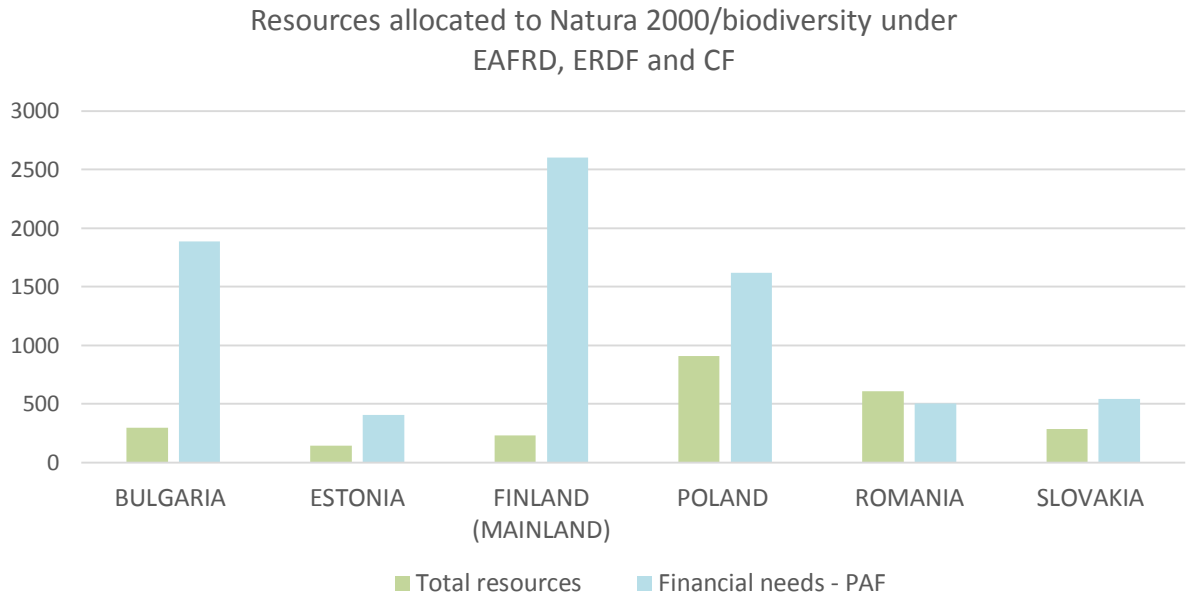

Figure 3.1 Estimate of total resources allocated to Natura 2000 and biodiversity and financial needs estimated in the PAF for Natura 2000. Only those countries where the resources allocated to

[8] Unpublished figures provided by the European Commission

Natura 2000/biodiversity under the different funds analysed could be estimated are represented. (Source: The N2K Group 2016)

The report by the N2K Group also found that:

- The RDPs analysed include specific measures for Natura 2000 sites/species/habitats or alternatively measures with a broader scope that are highly relevant for the network and which can also be implemented outside Natura 2000. However, often the planned measures do not seem to cover all the needs identified in the PAFs for all habitats and species of Community interest that require conservation or restoration actions related to agriculture or forestry.
- The OPs under the ERDF and CF cover part of the needs identified in relation to capacity building for management of the network, monitoring of conservation status of habitats and species and some restoration actions, in particular for freshwater habitats (rivers, wetlands) although these are not always identified as habitats of Community interest or in Natura 2000 sites.
- Some important gaps and shortcomings were detected, in particular regarding forest conservation measures that are highly relevant and necessary for Natura 2000 (50% of the Natura 2000 land territory is covered by forest) and which are poorly used in the RDPs or are not properly focused on Natura 2000 or on the conservation of relevant habitat types and species.
- The use of training, education and advice specifically addressed to Natura 2000 or relevant biodiversity issues has been relatively low. Although these kinds of measures are included in many of the programmes considered, only in a few cases are the measures targeted at Natura 2000 or at the conservation of relevant habitat types and species.

A current example of the use of EU funds to develop management instruments for biodiversity is the Natural Capital Financing Facility. This new facility, co-financed by the Commission through EU LIFE funding and the European Investment Bank, provides finance for loan and equity investments in natural capital projects. The NCFF is currently in a pilot phase and aims to demonstrate that natural capital projects are capable of generating revenues and/or cost savings, and thereby repaying an investment. Four categories of projects will be financed: payments for ecosystem services, biodiversity offsets, green infrastructure projects and pro-biodiversity/ adaptation business models. The NCFF will provide finance of € 100 – 125 million for 2015-2017. If successful in its pilot phase, the NCFF will inform the development of new ways of financing natural capital projects and thereby help to lever additional resources for biodiversity over time.

3.2.3 Analysis of evidence of the adequacy of current funding levels

Adequacy of current funding for Natura 2000

Key conclusion

The existing evidence indicates that funding at EU and national level is currently insufficient to meet the costs of implementing (i.e. managing and restoring) the Natura 2000 network.

LIFE funding comprises only 2% of Natura 2000 requirements, and in practice even less considering that the LIFE fund supports nature and biodiversity priorities outside of the Natura 2000 network (Milieu, IEEP and ICF 2016). The limited scale of dedicated funding for nature highlights the importance of the integration of nature and biodiversity objectives into other EU funds.

The assessment by Kettunen et al. (2011), though only providing a rough approximation, found that annual EU funding for the implementation of Natura 2000 corresponded to only 9-19% of the required financial needs estimated by Gantioler et al. (2010).

While it is intended that the EU budget covers only a proportion of the total funding needs for Natura 2000 and biodiversity, and precise estimates of Member State funding are not available, Kettunen et al. concluded that the latter are likely to be far from sufficient to close the identified funding gap. Experience in implementation indicates that, while Member State authorities and NGOs do provide significant levels of finance for Natura 2000, the overall level of resources allocated are insufficient to meet the costs of implementation (Kettunen et al. 2011).

The above conclusion is also supported by some available assessments at the national level. Some available studies, national PAFs and national responses to the evaluation study of the nature directives fitness check provide a few estimates of the expenditures made by the Member States to support the Natura 2000 network (Box 3.3). A comparison of the funding needs estimated by the Gantioler et al. study (2010) and the expenditures reported by the PAFs and the questionnaire responses from the nature directives fitness check evaluation study suggests a widespread funding shortfall. In Bulgaria, for example, the annual expenditures for management of Natura 2000 areas during the period 2004-2009 (€6.2 million / year) contrast with the annual needs reported under the questionnaire responses (€131.8 million / year) and those estimated by Gantioler et al. (2010) (€154.8 million / year). A similar situation is observed in Greece where the funding needs estimated exceed current annual expenditures by a factor of 5. There is also evidence of funding gaps in Ireland, Slovenia and Slovakia. Among other things Member States report shortages of funding for core staffing and specific species and habitat management measures (e.g. restoration, landscape scale measures, monitoring and ongoing management).

Box 3.3 Natura 2000 - national expenditures and funding gaps

Bulgaria: In Bulgaria, the total annual expenditures by the national authorities on management of the Natura 2000 areas during the period 2004-2009 were €6.2 million. This comprised annualised one-off costs of €0.6 million for management and investment and recurrent costs of €5.5 million/year for management planning,

habitat management and monitoring and staff costs (EC, 2015). It contrasts with the annual needs reported by Gantioler et al. of €131.8 million / year).

Hungary: In its questionnaire responses to the Evaluation study of the nature directives fitness check, the Hungarian Ministry of Agriculture reported that implementing Natura 2000 during the period 2007-2013 involved compensation payments for farmers and the forestry sector amounting to €57 million and €55 million respectively. This is complemented by maintenance planning costs of €2 million for the same period. Total financial needs estimated in the questionnaire responses used to inform the Gantioler et al. report amounted to some €180 million per annum.

Ireland: While the potential costs of implementing the Natura network were estimated at approximately €185 million/year in 2010, effective allocations are far smaller in practice and nationally-funded programmes had budgets reduced incrementally between 2008 and 2014. For example, Natura 2000 expenditure by the Department of Agriculture Food and the Marine under Ireland's Rural Development Programme (RDP) 2007-13 was approximately €95 million, or about €13.6 million per annum. In addition, in 2012, the Department of Arts, Heritage and the Gaeltacht spent €5.4 million on agri-environment measures and €3.9 million on science and species protection programmes. The requirements for baseline studies and monitoring are substantial – especially for marine areas - and not readily met from EU funds. Other costs included €3.4 million for compensation and relocation of turf cutters in raised bogs, and €1.2 million for scientific studies and management/restoration planning on raised bogs.

Greece: For the period 2010-2014, administration and management costs related to protected areas amounted to around €18 million per year. Funding for the implementation of the two Directives comes mainly from national funds and co-funding projects. Life-Nature has also contributed a lot, particularly as regards on site management (EC, 2015). Gantioler et al. estimated annual financial needs at €97 million annually, i.e. more than five times current expenditures.

Slovenia: In its questionnaire responses to the evaluation study of the nature directives fitness check, the Slovenian authorities report that in the period 2007– 2012 €9,650 was spent for forest artificial regeneration and €220,675 for management works (maintenance of shrubs, feeding grounds and water resources; and planting of fruit-bearing vegetation). Expenses of €32,428 were incurred for specific measures, such as preservation of biotopes (logging for specific ecological needs of qualifying species and habitat types, natural development of biotopes, leaving dead wood, placing nesting structures) (EC, 2015). Estimates for other habitats are not available, but the questionnaire responses reported by Gantioler et al. put annual financial needs at €25 million.

Slovakia: Resources allocated (before co-financing) are far less than the needs estimated by the Slovakian PAF, which put the costs of managing Natura 2000 in the 2014-2020 period at €543 million. In contrast resource allocations include €25.5 million from the structural funds, almost €19 million from LIFE and €3.8 million from Swiss and Norwegian financial mechanisms. These figures do not include contributions from the RDP or national resources. Given that Slovakia acceded to the EU with relatively well-preserved biodiversity, there is a limited need for restoration and the costs of maintenance are considered to be relatively low.

Spain: A review by Moreno et al. (2013) estimated the costs of managing Natura 2000 in Spain to range between € 944–1,557 million (€ 69–114/hectare), with the former representing the current level of investment and the latter the estimated spending required to ensure adequate management of the network across different regions in Spain in 2007. This national estimate was based on the actual investment in, and estimated needs for, the management of the Natura 2000 network. The difference between the estimated current investment and the desired level of spending indicates a funding gap of around €0.6 billion annually. The estimates by Moreno et al. (2013) are in line with the estimate provided by the Spanish PAF, which estimated funding needs of €1,315 million for Natura 2000 in 2012.

Source: Evidence gathering questionnaires submitted to nature directives' fitness check

While noting these funding gaps, evidence submitted by national stakeholders to the evaluation to support the nature directives fitness check highlighted the important role of EU funding in financing the network, and the role of the Directives in leveraging additional funding for nature conservation at national level. However, 79% of respondents (63 responses) stated that (lack of) funding is a constraint for successfully implementing the Directives, while 48% (38 responses) expressed the view that EU funding nevertheless supports their implementation.

Overall, the analytical synthesis of the fitness check concluded that the availability of funding is both a constraint and a support for the implementation of the EU nature directives. The Directives and related co-funding from the EU budget have enhanced the delivery of overall funding required for nature conservation in the EU, and, without them, finance for site, habitat and species conservation would have been considerably reduced. This is particularly the case in many of the Southern, Central and Eastern European Member States, where EU funds have brought new finance for conservation actions in pursuit of the objectives of the Directives. However, both a severe shortage of funding and different constraints in uptake of EU funding inhibit progress towards the objectives of the Directives. Furthermore, the availability of public funding is likely to have had a significant influence on the implementation of the Directives. Funding constraints on authorities have affected the establishment of the Natura 2000 network, as well as other important actions, such as establishing incentive/compensation measures for landowners, stakeholder engagement, management planning, permitting and enforcement measures (Milieu, IEEP and ICF 2016).

Adequacy of current funding for broader biodiversity conservation

Key conclusion

Available evidence at national level suggests that there are also significant funding gaps with regard to wider biodiversity priorities.

No EU-wide assessment is currently available comparing current levels of biodiversity expenditure with identified needs to deliver EU biodiversity priorities or targets. However, several national studies indicate that current levels of funding are currently insufficient to meet biodiversity financing priorities within the Member States.

For Germany, a study by Hampicke (2009) investigated the costs of reaching the German biodiversity targets in agricultural areas through different management regimes. These include the maintenance of semi-natural landscapes and extensive grassland, the extensification of 10% of the land under intensive grassland management, the protection of arable flora on low yielding arable land and 7% of land to be "structural elements". Their study suggested a gap between the estimated annual funding needs of €1.5 to 1.8 billion and the current annual €1.25 billion funding available under EAFRD for similar management in Germany to achieve the German biodiversity targets in agricultural areas (Hampicke, 2009). The funding gap for financing biodiversity targets (including targets related to the management of Natura 2000 areas) was estimated to amount €1.96 billion by Rühs & Wüstemann (2015), compared to cost estimates of €3.26 billion.

For the Netherlands, a study by Overmaers/van Zeijts (2010) assessed the area and budgetary requirements to fulfil the needs for biodiversity protection in agricultural areas, according to the Dutch national biodiversity targets. The management practices assessed consisted of those needed for the conservation of meadow, other farmland birds, and wild flora. The study estimated that, if

applied to either the core areas (8.6% of utilized agricultural area (UAA)) or more widely across the farmed countryside (22.4% of UAA), reaching these biodiversity targets would result in total costs of €111 million/yr (€711/hectare) or €326 million/year. This appears to exceed current allocations through the agri-environment budget for the period 2007-2013, calculated by Tucker et al. (2013) at only €41.2 million (EU and Member States co-financing included) (Tucker et al. 2013; Interwies et al. 2013).

For the UK, Cao et al. (2009) conducted a study to estimate the full range of environmental needs meeting UK's environmental targets for "biodiversity, landscape, climate change mitigation, flood risk management, farmland historic environment, soil quality, water quality, resource protection and public access". The study, which is based on the established UK targets and current agri-environment payment rates, assumes management on all 16.2 million hectares of agricultural and forestry land in the country. The results estimate total costs to reach €1,986 billion/year, which is three times the existing annual agri-environment budget. It is stated, furthermore, that costs are probably significantly underestimated (Hart et al. 2011).

Further to the above, GHK (2010) conducted a study specifically aiming at estimating the costs of delivering the UK Biodiversity Action Plan for the period 2010 to 2020. While the costs of delivering the UK BAP were estimated at £837 million per annum between 2010 and 2015 current expenditures on UK BAP action were found to be at £564 million per year in 2010/11. This suggested a shortfall of £273 million in annual expenditure required to meet BAP priorities (GHK, 2010).

3.3 Suitability of current funding arrangements

3.3.1 Factors affecting the suitability of EU funding for nature and biodiversity

Key conclusion

In addition to the documented funding gap, EU funding for nature and biodiversity is also constrained by a number of other factors that restrict the allocation of finance to identified priorities.

In considering the adequacy of current funding arrangements, it is important to examine not just the overall level of EU finance provided, but also a range of other factors which determine the suitability of current funding provision to EU conservation needs.

Key factors to consider include:

- The degree to which current funding possibilities align with priorities for biodiversity action;
- The structure and timing of available funding;
- The locational allocation of funds (EU-12 v. EU-16; more developed regions v. less developed regions, Member States v. regions);
- The specific limitations attached to different EU funds, with respect to their objectives and eligibility criteria (e.g. ESF focus on social and labour market aspects, EMFF focus on marine and fresh water areas).

For example, the Gantioler et al. (2010) estimates of financing needs suggest that the largest financing requirements for the Natura 2000 network relate to ongoing habitat management actions, for which some EU funds (e.g. EAFRD) are better suited than others (e.g. ERDF and CF). On the other hand, priorities for habitat restoration and green infrastructure provision under Target 2 of the EU Biodiversity Strategy are well suited to capital funding under LIFE and ERDF / CF.

In general, the existing evidence indicates that the availability and uptake of funding for Natura 2000 and wider biodiversity priorities is constrained in several ways. Of the funds with available support for nature and biodiversity priorities, only the LIFE programme is primarily focused on supporting biodiversity and Natura 2000 (Milieu, IEEP and ICF, 2016), while others are targeted at other EU goals which may interfere with their ability to prioritise or integrate biodiversity conservation. For this reason, a number of respondents to the public consultation for the fitness check of the nature directives expressed a belief that the integrated funding approach is delivering insufficient finance for Natura 2000, and that there is a need for a dedicated Natura 2000 EU fund (Milieu, IEEP and ICF, 2016) (See Chapter 5 for preliminary discussion on this).

Reasons identified by experts and/or reported by beneficiaries of different funds for the observed low uptake of EU funds for Natura 2000 and wider biodiversity conservation have included the following (e.g. ECA, 2014; Milieu, IEEP and ICF, 2016):

- Thematic mismatches, for example due to funds prioritising goals other than biodiversity;
- Lack of sectoral integration, i.e. difficulties in linking biodiversity issues to national sectoral priorities and broader EU fund goals;
- Competition between different policy goals, caused by the Member States failing to prioritise Natura 2000 investments, perhaps due to a deficient understanding of their potential contributions to regional goals;
- Eligibility gaps, where activities most in need of financial support (such as ongoing management actions) are not eligible for EU funding;
- Insufficient consultation with the authorities responsible for Natura 2000 management when preparing operational programmes and allocating money;
- Slow progress with Natura 2000 site designations and management plans;
- Lack of capacity, know-how, and expertise in accessing EU funds, especially among conservation organisations that may wish to develop stand-alone projects;
- Difficulties in finding matched funding for EU grants;
- High administrative burdens; and
- Potential future budget cuts to funds, for example to the EAFRD, increasing competition between different policy goals.

The above factors mean that even where funding is available in theory, it may not be allocated to biodiversity priorities in practice, or may be difficult for beneficiaries to access. Several of the factors listed affect the uptake of available funds – including capacity constraints, administrative burdens and difficulties in finding matched funding.

3.3.2 Alignment of funding priorities and conservation objectives

Key conclusion

While examples exist of the integrated funding approach leading to the integration of biodiversity into sectoral funding steams, mismatches between conservation objectives and other funding priorities are a constraint to effective financing of nature and biodiversity. The requirement to align biodiversity financing with overall EU policy objectives, sector specific regulations and country specific priorities creates barriers for the take up of funding at several levels, including both EU and Member States managing authorities and potential beneficiaries. The resulting lack of integration is one of the key reasons underpinning the lack of concrete financing observed in section 3.2 above.

The integrated approach to financing Natura 2000 was chosen in order to ensure that protected site management remains part of more general EU funding priorities (European Commission, 2011). This approach has shown some promise: funds have upheld the legal obligation to provide financial support to biodiversity conservation (Milieu, IEEP and ICF, 2016); uptake under the integration approach has been substantial; and several Member States have indicated that the financial support channelled through the funds is essential to achieving biodiversity objectives, especially in the context of the financial crisis (European Commission, 2011; Milieu, ICF and IEEP, 2016). Survey responses to the fitness check of the nature directives have further indicated that across the EU, EU funds have significantly increased finance for conservation actions; for example, representatives from the Netherlands have suggested that without the nature directives and their co-funding, nature expenditure would be €200 million less per year (Milieu, ICF and IEEP, 2016).

The integration approach subjects funding applications to compliance with the specific objectives and rules of the funding instruments (Kettunen et al. 2014a). Other than LIFE, there are no funding streams that directly target Natura 2000 or conservation. In practice, this means that potential financing opportunities are restricted by overall EU policy objectives, sector specific regulations, and country specific priorities as reflected in national and regional fund-specific programmes (i.e. operational and rural development programmes) (Kettunen et al. 2014a). Potential projects must support not only the EU's general policy objectives but also those of the specific funds in question: for example, habitat restoration is limited to rural areas under the EAFRD rural development programmes (RDPs), to marine and coastal areas under the EMFF, and to cases in which it fulfils broader regional development objectives under the ERDF. Even where a project meets the objectives of a particular EU fund, it must also meet domestic objectives, as fund allocations are granted to Member States individually and then managed nationally or regionally according to sectoral priorities. The resulting funding programmes have often lacked general integration with biodiversity and Natura 2000 objectives (Milieu, ICF and IEEP, 2016): for example, the ECA (2014) found that ERDF operational programmes and financial allocations were created without sufficient consultation and involvement of the authorities responsible for Natura 2000.

Several factors contribute to this lack of integration. Managing authorities responsible for individual funds and programmes and Natura 2000 management authorities are generally separate entities without proper levels of communication and integration of goals: authorities responsible for Natura

2000 management and biodiversity conservation are not those making the decisions on allocation and spending under different sectoral funds (Kettunen et al. 2011; Milieu, ICF and IEEP, 2016). In many cases, fund managing authorities do not understand the importance of biodiversity to socio-economic outcomes (Kettunen et al. 2014a), while in other cases, potential applicants are unaware of opportunities (McNeil and Haines, 2015). Furthermore, partnership agreements between the EC and Member States, which establish country specific agreements regarding the priorities for the use of the ESIFs, may further complicate integration, especially where biodiversity is not prominent within the identified priorities. For example, while most of the summaries of the Partnership Agreements mention biodiversity among the country priorities, particularly in relation to EAFRD, some do not (e.g. Austria, Belgium, Hungary, Poland, Portugal and UK), suggesting it does not feature prominently among the country priorities for the ESIFs.

Failures of co-ordination and a lack of earmarking of funding mean that Natura 2000 financing depends on political goodwill in different sectors, making it vulnerable to both intentional and inadvertent under-allocation. Gantioler et al. (2010) and Kettunen et al. (2011) suggest that Natura 2000 management financing under EU funding instruments often loses to these other sectoral priorities, such as rural and regional socio-economic development, transport infrastructure, energy installations, support for SMEs, and so forth. (Kettunen et al. 2014a). Competition is aggravated by the fact that Member States are not obliged to allocate resources to Natura 2000 or biodiversity (Milieu, ICF and IEEP, 2016), although the EAFRD has partially mitigated this issue by requiring Member States to spend 30% of total contributions to each RDP on climate and environmental issues (Kettunen et al. 2014a). As a result, EAFRD integration of Natura 2000 has been relatively more successful than ERDF or other funding (The N2K Group, 2016) (Box 3.4).

Box 3.4 Integration of biodiversity objectives into the EAFRD, ERDF, ESF and the Cohesion Fund

The N2K Group (2016) undertook an analysis of the integration of biodiversity objectives into EU funding programmes in the 2014-2020 financing period. They found that RDPs have improved their integration of biodiversity priorities compared to previous programmes, and include measures that can be used directly for Natura 2000 conservation as well as for conservation activities outside the network. RDP agri-environment and climate measures have been used for Natura 2000 and biodiversity conservation, in particular grasslands and meadows, and conservation measures are included under farmland investments that focus on habitat restoration. However, some deficiencies remain: use of conservation-related measures in forest areas is lacking, and even where used, they are often not linked to the conservation of habitats or species of Community interest.

Furthermore, uptake is still insufficient: the RDPs do not fully cover the needs identified in the PAFs, and they have not explicitly dictated parameters for achieving biodiversity and conservation goals, e.g. the use of forest measures to improve habitat and species conservation status, or to improve monitoring and evaluation.

Integration of Natura 2000 and biodiversity targets into CF and ERDF OPs is also quite poor, and non-existent in several cases. ESF programmes have provided little attention to nature and biodiversity issues, although there are a handful of examples of relatively good integration and use of EU funds.

Lastly, a survey by environmental NGO EEB found that landscape-scale measures to improve general environmental quality were notably under-funded (EEB, 2011).
Source: The N2K Group (2016)[9]

[9] The N2K Group (2016) Integration of Natura 2000 and Biodiversity into EU Funding (EAFRD, ERDF, CF, ESF) Analysis of a selection of programmes approved for 2014-2020

3.3.3 Accessibility and usability of available funding

Key conclusion

Eligibility criteria for funded activities and beneficiaries, limited availability of co-funding at national level and poorly specified financing requirements may constrain access to and uptake of available funding by stakeholders.

Eligibility gaps between activities required for maintaining the network and those qualifying for EU funding have been major hindrances to accessibility. Estimates indicate that the ongoing costs of land management and restoration account for a large proportion of Natura 2000 implementation costs: 98% of the annual Natura 2000 implementation costs estimated by Gantioler et al. (2010) relate to already designated sites, and 67% are recurrent annual costs. However, opportunities for using EU funds to establish and run management bodies or to monitor and manage Natura 2000 sites (including by establishing sufficient staff capacity and maintaining general landscape quality) appear relatively limited, and these areas exhibit the most significant funding gaps (Kettunen et al. 2011).

Gantioler et al. (2010) found that the EU structural funds prioritise capital investments and hard infrastructure rather than recurring costs such as management; LIFE focuses on one-off projects; and in general, flexibility for site-specific needs is not sufficient, resulting in cases in which certain habitat types, e.g. agriculture and/or forestry, are eligible (or ineligible) for funding. On the other hand, activities linked with one-off investments such as infrastructure are fairly well provided for despite only forming 33% of the annual costs estimated by Gantioler et al. (Milieu, ICF, and IEEP, 2016; European Commission, 2011; Kettunen et al. 2011).

Many activities required for the successful implementation of Natura 2000 also require the employment of publicly funded officials, an expense which is generally ineligible for EU funding (Kettunen et al. 2011). Similarly, relevant stakeholders such as municipal forests or forest owners are sometimes not permitted to apply for EU funding (Milieu, ICF and IEEP, 2016). Difficulties in securing enough matched funding to meet requirements may also restrict the level of demand (Kettunen et al. 2011), especially as most co-funding to date has appeared to come from public conservation budgets (Kettunen et al. 2014a). These difficulties may also manifest in the form of mismatches between funding priorities related to landscape types, due to Member States' conservation or other policies: for example, in Member States and regions with a significant proportion of their Natura 2000 network outside the forestry and agriculture sectors, options for accessing EU funds are limited (Kettunen et al. 2011) Kettunen et al. contrasted the situation in England, where it was estimated that 80% of the Natura 2000 was financed through the rural development programme, with that in Wales, where 70% of the Natura 2000 area comprised marine sites with much more limited funding opportunities.

The effective allocation of funding for Natura 2000 depends on clear definition of site management needs and associated financing requirements. Unclear definition of these needs is an identified constraint to effective financing across the EU (The N2K Group, 2016; Milieu, ICF, and IEEP (2016); Kettunen et al. 2011). For example, Kettunen et al. (2011) found that the slow development of Natura 2000 management plans for many sites has limited the evidence base for financial planning. This has been a particular problem in the marine environment, where uptake of EFF funding has been limited by slow progress in designation and management planning of marine sites.

3.3.4 Administrative issues related to accessing funding

Key conclusion

Administrative burdens, institutional constraints and timing issues can constrain access to funding by different stakeholders.

Substantial technical and resource requirements related to preparing and managing Natura 2000 projects have also been cited as a barrier to deploying funding (McNeil and Haines, 2015). Particularly notable are capacity constraints and administrative burdens for funding proposals, i.e. the time and resources required to complete long proposals with many technical requirements (McNeil and Haines, 2015). Other constraints have included a lack of capacity coupled with high administrative burdens for accessing funding; difficulties in establishing co-financing; difficulties in predicting outcomes such as economic benefits and thus in making the case for the project; difficulties in separating one-off and recurrent costs and therefore in estimating the scale and scope of necessary activities; and so forth (Kettunen et al. 2014a).

EU funding also often requires the establishment of partnerships between a range of stakeholders at a variety of levels, some or all of whom may not be typically involved in conservation actions (Kettunen et al. 2014a). The timing of fund availability and of funding applications, which usually occur on an annual basis, is often out of sync with many of these potential partners as well as the needs of conservation projects (McNeil and Haines, 2015). EUSTAFOR (2013) argued that existing funding arrangements should be adapted to better suit forest landowners, stressing the long-term nature of forest management planning and the inability of current funding instruments to address such timeframes.

3.3.5 Observations on individual funds' suitability to support for biodiversity

ERDF

Biodiversity projects funded by the ERDF have often involved the development of Natura 2000 management plans. As a result, the ECA (2014) found that ERDF-funded biodiversity projects generally matched national and EU level priorities fairly well. However, of 46 ERDF operational programmes in 10 Member States between 2007 and 2013, only 63% had a specific budget for biodiversity, despite 86% including it as an objective (Milieu, IEEP and ICF, 2016). The level of allocations was also consistently low, as 6 Member States allocated little or zero funding and, including these, 12 Member States allocated less than 0.2% of resources (ECA, 2014). On the other hand, 9 allocated between 0.2% and 1%; 4 allocated between 1% and 2%; and 2 allocated more than 2%. In the middle of the programming period, the Commission encouraged Member States to invest more in biodiversity and other sustainable development objectives, but only one Member State markedly increased ERDF allocations, in response to a call for proposals for projects beneficial to biodiversity. Two other Member States displayed limited increases, while seven in fact decreased. The latter was attributed to implementation problems, such as low responsiveness to projects, lack of preparation and difficulties in demarcating ERDF funding from other sources.

60% of respondents to the ECA's survey of ERDF managing authorities in Member States on ERDF financing for biodiversity indicated that ERDF funding was unused because funding from other EU and/or national sources was perceived as sufficient, and 30% were unsure about whether the ERDF was an appropriate vehicle due to lack of compatibility with, or limited influence on, overall regional objectives (ECA, 2014). This response seems to significantly contradict the evidence on the funding gap (section 3.2), possibly reflecting a lack of inter-sectoral awareness at the national level. The scope and design of national or regional development and operational programmes has prevented uptake for reasons similar to those mentioned above: biodiversity is not always a priority; conservation projects do not fit the expected profile of ERDF projects; Natura 2000 co-benefits such as ecosystem services are not well rationalised, and so forth. Furthermore, administrative issues exist, including difficulties in meeting administrative requirements, communications gaps between fund managers and applicants and complete ineligibility of conservation projects in certain geographical areas where ERDF prioritizes regional competitiveness and employment.

A requirement for at least 80% of total ERDF resources in developed regions to be allocated in 2014-2020 to a range of objectives unrelated to biodiversity and ecosystem services will likely aggravate these mismatches (The N2K Group, 2016).

EAFRD

Kettunen et al. (2011) highlighted the importance of EAFRD as a major provider of funds for Natura 2000 and biodiversity, on account of the large size of the fund and its ability to finance a wide range of actions, including through dedicated Natura 2000 payments and through broader agri-environment, forestry and other rural development measures.

Agri-environment schemes have been most common vehicle for using EAFRD funds for Natura 2000 (The N2K Group, 2016). Kettunen et al. (2011) estimated that 25% of funding for agri-environmental measures supports the Natura 2000 network. They also note that EAFRD Natura 2000 payments under the Natura 2000 measure form only a relatively small proportion of the fund's overall support for biodiversity, and that wider agri-environment schemes are an important source of funding. However, because of the multiple benefits of agri-environment schemes, it is difficult to estimate precisely how much funding they contribute to biodiversity objectives.

There is concern that budget cuts to the EAFRD for the 2014-20 funding period, particularly an approximately 50% reduction in agri-environment funding, and the targeting of the remaining funding to water quality schemes, will result in reduced support for biodiversity objectives in the current budgeting period (Milieu, ICF, and IEEP (2016).

EFF/ EMFF

Although in theory there appeared to be significant resources available for environment-related spending through the EFF in the 2007/13 funding period, these were not restricted to biodiversity, and uptake was modest (Kettunen et al. 2011). The establishment of marine Natura 2000 sites has not progressed as far as for terrestrial sites. As a result, funding needs have been insufficiently clear, and this appears to have been the main bottleneck to accessing EU EFF funding (Kettunen et al. 2011).

There is some indication of an increase in overall biodiversity spending through the EMFF in the current 2014-2020 funding period through the sustainable development funding stream, although the extent of such an increase is not yet clear.

LIFE

The major drawback of the LIFE fund is its small size (i.e. less than 1% of the EU budget). It is thus insufficient to meet Natura 2000 funding needs, even though 40% of its total funding is earmarked for biodiversity. However, the LIFE programme in general has been regarded as very efficient, with a good absorption rate, and as a strongly positive influence on Natura 2000 implementation. Some specific hindrances have been noted: difficulties in identifying co-funding possibilities, high administrative burdens of LIFE projects, and a lack of resources for proposals and administration for and of projects (Milieu, ICF, and IEEP (2016)). Additionally, the lack of resources forces the fund to prioritise best practices and innovation, excluding routine management activities from eligibility.

However, despite these shortcomings, the fund has been able to finance specific and targeted Natura 2000 conservation measures that would not be eligible for grants under the rules of other funds (Kettunen et al. 2011). Dedicated national structures to help access to LIFE funding (e.g. national funds for co-financing) can be of help.

3.4 Ecological effectiveness of EU funding for nature and biodiversity

Key conclusion

Assessing the overall ecological effectiveness of EU funding for nature and biodiversity is difficult, as a result of limited overall evidence and inadequacies in monitoring for most EU funds. However, there are numerous examples of effective EU funded conservation actions (especially LIFE projects and some agri-environment measures) that have achieved their operational objectives (e.g. in terms of research, protected area designations and management) and their overall aims in terms of impacts on the conservation status of habitats and species.

3.4.1 Assessment and monitoring of ecological effectiveness

Despite a broad existing literature dedicated to evaluating the economic costs and benefits of Natura 2000 and wider biodiversity policies, assessments of the ecological effectiveness and efficiency of specific funding programmes and funded projects have been limited. Although the total costs and/or benefits of EU biodiversity and ecosystem policy have been roughly estimated, there have been very few appraisals of specific EU funding for Natura 2000 and biodiversity objectives to date, and those that do exist do not evaluate the large-scale ecological effectiveness of the funds or include sufficient detail to evaluate projects' ecological performance.

One reason for these gaps in evidence is the limited monitoring of the ecological effectiveness of most funds, except for LIFE (See Box 3.5). Evaluations and evaluation methods of LIFE projects are comparatively more robust than those for projects funded through other funds, perhaps because the greater focus on biodiversity objectives is reflected in the monitoring and evaluation of the LIFE programme, whereas differences in the core objectives of other funds are reflected in the

measurement and reporting of their results and in the indicators used. However, even evaluations of LIFE projects do not consider overall ecological trends, and have not in the past systematically considered metrics such as the amount of area or number of species with an improved conservation status. As a result, it is difficult to evaluate the large-scale performance of EU funding and thereby to analyse the degree of improvement relative to the scale of the challenge. It should be noted that under the new LIFE programme (since 2014), the system of indicators has been improved, and is being applied retroactively and comprehensively to all LIFE Nature projects since 2007. This will go a long way to addressing these gaps in evidence.

Box 3.5 Deficiencies in monitoring provisions of EU funds

Projects supported by funds other than LIFE often appear not to have instituted effective monitoring and evaluation provisions in relation to impacts on biodiversity.

The ECA (2014) assessment of ERDF co-financing discovered that two-thirds of the ERDF's biodiversity projects assessed by the ECA conducted protection measures, but that successes were measured by physical output indicators (e.g. area reforested or protected), instead of results-based criteria (e.g. improved conservation status of habitats and species) and/or monitoring provisions. Project planning and monitoring also appeared to overlook relevant external pressures and factors, such as local development, that might influence outcomes.

Similarly, RDPs generally do not define biodiversity objectives, targets, and indicators that allow effectiveness to be monitored. For example, there is an indicator measuring the surface area and % of forest and agricultural land that will be under management contracts that support biodiversity by 2023, but the quality of these areas is not tracked, excepting a few instances. Other indicators that have been created, such as the surface area covered by agri-environment measures and/or Natura 2000 payments, or the number of operational actions undertaken, are also not optimal for result assessment (The N2K Group, 2016). RDPs do incorporate maintenance and restoration objectives for agricultural and forest habitats, but these do not always detail specific conservation priorities.

The Cohesion Fund follows a comparable pattern to the ERDF: some objectives, indicators, and targets have been included, but these mostly refer to the number of actions or the surface covered by actions, without assessing conservation status outcomes.

For EAFRD, the N2K Group (2016) found that, in the 2007-2013 period, there was a large number of indicators where no target had been set in the first place, so that no real performance level could be estimated in the mid-term evaluation. The report argued that appropriate targeting is essential to secure specific outcomes, and that improvements need to be made in the way that measures are targeted and their impacts measured. For example, their analysis of RDPs in the current programming period found that quantitative objectives, targets and indicators related to biodiversity and Natura 2000 are not properly defined in the RDPs analysed, and that this would not allow proper monitoring and evaluation of the programmes' outcomes. For example, for priority 4a: 'restoring, preserving and enhancing biodiversity, including in Natura 2000 areas, and in areas facing natural or other specific constraints and high nature value farming, as well as the state of European landscapes', the programmes analysed included indicators of the surface and % of agricultural and forest land under management contracts supporting biodiversity, but not the results of these contracts. The authors concluded that it was not possible to assess the impact of the RDP measures on the quality of Natura 2000 sites, habitats and species under management.

3.4.2 EU funding contributions towards specific biodiversity and ecosystem indicators

The ecological effectiveness of EU funding for Natura 2000 and biodiversity can be assessed with reference to specific result indicators of conservation actions and outcome indicators relating to the overall impacts on the extent, health and functioning of biodiversity and ecosystems, such as:

- Improved knowledge base, including understanding of distribution, trends and conservation requirements of habitats and species)
- Improved understanding of protected area requirements, and increased designation of sites
- Development of site management plans and species action plans
- Extent of conservation activity undertaken (e.g. habitat created, restored, area under required conservation management)
- Increase in green infrastructure
- Improved conservation status / trends of habitats and species covered by the Birds and Habitats Directives
- Degree to which the overall loss of biodiversity has been halted
- Increase in provision of ecosystem services

The sections below outline the existing evidence for these indicators.

Improved knowledge base

Effective nature conservation relies on a variety of data and assimilated knowledge, to guide conservation actions, target the application of scarce resources, and monitor and evaluate their impacts. The efficiency of actions can be compromised by knowledge and data gaps. Accordingly, the Birds and Habitats Directives have specific articles that require research to be undertaken to support their implementation.

According to the nature legislation fitness check evaluation study (Milieu, IEEP and ICF, 2016), information on species, habitats and broader ecosystems is required for a range of activities undertaken to implement the nature directives. These include actions to:

- Define the favourable conservation status (FCS) of species and habitats that conservation measures should aim to establish;
- Establish a coherent Natura 2000 network based on the understanding of different ecological characteristics of individual sites;
- Reflecting FCS, develop site conservation objectives and management plans, and establishing management measures;
- Undertake appropriate assessments of possible impacts from socio-economic activities on sites, and plan compensatory measures if required;
- Manage landscape features to improve the coherence of the Natura 2000 network;
- Establish a general protection system for all birds;
- Ensure hunting / exploitation is compatible with wise use for all birds, and, for Habitats Directive Annex V species, is compatible with maintenance of favourable conservation status;

- Ensure strict protection of species listed in Annex IV of the Habitats Directive;
- Plan reintroductions;
- Identify research gaps;
- Secure funding;
- Monitor the status of habitats and species; and
- Report on the implementation of the Directives.

Science obviously has a key role to play in the implementation of the nature directives and wider biodiversity strategy goals (Louette et al. 2015). However, good information is also required on economic, social and cultural issues, such as to avoid potential conflicts that could undermine the efficiency and effectiveness of nature conservation actions and its funding.

No assessment of the effectiveness of EU funding relating to the impacts of research on biodiversity has been identified. However, there is strong evidence indicating that funding has contributed to considerable advances in the biodiversity knowledge base in the EU. Most obviously this comes from the nature legislation fitness check study (Milieu, IEEP and ICF, 2016), which concluded that, amongst other things, the implementation of the EU Directives – supported by access to funding from the EU budget - have led to a considerable increase in research and monitoring activities which has improved the biodiversity knowledge base. This in turn has, for example, led to a substantial expansion in the protected area network in the EU. The study provides a number of examples of such actions, including knowledge gathering activities in some EU Member States summarised in Box 3.6.

Although there are still significant knowledge gaps, especially in the marine environment, there was a clear consensus amongst consulted stakeholders in the fitness check study that the EU's nature directives led to an increase in funding on research and monitoring, the results from which have underpinned the significant progress that has been made in their implementation. Some quantitative evidence regarding the improvement in knowledge of the status of EU protected habitats and species comes from the comparison of the proportion of conservation status assessments reported as 'unknown' in the 2001-2006 and the 2007-2012 reporting period as shown in the 2015 State of Nature Report (EEA, 2015). For habitats, the proportion of 'unknown' assessments fell from 14.8% to 5.4%, while for non-bird species they fell from 28.6% to 14.2%.

Box 3.6 Examples of increased monitoring and research activities linked to the implementation of the EU nature directives, supported by access to funding from the EU budget

France[10]

- Updating the 'natural areas of ecological, fauna and flora interest' (ZNIEFF) and Important Bird Area (IBA) inventories[11]
- Consolidation of knowledge on natural habitats and on birds (through habitats and birds records)[12]
- Knowledge acquisition campaigns focusing on habitats and species in marine environments: PACOMM (data collection programme on seabirds and marine mammals in mainland France), CoralFISH (data collection programme on Atlantic reefs), Medseacan and Corsican (data collection programmes on Mediterranean reefs), and Cartham (mapping of marine habitats within Natura 2000 sites)[13,14]

Germany

- Establishment of a nation-wide monitoring system for species and habitats (Sachteleben and Behrens, 2010), including new administrative arrangements for bird monitoring, which have helped to develop a good knowledge base for implementation of the directives (Sudfeldt et al. 2013)
- Development of manuals on suitable conservation measures for management-dependent habitat types and species habitats e.g. (Biewald et al. 2013), (Ellwanger and Schröder, 2006), (Ellwanger et al. 2010), (Finck et al. 2009).

It is important to bear in mind that much of the research, and especially the monitoring required to implement the nature directives and other EU biodiversity objectives, is likely to be funded from national sources, including governments, nature conservation NGOs, amateur scientists and volunteers. This is in part because EU research funds do not normally directly fund basic biodiversity data collection (inventories and mapping etc.) and routine ongoing biodiversity monitoring. However, some EU research projects have supported such activities, in particular some FP7 projects (Box 3.7).

There are also numerous studies funded by EU research funding that have played a key role in supporting the EU biodiversity conservation measures through more applied research into important topics, such as the factors leading to biodiversity changes and the measures needed to mitigate them. For example, COST Action 729[15] on Assessing and Managing Nitrogen Fluxes in the Atmosphere-Biosphere System in Europe helped to assess the potential impacts of nitrogen deposition on Natura 2000 sites.

The degree to which EU funded research projects have been effective in supporting the implementation of the nature directives and achievement of other biodiversity goals cannot be objectively assessed on the basis of existing information, as the individual projects do not report on

[10] Fitness check stakeholder questionnaire response from Ministry for Ecology, Sustainable Development and Energy
[11] http://inpn.mnhn.fr/programme/inventaire-znieff/presentation
[12] http://inpn.mnhn.fr/programme/referentiels-habitats
[13] http://inpn.mnhn.fr/actualites/lire/1121/mise-en-ligne-du-premier-jeu-de-donnees-pacomm-megafaune-marine-observee-lors-des-campagnes-samm-en-france-metropolitaine
[14] http://inpn.mnhn.fr/actualites/lire/4281/contribution-du-programme-cartham-a-l-inpn
[15] http://cost729.ceh.ac.uk/

such issues and no programme wide assessment of their biodiversity impacts appears to have been carried out. Nevertheless, as noted above there is evidence that the overall level of knowledge of biodiversity in the EU is increasing and it is likely that EU funded research projects have had and continue to play an important part in this.

Although purely research and monitoring projects are not eligible for LIFE funding, the LIFE programme has also contributed to the improved knowledge on biodiversity in the EU. This is because many LIFE Nature projects include some elements of research and monitoring. For example, Barratt et al. (2014) found that several LIFE Nature projects included ecosystem assessments and inventories of marine resources, which supported the inclusion of some areas in the Natura 2000 network.

Box 3.7 Examples of EU-funded research supporting improvement of the biodiversity knowledge base

FP 6 EuMon[16] project on EU-wide monitoring methods and systems of surveillance for species and habitats of Community interest, which focused on four major aspects important for biodiversity monitoring: the involvement of volunteers, coverage and characteristics of monitoring schemes, monitoring methods, and the setting of monitoring and conservation priorities.

FP 7 European Biodiversity Observation Network[17] project (EBONE) which set out to improve methods and standards for habitat monitoring, including Habitats Directive Annex I habitats.

FP7 EU Biodiversity Observation Network (EU BON) is also developing tools and data standards, data-sharing specifications and strategies for accommodating large data volumes in order to facilitate access and integration of available biodiversity data in the EU. The EU BON data hub will facilitate use of the database of existing biodiversity monitoring schemes across Europe developed under EuMON[18].

COST EMBOS[19], development and implementation of a pan-European Marine Biodiversity Observatory System.

Improved understanding of protected area requirements and increased designation of sites

The identification of areas that merit special protection and their designation as some form of protected area is an important element of the nature conservation strategies throughout the world. Consequently, the establishment of the Natura 2000 network is a key measure in the current EU nature legislation framework. Although all EU Member States have had their own nationally/regionally protected areas that have predated their obligations under the nature directives, there is clear evidence that for most countries the requirements under the Directives have greatly increased the area of protected areas, and the types of habitat and species covered within them (Milieu, IEEP and ICF, 2016; EEA, 2012; Underwood et al. 2014).

[16] http://eumon.ckff.si/summary.php
[17] http://www.wageningenur.nl/en/Expertise-Services/Research-Institutes/alterra/Projects/EBONE-2.htm
[18] http://www.eubon.eu/show/project_2731/
[19] http://www.cost.eu/COST_Actions/essem/ES1003

Although this increase in protected areas has ultimately been driven by legal obligations, it has been supported to some extent through EU funding for research and monitoring (as described above) and other EU funds. For example, LIFE projects have included projects that have prepared inventories and maps that have supported the identification of marine protected areas in Spain and the Baltic States[20]. EU funds supporting capacity building in Member States and Member State cooperation have also played an important role in some countries, as the designation of protected areas requires significant human resources and stakeholder interactions. For example, EU funded Phare-projects supported the development of the Natura 2000 network in Romania and Croatia (Mountford et al. 2008; State Institute for Nature Protection, undated). An ERDF funded Atlantic Area Transnational Programme helped the UK, France, Spain and Portugal to define and implement a common methodology for identifying marine protected areas[21].

In conclusion, whilst it is not possible to objectively assess the effectiveness of the EU funded projects relating to the designation of protected areas, it is clear that the funds have contributed to studies that have been crucial to the achieved expansion of the protected area network in the EU.

Development of site management plans and species action plans

The development of site management plans for protected areas is commonly undertaken in many countries. Although it is not mandatory, the Commission strongly recommends the development of management plans for Natura 2000 sites, as they provide a useful and transparent tool for defining conservation objectives and agreeing management measures and priorities, in consultation with landowners and other stakeholders (European Commission, 2014b). The development of site management plans is therefore an indicator of the effective planning of conservation actions, although it does not indicate if the plans are implemented and the expected actions effectively undertaken.

The nature legislation fitness check found good evidence that there has been a considerable increase in the development of management plans for Natura 2000 sites, although many more need to be developed (Milieu, IEEP and ICF, 2016). Review of the existing evidence indicates that EU funding has been an important catalyst for their development. Numerous LIFE projects have included the development of site management plans (e.g. European Commission, 2005). In addition some Member States have used ERDF to develop management plans (See Box 3.8).

20 http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.createPage&s_ref=LIFE05%20NAT/LV/000100

21 http://atlanticprojects.ccdr-n.pt/projectarea/maia/project_view?page=Project details

Box 3.8 Examples of Natura 2000 management plans funded by ERDF

- Romania (via Environment OP): involving the elaboration of management plans for 382 newly designated Natura 2000 sites
- Hungary (via South Eastern Europe Transitional Cooperation Programme): BE-Natur, Transnational Joint Strategy for the better management and improvement of Natura 2000 network, and the definition of Joint Transnational Action Plans for the conservation of species and habitats, focussing in particular on wetlands[22].
- Slovakia (via OP Environment): Elaboration of management plans on SPAs, SCIs
- Czech Republic (via OP Environment): Drafting of management plans for all designated Natura 2000 sites (about 800 sites), following the detailed survey of all target features in particular sites.
- Spain (Murcia 2007-2013 OP): Elaboration of studies and management plans for 4 Natura 2000 sites in Murcia[23]

In addition, various EU funded capacity building projects have helped train nature authorities in the development of management plans. For example, the Phare 2005 project "Institutional strengthening and implementation of the Natura 2000 ecological network in Croatia" (2008-2009) included the development of two management plans for potential Natura 2000 sites.

The development of species actions plans is another common conservation tool, which is most often carried out for particularly threatened species and for species that require management, such as to ensure hunting is sustainable and/or to control numbers and avoid human conflicts (e.g. large carnivores). The European Commission has encouraged the development of such plans and funded them through LIFE projects or direct service contracts. For example, LIFE has funded numerous management plans for large carnivores (European Commission, 2013a) and has supported the development and implementation of species action plans (SAPs) for 50 Annex I listed bird species since 1993 (European Commission, 2013b). A comparative assessment by the EEA of trends in birds listed in Annex I of the Birds Directive found that species for which a species action plan had been agreed had a slightly higher proportion with increasing populations, 37% increasing in the short-term compared to 32% for others (EEA, 2015). This provides some direct evidence of the effectiveness of EU funding in supporting species action plans, although it is not possible to quantify the exact role of EU contribution within the mix of other funding sources.

Extent of conservation activity undertaken

A key measure of the effectiveness of EU funding on biodiversity is the extent to which it results in required habitat restoration and management measures (e.g. as identified in management plans) being implemented. In this respect many LIFE-Nature projects are of particular importance as a large proportion of them result in habitat restoration and/or improved management.

LIFE-Nature: Although LIFE-Nature projects have been clearly shown to be usually very effective in the achievement of their goals (GHK et al. 2010), the LIFE budget is very small compared to the area

[22] http://www.southeast-europe.net/en/projects/approved_projects/?id=139
[23] http://www.murcianatural.carm.es/web/guest/visor-contenidos-dinamicos?artId=321513

that requires ongoing conservation measures. Therefore, most LIFE-Nature projects that involve habitat restoration or management measures are demonstration projects and/or aim to test out new conservation measures. A marine thematic report on LIFE (Barratt et al. 2014) found that almost half of the 72 identified projects involved maintenance and improvement of the Natura 2000 network through management measures as well as through establishing new protected areas. Similarly, it has been found that LIFE had a positive impact on the uptake of land stewardship, identifying 62 projects that successfully encouraged its improvement and selecting 22 as best practice examples (Račinska et al. 2015).

ERDF: Some restoration projects have also received funding from ERDF, with rather significant budgets. For example, in Andalusia (Spain), three projects concerned the ecological restoration of river banks, receiving ERDF funding of €15.0 million. These projects included the recovery of pre−existing vegetation, reforestation with indigenous species, the rehabilitation of water areas through pools and weirs and the construction of footpaths with several footbridges. ERDF has also financed habitat restoration at Grand Site des Deux Caps in the Nord/Pas−de−Calais region (France), the restoration of the dune system of Isla Canela (Spain), and the restoration and preservation of habitat for the black grouse (*Tetrao tetrix*) in Poland. The latter project received ERDF funding of €0.6 million for a range of measures (e.g. removal of bushes and shrubs, cutting rushes, removal of metal mesh fences, culling predators, land purchases and the communication and dissemination of information) but was unsuccessful in stemming the decline of the population of black bgrouse, which has been adversely affected by climate change and increased predation (European Court of Auditors, 2015).

EAFRD agri-environment schemes: By far the largest source of funding for the ongoing practical management and restoration measures in Natura 2000 sites and the wider environment (such as high nature value farming areas) is EAFRD agri-environment schemes (Milieu, IEEP and ICF 2016). An important strength of agri-environment measures is that they allow Member States to develop locally adapted schemes that reflect different bio-physical, climatic, environmental and agronomic conditions. However, schemes vary greatly in their objectives and degree of focus on biodiversity, their targeting and design, and the stringency of the environmental requirements and their enforcement. This has led to cases where agri-environment schemes have had little or no demonstrable biodiversity benefit (Boccaccio et al. 2009). Some early studies also found little evidence that the programmes were delivering biodiversity benefits, except for some rare species (e.g. Kleijn et al. 2003), but these findings were largely due to poor monitoring of the impacts of the schemes. This inadequate monitoring in part results from the limited requirements in the CAP regulations for reporting on outcomes of agri-environment schemes (European Court of Auditors, 2011). The RDP monitoring and reporting requirements were strengthened in the 2007-2013 CAP through the development of a Common Monitoring and Evaluation Framework. However, the main result indicator for agri-environment relating to the 'area under successful management' provides no evidence or detail on the actual specific impacts of individual schemes on biodiversity.

Despite the limited requirement for formal performance monitoring, a large number of scientific studies have now been carried out over the last 20 years of the biodiversity impacts of agri-environment schemes, although mostly in intensively farmed areas of north and west Europe. These have provided a variety of documented examples of agri-environment schemes benefiting a range of habitats, mammals, birds, plants and invertebrates (e.g. pollinators) - a few examples which have resulted in population level increases are listed in Box 3.9.

Box 3.9 Examples of agri-environment schemes that have had population level benefits for species

In **England** agri-environment schemes targeted towards specific species have had notable results, for example in-field nesting plots for stone-curlew (*Burhinus oedicnemus*) led to an increase in their population from 71 to over 300 pairs (Evans and Green, 2007). Cirl buntings (*Emberiza cirlus*) also greatly benefited from targeted management, with bunting numbers increasing by 83% on land entering agri-environment agreements between 1992 and 1998, compared with an increase of just 2% on adjacent countryside not managed under the agreements (Peach et al. 2001).

In **France**, agri-environment management in Natura 2000 sites with steeply declining populations of little lbustard (*Tetrax tetrax*) required conversion of cereal croplands to grassland or fodder crops and a restricted mowing regime, which contributed to reversing the trend, with an increase from 6 to 30 males between 2003 and 2009.

In **Portugal**, the Castro Verde Zonal agri-environment programme has been used to maintain and restore 64,000 hectares of HNV cereal steppe through traditional management and as a result the population of great bustard (*Otis tarda*) in the area has doubled (RSPB and BirdLife International, 2011).

Agri-environment management aimed at benefitting the common hamster (*Cricetus cricetus*) in the **Netherlands** have provided populations that have been re-introduced with the habitat and food sources they needed and so saved the species from the brink of disappearance. Delayed mowing, restricted harvesting and the provision of food and cover in summer until hibernation have allowed the hamster's natural second litters to survive and populations to grow rapidly (Haye *et al.* 2010).

Meta-analyses of agri-environment studies reveal that in the majority of cases well designed schemes with biodiversity objectives increase farmland biodiversity, in particular species richness and the abundance of common species (Batáry et al. 2011, 2015; Scheper et al. 2013; Tuck et al. 2014). The evidence also indicates that measures in non-productive areas, such as provision or enhancement of hedgerows or seed-rich or flower-rich field-margins, are more effective in increasing species richness than measures in productive areas, such as reductions in agro-chemical use or restrictions on mowing or grazing. However, care needs to be taken in interpreting this finding as species-richness is a simplistic measure of biodiversity and increases in this metric in non-farmed habitats may often be due to increases in common generalist species. In contrast, many of Europe's most threatened and characteristic farmland species are more reliant on the appropriate management of productive areas (Poláková et al. 2011). The overall impact of agri-environment schemes on national populations of species is very difficult to assess, but there is some indication that they have slowed the loss of plants and pollinators in north-west Europe (Carvalheiro, 2013).

An important objective of many agri-environment schemes is to contribute to the maintenance of semi-natural habitats and their associated species in HNV farming systems, within Natura 2000 sites and the wider environment, as these are vulnerable to abandonment, or in some cases, agricultural intensification (Keenleyside et al. 2014; Poláková et al. 2011). Although few studies have examined the impacts of agri-environment schemes in such areas, Batáry et al. (2015) conclude that the available evidence suggests that they can be very effective.

From the available evidence it is possible to identify a number of factors that most commonly affect the effectiveness and efficiency of agri-environment schemes with respect to conserving and restoring biodiversity. These include a range of interconnected factors related to the design, scope and governance of the schemes (See Box 3.9). In addition, some have suggested that agri-environment schemes that base their payments on results (e.g. flower diversity in a grassland) may be more popular with framers (as they are more flexible and enable them to use their farming knowledge) and more effective as a result (Burton and Schwarz, 2013). However, although a number of such schemes are underway in Europe and appear to be effective, they have not been sufficiently

studied to compare their performance with conventional agri-environment schemes (Allen et al. 2014).

Evidence shows that higher-level (i.e. more demanding) agri-environment-climate schemes normally provide the greatest biodiversity benefits because their implementation allows flexibility for individually tailored contracts at farm or site level, including specific provisions for management of the target species and habitats, provided skilled personnel are available on the ground and sufficient advisory support is provided (European Commission, 2014i; Poláková et al. 2011). Consequently, whilst the overall effectiveness of agri-environment schemes have not been properly assessed, there are numerous documented examples of well-designed, and appropriately targeted schemes leading to improvements in the status of habitats and species (eg Batáry et al. 2015; Broyer et al. 2014; European Commission, 2014i; MacDonald et al. 2012; Perkins et al. 2011; SEO, 2014; Whittingham, 2011).

Box 3.10 Evidence-based synthesis of the factors affecting the conservation effectiveness and cost-effectiveness of EU funded agri-environment measures

Scheme breadth and specificity, as higher-level and zonal (i.e. more demanding and area-specific) agri-environment-climate schemes normally provide greater biodiversity benefits than simpler horizontal schemes, because their implementation allows flexibility for individually tailored contracts at farm or site level, including specific provisions for management of the target species and habitats (Batáry et al. 2015; Hardman et al. 2016; European Commission, 2014i;).

Targeting the needs and spatial distribution of specific species or groups helps to ensure that the required farming management actions are delivered in the right place (e.g. where the target species are known to be present). Therefore, targeted schemes tend to be more effective than untargeted schemes (e.g. Duffield et al. 2016; Kleijn & Sutherland 2003; Perkins et al. 2011; Wilson et al. 2009), and better spatial targeting of in-production schemes can greatly benefit rare and declining species (Pywell et al. 2012) as well as priority sites such as Natura 2000 areas (European Commission 2014i).

Evidence-based design of the specific farming actions to be carried out under the agri-environment scheme (e.g. grazing rates and times, species mixes in seed and nectar strips) as habitats and species often have specific ecological requirements, which need to be reliably provided in practical and cost-effective ways that are acceptable to farmers (Evans, Armstrong-Brown and Grice, 2002; Schlaich, et al. 2015; Whittingham, 2011).

Motivation of farmers, including support and training for farmers, e.g. under CAP rules payment rates for agri-environment activities are based on calculations of the average income forgone plus additional costs, which therefore provides no immediate and direct monetary incentive for taking up the scheme compared to business as usual. Therefore, as payments only compensate for costs, farmers tend to take up options that require the least changes to farming systems and operations or investments, which are usually least beneficial for biodiversity (see section 4.2.2 for further consideration)

Increase in green infrastructure

The European Commission (2010) states that the LIFE programme has demonstrated a range of effective approaches to populations of building green infrastructure in Europe. Since spatial connectivity is vital for the long-term survival of many European species, some LIFE projects have aimed to increase the resilience of populations of threatened species by connecting fragmented habitats through green infrastructure projects such as:

- Removal of obstacles in rivers for migratory fish, such as Atlantic salmon (*Salmo salar*).
- Regeneration and construction of ponds for amphibians, such as European fire-bellied toad (*Bombina bombina*) and great-crested newt (*Triturus cristatus*) and some invertebrates (dragonflies).
- Establishment of eco-bridges or tunnels in order to mitigate the negative effects of 'grey infrastructure' (i.e. rail and road) for mammals such as the brown bbear (*Ursus arctos*).
- Restoration of habitats as stepping stones (coastal meadows, wetlands) on the flyways of migratory birds.

LIFE projects have also restored habitats such as rivers and their floodplains, grasslands and meadows; bogs and mires; old growth and boreal forests; and sand dunes. By restoring habitats – for example, converting spruce forests to grasslands or bogs – several LIFE projects have made landscapes more permeable for species dispersion and water flow by reconnecting different ecosystems (European Commission, 2010).

26% of LIFE Environment forest projects are intended to address specific threats and improve the sustainability of forest resource use. Outcomes indicate that these projects have indeed resulted in more sustainable forest use and management planning; improved quality of life in rural areas, thereby contributing to green infrastructure goals; and led to positive socioeconomic impacts such as increased jobs or economic added-value, particularly through projects focusing on fire prevention or agro-sylvo-pastoral practices (Bollen and Velghe, 2015).

Similarly, projects financed by the EAFRD's LEADER programme have shown clear benefits for both green infrastructure and for Natura 2000, including cooperation between local actors, integrated projects, and multifunctional land-uses (Kettunen et al. 2014a). However, it is less clear whether such benefits for green infrastructure have translated into benefits for biodiversity.

Improved conservation status and/or trends of habitats and species

The LIFE programme has generated substantial benefits for a wide range of species and habitats.

The benefits that LIFE has delivered for different species and habitats some of which are documented on the LIFE programme web pages[24] in a series of publications relating to:

- Species groups – including freshwater fish, large carnivores, mammals, birds, invertebrates, reptiles and amphibians, plants

[24] http://ec.europa.eu/environment/life/publications/lifepublications/lifefocus/nat.htm#carnivores

- Habitats - including grasslands, wetlands, marine, forests, bogs and mires
- Conservation challenges - including tackling invasive alien species, preventing species extinction through ex situ conservation, and improving species' conservation status

LIFE has played a vital role in the conservation of a variety of species. For example, it has been central to efforts to save the critically endangered Iberian lynx (*Lynx pardinus*) from extinction. LIFE Nature has co-funded most of the lynx conservation initiatives in Portugal and Spain, either directly or indirectly. Main actions supported have been habitat restoration (in particular rabbit habitats), the involvement of stakeholders (mainly farmers and hunters) and awareness campaigns. LIFE projects have succeeded in stabilising and even increasing lynx numbers in the important remaining populations of Sierra Morena and Doñana. The experience gained in habitat management and the preparation of good habitats in Andalusia and other Spanish and Portuguese regions allows for some optimism about future recolonisation of part of the former distribution area by this extremely endangered animal (European Commission, 2011).

Barratt et al. (2014) find that a total of 72 marine LIFE projects were conducted between 2005 and 2012, almost half of which involved an element of maintaining or improving biodiversity, ecosystem health, and the conservation status of the Natura 2000 network. Some LIFE Environment projects, which otherwise mostly focused on relieving pressures on the environment, also contributed to biodiversity issues outside the Natura 2000 network, along with fisheries and the food web.

Bollen and Velghe (2015), conducting a similar analysis for the forest sector, found that the number of LIFE forest projects fluctuated between 7 and 23 per year between 2006 and 2013, with a total of 134. 63% of these were projects in the LIFE Nature stream, focusing on the conservation and restoration of forest habitats and species from the Natura 2000 network, and 4% of projects were funded under the LIFE Biodiversity stream and targeted forest biodiversity outside the Natura 2000 network. In total, 36 projects had species conservation as a main objective, targeting 65 forest-related species and 43 non-forest related species. Implementation activities, particularly those related to habitat restoration and conservation, comprised almost half the activities of all projects. Dissemination, management, and monitoring activities were also very common. Relatively more projects focused on priority habitats, perhaps due to the ability to request 75% co-financing instead of 50% for these. Overall, many positive outcomes were noted, such as improvements in the conservation status of habitats and species such as European bison and a range of birds (including species not targeted by the project), as well as increases in ecosystem services. In fact, out of 65 LIFE forest projects that identified successes, 33 (~50%) reported improved conservation status, increased biodiversity, or increased connectivity, as did several transboundary forest projects.

EU funding for biodiversity and Natura 2000 has also mobilised larger-scale restoration actions targeted at multiple habitats or species. For example, WWF and IEEP (2009), in case studies of 10 projects funded through co-financing, found that combining LIFE and other funds showed promise for general success, as well as long-term follow-through in some cases. They also found that most EU-funded projects related to Natura 2000, several of which involved multiple funding sources, including combinations of ERDF, LIFE, and regional and/or national funding, were financially and environmentally successful and created socio-economic benefits for local communities. The Slovenian Natura 2000 site management programme successfully integrated national funds with EU allocations from ERDF, EAFRD RDP and LIFE. However, effectiveness could not be evaluated as the case study was conducted prior to implementation.

Rural development funding has also been shown to play an important potential role in species conservation in the EU. Financed by the European Commission, the Wildlife and Sustainable Farming Initiative (2007-2009) looked at how the conservation of certain species of wildlife

protected under the Habitats and Birds Directives can be supported through the Rural Development Programmes (2007-2013). The report (Orbicon et al. 2009) presented fact sheets for 12 species. Each 8 page fact sheet provided information about the species' ecology, its threats and beneficial farming/forestry practices and highlighted the different opportunities available for integrating the species conservation needs into the different measures of CAP (e.g. Pillar I and Pillar II). The fact sheets gave examples of how the habitat management needs of each species are being addressed through RDPs in different Member States, although little evidence was yet available of the effects of these interventions on the species themselves.

Increase in provision of ecosystem services

A number of examples of how LIFE projects have enhanced ecosystem services are documented in a publication on LIFE's role in building Europe's green infrastructure (European Commission, 2010). LIFE projects have strengthened the resilience of ecosystems by restoring the range of functions that they provide, strengthening their ability to withstand disturbance and sudden shocks such as fires, droughts, floods and alien species invasions. Resilient areas are also better able to regulate climate. For riparian areas, ecosystem services include flood management and transportation, and as LIFE projects carried out on the Danube and its tributaries have shown, actions that take into account the multi-functionality of the target area are best suited to improving Europe's green infrastructure. Some initiatives have demonstrated the financial benefit of safeguarding ecosystem services, especially as a means of preventing flood damage. LIFE projects have demonstrated that restoring more areas to their original condition can increase the effective functioning of ecosystems.

Recent projects have also focused on climate change, which will have the greatest impact on those areas most dependent on ecosystem services. Building up green infrastructure is essential for mitigating and adapting to climate change. For example, restoring blanket bogs in Wales has improved their ability to sequester carbon and thus mitigate climate change. Several projects also focused on restoring floodplains and coastal habitats and, as a result, those areas are now better able to cope with climate change impacts.

SURF (2012) reported examples of ERDF projects that have successfully supported the restoration and maintenance of ecosystem functionality, for example wetlands in Austria and Romania and coastal areas affected by erosion in Italy.

3.4.3 Overall progress in implementing EU priorities for biodiversity and nature

As well as evidence from specific funding schemes, it is also helpful to examine EU-wide trends in biodiversity policy implementation and status of species and habitats, and the contributions of EU funding. There has been significant progress at the strategic level (European Commission, 2015a; 2015b): the Natura 2000 network is nearly complete, and the policy framework for sustainable fisheries and Good Environmental Status under the MSFD has moved forward considerably. While the overall impact of EU and Member State financing for Natura 2000 and wider biodiversity priorities is difficult to gauge in aggregate, it is clear that the actions that it funds are inadequate to arrest the continuing decline in biodiversity at EU level.

The 2015 state of the environment report (EEA, 2015) suggests that, despite some environmental improvements of recent decades, biodiversity and ecosystems continue to decline overall. Although there are some examples of progress, including from integrated financing, funding is not sufficient to halt biodiversity degradation in the EU. Only 16% of habitat assessments and 23% of species assessments are favourable, while 30% of habitat and 22% of species assessments are deteriorating (European Commission, 2015a). Some restoration activities are taking place, and there are positive

trends in some ecosystem services, but degradation of ecosystems across the EU continues, especially in biodiversity-rich ecosystems such as grasslands and heathlands. BirdLife International (2012) suggests that the main Cohesion Policy funding streams are failing to invest in green infrastructure and large scale land-based restoration, while Kettunen et al. (2011) find that mismatches between eligibility and landscape types prevent EU resources from being allocated to ecosystems in need of funding support, thereby hindering ecological effectiveness.

A similar picture is observed across other habitat types. For example, even though EU forest area has increased, the overall conservation status of habitats and species covered by nature legislation has not improved. Similarly, BirdLife International (2012) found that well-designed and adequately funded rural development measures within the second pillar of the CAP provide one of the most effective means of conserving biodiversity and of protecting biodiversity resources in farmland habitats; and there are also good examples of agri-environmental schemes delivering clear biodiversity benefits when well targeted (Milieu, ICF, and IEEP, 2016). However, these examples are too few and over an insufficient area to have prevented overall declines in biodiversity in EU agriculture as a result of ongoing pressures from intensive agriculture and, in some places, abandonment of HNV farming (Mileu, IEEP and ICF, 2016). This indicates that the 'environmental' component of agri-environmental schemes is not sufficiently supported.

Thus, although there are some examples of ecological effectiveness, primarily through LIFE projects and some agro-environment schemes, it is clear that funding levels and financing arrangements are currently insufficient to halt the decline of biodiversity across the EU.

3.4.4 Challenges of realising ecological effectiveness at project level

The slow progress in realising improvements in biodiversity and ecosystems through integrated financing can be partially linked to challenges in effectiveness and implementation at the project level. For LIFE, these were evident in 95 of the 134 projects identified by Bollen and Velghe (2015), and included technical limitations, underestimation of costs, overly ambitious project designs, difficulties in collaboration, and notably, uncertain long-term sustainability due to a lack of funding. As mentioned previously, the small size of the fund also prevents it from delivering large-scale biodiversity and ecosystem improvements.

One-third of ERDF projects assessed by the ECA focused on preparation, such as surveying, inventory building, drafting of management plans, or awareness raising, meaning that actual improvements in biodiversity outcomes were contingent on implementation, which was uncertain in many cases. Many protection plans faced challenges, for example relating to uncertainties of scope, targets, and types of work needed, and on occasion were even found to be inadequate. The wider effects of awareness measures were also not assessed, and so their success is unclear. In some cases, potentially unsustainable funding – i.e. failures to specify alternate funding sources following the completion of the ERDF grant – again placed long-term outcomes at risk.

3.5 Cost-effectiveness (efficiency) of EU funding for Natura 2000 and biodiversity

The Natura 2000 network and biodiversity in general provide a range of benefits to society and the economy via the flow of ecosystem services (provisioning, regulating, cultural and supporting services). These benefits range from enhancing human wellbeing to contributing to economic development and cost savings, supporting science, education, social cohesion and identity (Milieu, ICF, and IEEP, 2016).

The cost-effectiveness (efficiency) of EU funding for nature and biodiversity can be assessed with respect to:

- The overall benefits of implementing Natura 2000, and meeting wider biodiversity priorities, compared to the costs;
- The degree to which funding is allocated to specific interventions for which benefits outweigh costs; and
- The efficiency of funding processes, including the administrative and transactions costs involved in delivering and accessing funding.

In general, there is a significant body of evidence that indicates that the benefits of biodiversity action outweigh the costs – i.e. that allocating finance to nature and biodiversity represents an effective use of resources. However, there is less evidence of the efficiency of specific initiatives and actions, and of the cost-effectiveness of funding processes.

3.5.1 Costs and benefits of funding for nature and biodiversity

Key conclusion

There is good evidence at all levels that the benefits of nature and biodiversity action exceed the costs. These benefits include a variety of marketed and non-marketed ecosystem services, as well as the value of biodiversity itself, and society's willingness to pay to conserve it.

A study by ten Brink et al. (2011) investigated the benefits to society of the Natura 2000 network. It estimated that the benefits of ecosystem services delivered by the network are between €200 – 300 billion per year. This represents around 1.7 - 2.5 % of EU GDP. The study highlighted that estimates tend to vary significantly between habitat type, with mean estimates per hectare ranging from €1,898 (for grasslands) to €7,866 (for temperate heath and scrub).

Jacobs (2004) estimated that Scotland's Natura 2000 sites have an overall benefit: cost ratio of around seven over a 25-year period. This means that, overall, national welfare benefits are seven times greater than the national costs and represent good value for money. Benefits were found to be dominated by non-use values (i.e. the public's willingness to pay to conserve Natura 2000 sites, whether or not they used them), and costs would exceed benefits if these were not taken into account. The authors estimated the marginal benefits and costs of the Natura 2000 designation itself, stating a benefit: cost ratio of 12:1, although without detailing how this figure was reached.

Local evidence also demonstrates that the benefits of Natura 2000 often greatly exceed the costs at the site level (Box 3.11).

Box 3.11 Comparisons of costs and benefits at Natura 2000 sites

Plaine de la Crau, France: Hernandez and Sainteny (2008) estimated the overall economic benefits of this Natura 2000 site at €182/hectare/year, and net benefits at €142 /hectare/year.

Roerdal, Netherlands: Costs of nature management in the period 1994-2000 amounted to €2.1m, delivering total business, recreational and amenity benefits of at least €4.5 million to businesses, homeowners and the general public (Wijnen et al. 2002).

Wierdense Veld, Netherlands: A study found that the benefits of hydrological restoration and emission reduction measures exceed the costs. Major costs included the creation of buffer zones around the Natura 2000 area (resulting in loss of income and relocation of activities) as well as emission control measures. However, this was more than offset by the economic benefits of enhanced room for farm development. Total costs amounted to €20.2 million while the total benefits were €23.1 million, indicating a net benefit of €2.83 million (Reinhard et al. 2014).

Monte Alduide, Navarre, Spain: A study estimated the economic benefits of a conservation plan for the Natura 2000 site at €7.3 million/year, compared to annual costs of €0.45 million, suggesting a benefit: cost ratio of 17:1 (Moreno et al. 2013).

Source: Evaluation to support the fitness check of the EU nature directives (Milieu et al. 2016)

As a result, Milieu et al. (2016) concluded that studies indicate that the benefits of the site and species protection ensured by the EU nature directives greatly exceed the costs of implementation at the EU, national and local levels.

Similar conclusions can be drawn from evidence of the benefits and costs of wider biodiversity actions. A study by GHK (2011) on the benefits of Sites of Special Scientific Interest (SSSIs) used a choice experiment survey to estimate that the public in England and Wales is willing to pay GBP 956 million (€1338 million) annually to secure the benefits that the sites deliver, at a benefit cost ratio of almost 9:1. This willingness to pay resulted from a range of ecosystem services, as well as non-use values of biodiversity.

Similarly, a number of studies in Germany have examined the public's willingness to pay for biodiversity through implementation of Natura 2000 and national biodiversity targets. This willingness has been found to be significantly higher than cost estimates (Meyerhoff et al. 2012; Wüstemann et al. 2014). For example, the study by Wüstemann et al. found a benefit: cost ratio of approximately 2.8:1 for a nature conservation programme including Natura 2000 and habitat management measures in support of the National Biodiversity Strategy.

Some studies have aimed to account for the specific value a protected area has relative to its impact on the economic development of a certain territory, for example through job creation and tourism. A study by the BIO Intelligence Service (2011) estimated that Natura 2000 areas attract between 1.2 and 2.2 billion visitor days per annum, which generates annual tourism expenditure of € 50-90 billion per annum. A number of these studies have also demonstrated that the benefits can be larger than the associated costs: a study in Ireland, for example, provided a conservative estimate of the total rate of return on government support to the Burren park to be between 353 – 383% (without or with tourism, respectively), and 235% if all operating costs of the farming programme and all direct payments are considered (Rensburg et al. 2009).

3.5.2 Cost-effectiveness of funded interventions

Key conclusion

Evidence related to the cost effectiveness of specific biodiversity and nature interventions is limited – some but not all studies have found that benefits exceed costs. However, the efficiency of interventions can be adversely affected by failures in implementation of funding programmes

Few studies have directly compared the costs and benefits of specific biodiversity expenditures, and there is mixed evidence with regard to the cost-effectiveness of the different biodiversity-related funding across the EU. Milieu et al. (2016) found that, where such evidence exists, it suggests that the benefits of conservation action exceed the costs in most, but not all cases. For example, Arcadis (2011) developed a toolkit to value the changes in the value of ecosystem services brought about by changes in the management of Natura 2000 sites. This was used to estimate the net benefit of changes in management at 11 Natura 2000 sites around the EU. Conservation action was found to deliver positive net benefits at most sites, even allowing for data gaps, with the largest net benefit estimated to have a present value of between € 46-65 million at Montserrat, Spain.

Evidence from the Netherlands demonstrates that, overall, the economic benefits (through enhanced agricultural output) of the national programme to reduce nitrogen emissions to Natura 2000 sites exceed the costs, although costs may exceed benefits at certain sites (Box 3.12). Other studies have examined the benefits and costs of restoring particular habitats, demonstrating that the benefits of restoration and conservation often greatly exceed the costs (Box 3.13).

Box 3.12 Engbertsdijksvenen, the Netherlands – costs of controlling nitrogen emissions

A major element in the Netherlands' implementation strategy is a programme called the Integrated Approach to Nitrogen (PAS), which aims primarily to reduce nitrogen deposition in sensitive Natura 2000 areas. An analysis by the Agricultural-Economic Institute (LEI) (Leneman et al. 2013) shows that the effects of this programme on national social and economic development range from largely positive to neutral. However, this report also indicates that the costs and benefits are unevenly distributed.

For example, at the Natura 2000 site, Engbertsdijksvenen, the analysis found that within a 5km radius of the site, the costs exceeded the benefits by about €5.1 million. A significant portion of these costs resulted from the need to introduce measures on approximately 250 ha of agricultural land outside the Natura 2000 site in order to improve the quality of the nature within the site, with a large impact on local agriculture. This large local impact generated resistance from local stakeholders.

Broekmeyer et al. (2015) argued that as a result of these costs and in the light of local resistance, it will be difficult to realise the objectives to conserve raised bogs at the site. In preparing the Natura 2000 management plan, the province and the local stakeholders have agreed to investigate potential alternative approaches. They believe that this example emphasises the importance of engaging stakeholders and the public with the Netherlands' responsibility to conserve European protected species and habitats, as well as the feasibility of the proposed measures in achieving a favourable conservation status.

Source: Evidence gathering questionnaire submitted by Ministry of Economic Affairs, Netherlands to the EU nature directives fitness check

Box 3.13 Benefits and costs of habitat conservation and restoration

Peatlands: Numerous studies on the cost-benefit ratio of peatland restoration show that the social benefit of the ecosystem services delivered is substantial and that costs can be saved, in particular to avoid climate damage and the costs of use of drained peatland for biogas plants (cited in Naturkapital Deutschland - TEEB DE, 2012). Based on the studies, it can be assumed that preserving the peatland and habitat types of the Directives is economically highly efficient (Naturkapital Deutschland - TEEB DE, 2012).

Grassland: Matzdorf et al. (2010) investigated the costs and economic benefits of conserving high nature value grasslands and calculated a 2:1 minimum ratio. Part of this grassland is protected under the Habitats Directive and is particularly threatened by conversion to cropland. The conservation of grassland is more cost-effective than conversion into cropland.

Floodplains: Measures to conserve and restore floodplains, which could be implemented to improve the coherence of Natura 2000, among other things, could achieve a benefit: cost ratio of between 1:1 and 3:1 through enhanced ecosystem service delivery (Grossmann et al. 2010; Grossmann, 2012a; Grossmann, 2012b). This will, inter alia, avoid flood damages and increase water quality, to achieve WFD goals.

Marine habitats: EU and international studies have shown that protected areas provide a variety of economic benefits for fisheries, including enhanced yields, improved recruitment, recovery of stocks, restoration of a fish stock's natural age structure and higher quality products, and can therefore help to reverse the effects of overfishing (Carstensen et al. 2014; Guidetti et al. 2014).

Natural Capital Restoration, UK: The Natural Capital Committee State of Natural Capital Report (2014) provided an analysis of the benefit: cost ratios of a range of natural capital investments, by considering the range of ecosystem services they delivered. These were estimated at 5:1 for a woodland planting programme, 4:1 for a catchment case study, 2:1 to 3:1 for salt marsh restoration, and up to 9:1 for inland wetland restoration projects.

Source: Milieu, IEEP and ICF (2016)

However, the efficiency of interventions can be adversely affected by failures in implementation of funding programmes. A study conducted by the European Court of Auditors (ECA 2015) on the EAFRD concluded that EU rural development support for non-productive investments (NPI) in agriculture has contributed to achieving environmental objectives for the sustainable use of agricultural land, but not in a cost-effective manner. The Court found clear indications of unreasonable costs in 75% of the projects contributing to the achievement of agri-environment objectives (e.g. landscape and biodiversity protection). In total, only five out of the 28 audited projects proved to be cost-effective. The Court highlighted that beneficiaries of NPIs may have less incentive to contain their costs due to the fact that the proportion of the investment costs funded with public money is higher (up to 100%) than other EAFRD investment measures. Also, the complementary role of NPIs to help achieve the specific objectives of other agri-environmental schemes was not always realised, which reduced the potential environmental impact of NPIs. The Court identified weaknesses in selection among investments for work such as hedging and the restoration of wetlands, which led to proposals not being appropriately checked against selection criteria and ineligible projects being funded.

3.5.3 Administrative and transaction costs

Key conclusion: The costs of administering and accessing finance are large for some EU funds, reducing the cost effectiveness of the funding process.

The large potential benefits associated with biodiversity actions are often constrained by the low efficiency of funding processes. According to existing evidence, many administrative processes related to the use of EU funds are heavily complex and burdensome (Kettunen et al. 2011; Milieu, IEEP and ICF, 2016). Administrative burden (e.g. labour-intensive preparation of proposals and project administration) cannot often be easily overcome due to the lack of stakeholder capacity, and often discourages and even excludes some beneficiaries. This is, for example, often the case for LIFE and research and innovation projects where developing a proposal demands significant time and efforts. In many cases, LIFE grants are restricted to projects which are able to demonstrate best practices, and the rate of co-financing[25] can be a hindrance, especially for Member States that are recent EU entrants. The above, along with the Commission's preference to favour LIFE projects budgeted above €1 million, explains why funds like LIFE and research and innovation programmes can be unattractive and risky choices for some stakeholders (Kettunen et al. 2011; Milieu, IEEP and ICF, 2016).

3.6 Brief conclusions: ecological effectiveness and cost-effectiveness

The analysis concluded that there remains a significant funding gap for Natura 2000 and biodiversity, such that meeting conservation objectives requires significant upscaling of well-designed and targeted approaches to financing. In addition to the lack of overall funding available, the deficiencies in biodiversity and ecosystem progress vis-à-vis integrated financing can be linked to challenges in the institutional framework and arrangements for implementing the funds.

Evidence on cost-effectiveness is limited. Various studies suggest that when considering a wide variety of socio-economic and wellbeing benefits the benefits of action for biodiversity and Natura 2000 significantly exceed the costs. There is also an indication that large benefits associated with biodiversity policies are often constrained by inefficiencies in funding processes.

As regards the final conservation outcomes, effective indicators have typically been created and assessed for projects funded through the LIFE programme, but landscape-level and cumulative assessments are still lacking. Indicators for other funding streams such as EAFRD and ERDF are often not fit for purpose, preventing evaluation even at a project level. It is therefore not possible to determine the overall effect of integrated financing on EU biodiversity beyond extrapolations from general trends, nor to determine best practices and the most effective interventions or programmes.

[25] The rate of EU financing has increased from 50% to 60% of the cost of LIFE nature projects in the current 2014-2020 period

Challenges related to the institutional arrangements to effectively deliver EU funding are explored in more detail in Chapter 4. More elaborated conclusions on the ecological effectiveness and cost-effectiveness of the existing EU framework are provided under Chapter 5.

3.7 References – Chapter 3

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4 Social impacts, legitimacy and institutional aspects of the EU financing of biodiversity

4.1 EU framework for biodiversity funding – the role of governance

The overall success of the EU integrated approach to biodiversity funding depends on the delivery of the improvement or maintenance of the conservation status of habitats and species of EU interest, as well as conservation of the wider biodiversity and ecosystem services. As already highlighted in Chapter 3, ensuring ecologically effective biodiversity financing is a sum of several elements. These include availability of funds at EU and national levels (supply side), interest in applying for them (demand side) and prioritisation and implementation of the measures. The governance of EU funds – from the EU to national, regional and local levels - plays an important role in ensuring their effectiveness (Young et al. 2012; Primmer et al. 2015). The key governance related aspects constraining the effectiveness of EU biodiversity funding, as identified by earlier assessments and stakeholder interviews, include for example insufficient consultation with relevant stakeholders, lack of capacity and expertise for accessing EU funds and high administrative burdens (see Chapter 3).

As biodiversity financing influences the lives and livelihoods of people and/or stakeholder groups, it generates social impacts, which go beyond the economic impact generated by the funds (e.g. the perceived ability by stakeholders to make decisions and operate within certain set limits) (Paloniemi and Vainio 2011, Primmer et al. 2013). As a result of the funded conservation actions and measures, new livelihoods that build on nature conservation can emerge and new multifunctional uses of the sites can benefit entire communities (Ghermandi et al. 2013). On the other hand, where the funding conditions limit certain uses of the areas and natural resources, parts of local communities can experience negative social impacts. This is the case, for example, with payments that are linked to certain land management practises; such payments limit the options for adopting other types of practises linked to different possible sources of livelihood. The negative experiences can be aggravated by a feeling of exclusion from the process by which funding is allocated (Paavola et al. 2009; Paloniemi and Vainio 2011).

Legitimacy is related to the process that produces the above impacts and to the impacts themselves (Rauschmayer et al. 2009). The social, economic and ecological impacts and their distribution constitute the outcome legitimacy of biodiversity financing. Outcome legitimacy is related to and conditioned by procedural legitimacy, which is a result of the experienced transparency and inclusiveness of the process and rules by which funds are delivered. As the funding specifications and delivery rely on the existing institutional framework, institutions condition both social impacts and legitimacy (See Box 4.1).

The social impacts and legitimacy of funding in turn affect the effectiveness and the outcome of nature conservation policies by influencing the motivation, commitment and initiative of the actors delivering and receiving the funds (Wurzel et al. 2013, Scharpf 1999, Rantala and German 2013). In other words, the EU integrated approach to biodiversity financing will be effective only if stakeholders, including the beneficiaries, accept the ways the funds are allocated and the ecological, economic and social impacts they generate. In this context, the perceived autonomy and influence

that stakeholders have over the ways in which funding instruments are applied influence the legitimacy of biodiversity financing.

The institutional framework for EU biodiversity financing includes the EU regulations (e.g. fund specific regulation and other relevant regulations such as the EU state aid Regulation) and Member State laws implementing these regulations (Paavola et al. 2009). Strategies and programmes influencing the delivery of financing, as well as organisational competencies can also be considered to be a part of the institutional framework. Informal professional and cultural norms are also a part of the institutional framework (Primmer et al. 2013; Paavola et al. 2009). As the funding specifications and delivery rely on the existing institutional framework, institutions condition both social impacts and legitimacy.

Box 4.1 Institutional framework, legitimacy and social impacts

Institutional framework: The institutional framework includes regulations and strategies framing the policy (funds) at different governance levels as well as related organizational structures, competencies and practices or informal professional and cultural norms (fund specific EU regulations and e.g., EU state aid regulation, Member State laws and the competencies, practices, and norms of the organizations responsible for delivery).

Legitimacy: Legitimacy refers to the acceptability of the rules governing a policy (or funds) and the experienced fairness and appropriateness of the process of formulating and implementing the policy (specifying and delivering the funds). Legitimacy can be categorised into outcome legitimacy and procedural legitimacy (see above).

Social impacts: Social impacts are the impacts generated by a certain policy and related funding, and experienced by people and communities. These include the impacts of funds on livelihood opportunities, access to the public benefits of nature, distributional impacts and impacts on autonomy.

The authorities governing EU funding for biodiversity provide the entry point to understanding aspects related to social impacts and legitimacy as well as the institutional arrangements of financing. The authorities and administrations have first-hand understanding of feasibility and constraints of existing and new integrated financing arrangements, yet these insights have not been systematically analysed. Additionally, the representatives of national and regional administrations are familiar with the general stakeholder perceptions of the legitimacy of the governance process and social impacts of both existing and potential new instruments. Land-owners, protected area managers and rural communities as key beneficiaries for funding are the most important stakeholders of biodiversity financing. In addition, municipalities or enterprises participating in EU co-financing schemes can constitute beneficiaries of biodiversity financing. Other relevant stakeholders include NGOs, politicians and potentially also researchers. The views of these beneficiaries are communicated to decision-making through consultation processes and day-to-day operational encounters (projects and professional networks) with authorities. Therefore the authorities at different levels can foresee some of the practical implementation challenges that the suggested improvements to the EU co-funding framework, including the potential of new funding streams, might encounter.

With the view of considering the options for the future EU co-financing approach, it is important to understand the ways in which roles and duties of administrative organisations responsible for managing financing on the one hand, and those of beneficiaries on the other, affect the take-up of funding across sectors. This is particularly true when developing new approaches to and adopting novel instruments for financing biodiversity (Primmer et al. 2013, Potter and Wolf 2014; Lapeyre et al. 2015). The existing and/or preceding financing instruments and institutional setting define and

condition the design, operationalisation and implementation of new approaches and instruments (Primmer et al. 2013; Ring and Schröter-Schlaak, 2015).

4.2 Institutions, governance mechanisms and legitimacy – a literature review

It is generally considered that environmental policy needs to be integrated and mainstreamed in other policy areas, to be effective (Jordan and Lenschow, 2010). Biodiversity conservation is no exception. Targeted conservation policies cannot on their own counter-balance the degradation of ecosystems and loss of biodiversity generated by economic activity, in particular by natural resource dependent and land-use change generating actors, such as agriculture and forestry, or construction (Butchart, 2010). Policies responsible for land-use change and intensification of natural resource use and driving biodiversity degradation should integrate biodiversity conservation considerations in order to contribute to meeting the goals of EU biodiversity policy. Also in the local context, conservation goals need to be integrated in activities that govern and are meaningful to socio-economic actors (Mueller and Maes, 2015). Integration of environmental goals into other EU policy areas has been a key principle of European environmental policy since the 1980s, and it was formalised in the Amsterdam Treaty in 1997 (Liberatore, 1997; EC, 2004). Integrating these objectives into budgets and financing schemes supporting the implementation of EU sectoral policies can be considered as an ultimate expression of the integration principle.

EU biodiversity conservation policy centres on the Natura 2000 network, which operationalises the Birds and Habitats Directives. This EU-wide conservation effort has required significant financial resources from the EU and the Member States. As highlighted in Chapter 3, the annual financing allocated to support the implementation of the Natura 2000 network from the EU budget was estimated to be €550 - 1,150 million in 2007-2013 (Kettunen et al. 2011). The implementation of the Natura 2000 network has sometimes faced fierce local resistance, largely because it has been perceived as a constraint on economic activity (Suškevičs, 2012; Young et al. 2012 and 2015). The conservation successes related to the implementation of the network have required both targeted investment in conservation actions and in managing the legitimacy of conservation by engaging local actors in the implementation process and by integrating conservation with other activities (Primmer et al. 2014; Müller and Maes, 2015; Young et al. 2015).

The continued scarcity of public funding for biodiversity conservation both at the EU-level and in Member States, coupled with the focus on other policy objectives, continues to lead to pressure to integrate biodiversity conservation further into other public funds (Tinch et al. 2015). As described in Chapter 3, the integration of biodiversity conservation goals into agri-environment schemes and funding for regional development, in addition to LIFE funding, constitute a major effort in environmental mainstreaming, making biodiversity conservation an integral part of economic activity. This makes it important to understand how biodiversity conservation fits within the institutional setting in which it is integrated.

4.2.1 Institutional and legal fit

Key conclusion: The EU integrated approach to financing subjects funding for biodiversity conservation activities to objectives and decisions by sectors other than environmental protection (e.g. agriculture and rural development, fisheries and marine and regional development). These other sectors have a solid legislative basis at the EU level allowing for financing biodiversity conservation, which is the formal institutional pre-condition for integration to deliver conservation outcomes. However, competition between funding priorities (biodiversity vs. other sectoral priorities) and the stakeholder competence in targeting and monitoring actions constrain integration.

The institutional arrangements within which the EU biodiversity funding is framed and specified condition the delivery of the funds. The institutional fit of biodiversity conservation policies can be analysed vertically across administrative levels and horizontally across relevant administrative sectors (Paavola et al. 2009). The literature on institutional fit addresses the coherence of international conventions (Gomar, 2014), integration of environmental policy (Jordan and Lenschow, 2010) and the constraints or feasibility of new conservation policy mechanisms and instruments (Paavola et al. 2009; Wurzel et al. 2013; Primmer et al. 2013). This literature generally points to challenges in converging distinct interests and roles, and suggests better communication and coordination mechanisms and sometimes also clear roles and mandates. For an understanding of the institutional framework in which biodiversity financing operates, the legal institutions specifying the use of funds need to be understood.

A review of the legislative basis of the EU biodiversity funding framework shows that biodiversity conservation goals can be identified in all relevant EU funding schemes: environmental, agricultural, fisheries, rural development and structural development funds as well as development cooperation and research funds (e.g. Table 4.1, Kettunen et al. 2014; Tinch et al. 2015; Millieu, IEEP and ICF 2016). Each of these funds operates on an institutional basis with a distinct legacy and legislation, which is why integration in each funding scheme faces different constraints and opportunities.

Table 4.1 EU funding instruments forming the current legal framework for biodiversity funding

Funding scheme	Legislative basis and main goals	Opportunities for biodiversity financing
Environment (LIFE) 2014-2020 *Regulation (EC) No 1293/2013*	Funding programme for climate and the environment with four objectives: a. Tackle environmental challenges b. Improve policy and legislation and promote the integration and mainstreaming c. Support governance d. Support the implementation of the 7th Environment Action Programme.	Nature and biodiversity is one the three priority areas of the LIFE programme's 'Environment' sub-programme. Minimum of 50% of the funds dedicated to environment in LIFE must be allocated to this target. Natura 2000 network implementation and management Dissemination of best practices
European Structural Investment (ESI) *Regulation (EU) No 1303/2013*	Includes European Agricultural Fund for Rural Development (EAFRD), European Maritime and Fisheries Fund (EMFF) European Regional Development Fund (ERDF), the Cohesion Fund, and European Social Fund (ESF). All ESI Funds complement each other supporting smart, sustainable and inclusive growth and cohesion.	Biodiversity conservation is one of the recognised priorities for ESI funds and it can therefore be integrated as an area for investment into the Partnership Agreements and programmes (RDPs and OPs). However, it is up to Member States to take up these opportunities.
Agricultural and rural development (EAFRD) *Regulation (EU) 1305/2013*	Sustainable rural development complementing other instruments of the CAP, the cohesion and fisheries policy with three objectives a. Competitiveness of agriculture b. Sustainable management (agriculture and forestry) and climate action c. Balanced territorial development of rural economies and communities Six Union priorities for rural development: I. knowledge transfer and innovation II. farm viability and competitiveness and innovative technologies III. food chain organisation, animal welfare and risk management IV. restoring, preserving and enhancing ecosystems V. resource efficiency low carbon and climate resilient economy VI. 6) social inclusion, poverty reduction and economic development VII.	Supports the implementation of the EU priorities for rural development including restoring, preserving and enhancing biodiversity (also Natura 2000 areas) and high nature value farming.

Maritime and Fisheries (EMFF) *Regulation (EU) No 508/2014*	Four objectives: a. Competitive, environmentally sustainable, economically viable and socially responsible fisheries and aquaculture; b. Implementation of the Common Fisheries Policy (CFP); c. Balanced and inclusive territorial development d. IMP	Includes dedicated opportunities for biodiversity conservation: Protection and restoration of aquatic biodiversity and ecosystem and compensation regimes for sustainable fishing activities; Management, restoration and monitoring of Natura 2000 sites and marine protected areas; Development of aquaculture providing environmental services.
European Regional Development Fund (ERDF), European Social Fund (ESF) and Cohesion Fund (CD) *Regulation (EU) No 1301/2013*	Objectives include: - Reinforces the economic, social and territorial cohesion by redressing regional imbalances; - Sustainable development and structural adjustment of regional economies; - Conversion of declining industrial regions; - Investments, networking and sharing facilities, infrastructure and human facilities. Particular territorial features such as urban development, areas with natural or demographic handicap, northernmost regions with very low population density and outermost regions.	Include dedicated opportunities for biodiversity conservation: Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 Green infrastructure in the investment priority thematic point No 6
Research (H2020 *Regulation (EU) No 1291/2013*	Objectives include: - Research and innovation activities. - Building a society and an economy based on knowledge with three priority areas: excellent science, industrial leadership and tackling societal challenges	A strong emphasis on sustainable development and thus also biodiversity.

As regards the EU decision-making process, the budget allocations are proposed by the Commission with the final decisions on the allocations made by the European Parliament and the Council. These decisions follow the rules laid down in the Multiannual Financial Framework (MFF) Regulation, the Financial Regulation, the fund specific Regulations and in their specific implementing rules. For LIFE and Horizon 2020, the decisions on per project allocations are made by the Commission services through direct management whereas for EAFRD, EMFF, ERDF, ESF and CF the allocations are made by the Member States administration in shared management with the Commission. In the case of direct management, the fund specific work programmes are drafted by the relevant Commission DG administrating the funds, while the work programmes for under shared management are developed by Member States, with the support of review by the Commission and/or national voting procedures.

In summary, the current institutional framework at the EU level provides a solid legislative basis for biodiversity financing and allows biodiversity conservation to be supported through integrated financing across different sectors. However, as reported in Chapter 3, competition between biodiversity and other sectoral goals and difficulties in matching biodiversity conservation with funding priorities geared towards the delivery of socio-economic benefits constrain generating conservation effects within the framework. Hence, the requirement to align biodiversity financing with sector specific regulations and country specific priorities - while in theory supporting stronger environmental integration - creates barriers for the uptake of funding by the EU and Member State managing authorities and potential beneficiaries.

4.2.2 Social impacts and legitimacy of biodiversity financing

Key conclusion: Integrated financing distributes funds to a range of beneficiaries, generating positive biodiversity-related social impacts also among those who would not have access to direct biodiversity conservation finance and possibly contributing to an increase in legitimacy among these stakeholders. The most apparent legitimacy challenges stem from the perceived distance of decision-making. As a response to this criticism over centralised decision-making and implementation procedures, stakeholder engagement and awareness raising have become dedicated targets of biodiversity financing.

The effects and effectiveness of biodiversity financing in providing tangible conservation outputs (as described in Chapter 3) influence the acceptance of biodiversity policy, in particular among those who prioritise - or are motivated to prioritise - conservation over other policy goals (Young et al. 2012; Tallis et al. 2014). This is the case, for example, with protected area managers or conservation-oriented land- and forest owners involved in EU financing schemes. Among those who experience conservation as a threat to their livelihoods and autonomy, outcome legitimacy is predominantly determined, not by conservation outputs, but by the distribution of economic and social impacts of biodiversity policy and related financing (Paloniemi and Varho 2008; Primmer et al. 2014). This is the case, for example, with farmers, foresters and fishermen whose main motivation to participate biodiversity funding schemes is to complement their income (e.g. in remote areas with limited opportunities for complementary sources of livelihood).

The outcome legitimacy of biodiversity policy and related funding has not been extensively studied and therefore literature on this subject is limited. The apparent redistribution of funds that results from integrated financing is likely to generate positive, biodiversity conservation related impacts among a wider range of beneficiaries, generating new economic opportunities and improving economic autonomy (Paloniemi and Vainio 2011, Primmer et al. 2013, Ghermandi et al. 2013).

In the above context, the level of payment can form an important element in determining legitimacy and related conservation outcomes. For example, the uptake of the agri-environment schemes is known to be driven by a number of factors including the scheme's payment rates (Batáry et al. 2015). Under the CAP rules payment rates for agri-environment activities are based on calculations of the average income forgone plus transaction costs, which means that farmers do not necessarily have incentives to modify their operations. Such incentives would exist if farmers were rewarded for the extra effort commonly related to modifying farming practices. As payments only compensate for costs, farmers tend to take up options that require the least changes to farming systems and operations or investments, which are usually least beneficial for biodiversity. This was, for example, observed in the selection of options by farmers in the entry level stewardship scheme in England (Hodge and Reader, 2010). Although some options were found to benefit some species when implemented, they were not popular with farmers and therefore had no population level impacts on the species (Baker et al. 2012).

Evaluations of the legitimacy of biodiversity policy and its financing mostly focus on the procedure of policy formulation and implementation. The financing of biodiversity conservation actions can impact the procedural legitimacy in two ways. Firstly, the rules and decision-making on the targeting of funds - and engagement of stakeholders in this process - can increase or decrease the acceptance of conservation actions among stakeholders. In particular, the dealing with the detailed - and rather onerous - rules stipulating beneficiaries, timing and conditions for funding can disenfranchise stakeholders. Secondly, financing for biodiversity can be explicitly targeted to improve conservation governance and stakeholder engagement, this way supporting legitimacy.

While challenges related to outcome legitimacy are commonly linked to benefit distribution and limiting beneficiaries' ability to change land - or natural resource use practices, procedural legitimacy centres around inclusion; who makes the decisions and who is heard in the process. In general, the procedural legitimacy linked to biodiversity policy implementation has been found to suffer from a distanced, centralised, and non-inclusive practice, or at least a perception of such characteristics dominating the decision-making (Paavola et al. 2009, Yong et al. 2015). Biodiversity conservation in a top-down, hierarchical fashion has faced legitimacy challenges and resistance and even created conflicts in Europe (Hiedanpää, 2002; Suškevičs, 2012; Primmer et al. 2014; Young et al. 2015). For example, grassroots resistance evolved in the rural municipality of Karvia, Southwest Finland in response to the introduction and development of the Natura 2000 network (Hiedanpää, 2002). In France, the implementation of the network generated considerable conflict at national scale, to the extent that the Directive was suspended in 1996 (Alphandéry and Fortier, 2001). Governance by distanced central administration has been questioned and challenged (Bartley et al. 2008; Black et al. 2008), and in the EU context, the multi-level characteristic of the governance arrangement has aggravated the challenges (Paavola et al. 2009, Suškevičs, 2012). The critique related to overall biodiversity conservation policy design, highlighting centralised and non-inclusive practices (Paavola et al. 2009, Suškevičs 2012, Young et al. 2015), has also impacted the stakeholders' views of the funding process.

Literature indicates that engagement of stakeholders in conservation at different stages of the decision-making and implementation process, and at different levels of governance improves the legitimacy of both the process and the outcome (Newig and Fritsch, 2009; Rauschmayer et al. 2009).

In the European context, this is supported by insights from the nature legislation fitness check (Milieu, IEEP and ICF 2016) which provides evidence of substantial improvement in conservation governance, public awareness and stakeholder engagement over recent years. This has helped to avoid and address stakeholder conflicts leading to improved implementation of the Directives and the Natura 2000 network, though the degree to which this is due to EU funding is difficult to quantify. A substantial part is likely to be the result of nationally funded activities (e.g. improved nature authorities), but also EU funded actions have a role. For example, LIFE marine and forest projects have been reported to excel at stakeholder engagement, capacity building, building public awareness and support, overcoming conflicts, and good governance (Barratt et al. 2014; Bollen and Velghe, 2015). 7% of LIFE forest projects in 2007-2013 were funded under the information stream, focusing on awareness raising, often with respect to fire prevention; 20% of forest projects (13 in total) indicated that project efforts had created higher awareness.

Similarly, support and training of stakeholders is considered to be an important factor to guarantee successful outcome of conservation schemes (Batáry et al. 2015), especially in the effective delivery of more complicated schemes such as the higher level / zonal agri-environment schemes. This conclusion is supported by studies in the UK, which found that the creation of habitat was positively correlated to farmers' experience and motivation (McCraken et al. 2015) and training farmers increases their confidence and develops a more professional attitude to agri-environment schemes (Lobley et al. 2013).

Finally, it is interesting to note the relationship between procedural and outcome legitimacy. While procedural legitimacy is a precondition for conservation policy - to secure motivation and commitment - it does not always contribute to the effectiveness of conservation. Increasing procedural legitimacy by increasing stakeholder engagement can result in policies and actions that are hampered by less ambitious targets and/or delayed in the implementation processes, eventually constraining the effects and outcomes of conservation efforts, and hence influencing the outcome legitimacy (Newig and Fritsch, 2009; Rauschmayer et al. 2009, Suškevičs, 2012, Young et al. 2012).

4.3 Empirical insights in biodiversity financing governance – EU level

4.3.1 Approach and aim

To gain up-to-date insights in the social impacts, legitimacy and institutional aspects of the current EU biodiversity funding framework and related decision-making, EU-level interviews with representatives of different EU funds were conducted in the context of this study. The aim was to establish an up-to-date "base-level" of understanding on the institutional roles related to the funding decisions, skills and capacities mobilised as well as inclusion of stakeholders in funding decisions and the quality of the deliberative process. Additionally, the interviewees were asked to reflect on the future development of biodiversity financing, either through integration or through dedicated funds (see Chapter 5).

The purpose of these interviews, focused on a limited expert pool of EU-level interviewees, was to identify relevant dimensions to the issue that were then to be reflect in the further analysis. Quantification of existing or future views fell outside the scope of the interviews.

Six[26] European level interviews were conducted with EU officials representing different funding schemes in January and February 2016. The interviewees were identified in collaboration between the project team and the European Commission. The six interviews were conducted over the phone or email as follows:

- LIFE Nature (DG ENV E3) unit 29.1.2016
- DG Research and Innovation 27.1.2016
- DG MARE 29.1.2016
- EIB / Natural Capital Financing Facility 2.2.2016
- DG BUDGET 2.2.2016
- DG Agri 3.2.2016

The interview questions are listed in
Box **4.2**. The interviews took 30-60 minutes and they were recorded and the interviewer took notes. The reporting of the responses is anonymous, based on notes that have been complemented from the recordings.

Box 4.2 Questions for EU interviews

1. Which fund that contributes to biodiversity conservation are you directly involved in managing? How?
2. What other biodiversity-related funds and financing mechanisms does your work concern? In what ways?
3. Whose views are considered in the decision-making process on the funding allocations (between different budget lines) of the EU fund you are involved in managing?
4. How do the different actors express their views in these processes?
5. Who makes the final decisions on the allocation of funding between the different budget lines of the fund?
6. What factors / criteria are the funding allocation decisions between the different budget lines based on?
7. What skills and knowledge are required to make the funding allocation decisions linked to biodiversity?
8. In your experience, how satisfied are different stakeholder groups involved in biodiversity conservation with how the funding is allocated under the existing funding priorities and schemes?
9. What are the most frequent complaints you encounter regarding who benefits from the existing schemes?
10. In the following, two broad pathways - which are non-exclusive and include various possible sub-paths - to modify the current biodiversity funding framework are presented: 1) further integration into existing EU funds and 2) new, more comprehensive EU instrument dedicated to biodiversity? How would this change the current situation? Who would benefit? Who would lose out? Administrative pros and cons? (For this question please see Chapter 5).

[26] Ten respondents were initially selected but two declined due to time constraints and two representatives of DG ENV declined because their views had been integrated in the task assignment.

4.3.2 Interview results

Key conclusion: The interviews pointed to the crucial role that communication across sectors and governance levels, as well as with different stakeholders, plays in justifying biodiversity funding. The key deliberation platforms included: communication with stakeholders via ongoing processes (projects and networks); public consultations, which generate a large volume of views; and budget negotiations, which require evidence, skill and persistence, to match competing budgetary needs.

Decision-making and the institutional basis of decisions: The interviewees described in detail, and frequently referred to, the decision-making process for EU funding, as summarised in Section 4.2.1 above.

To support the decision-making process for the 2014-2020 EU budget, DG BUDGET had prepared and consolidated the support information needed to justify the amounts proposed by the Commission in the draft budget for the following negotiation with the European Parliament and the Council. The information provided in the framework of the budgetary procedure included information on the estimate amounts allocated to the biodiversity related actions. This information was in the first stage collected by the DGs by every funding programme through the Programme Statements which were issued by the Commission, based on the information provided by Member States, as an annex to the statements of estimates of the annual draft budget.

The allocation of LIFE funds to nature conservation and biodiversity defines that a minimum of 50% of the funds dedicated to environment under the fund must be allocated to this target. According to the interviewees, the multi-annual work programme of the Commission adopted together with the LIFE Committee influences the final total allocations, together with Member States' co-financing, which varies year-to-year.

During the ongoing funding period, a part of the LIFE funds is allocated through a new instrument called the Natural Capital Financing Facility (NCFF) administrated by the European Investment Bank. This instrument is designed to support debt and equity investments in natural capital projects capable of repaying an investment. EIB screens the received NCFF proposals against LIFE criteria. A so called delegation agreement between the EC and EIB defines the allocation of natural capital funds under LIFE, which are channelled to projects, and EIB can consult DG ENV in allocation decisions. The EIB conducts the final due diligence assessment.

The funds under EAFRD and EMFF are allocated by Member State managing authorities, either nationally or regionally, depending on the country. For CAP/EAFRD, the managing authorities decide between the six main priorities of the fund, one of which was environment. The interviewees mentioned that an analysis of strengths and weaknesses of the current agricultural policy in parallel with needs had been conducted. This applied also to biodiversity: the situation of biodiversity currently in the region or country needed to be assessed against the needs in the future. For example, the analysis showed that rural development programmes for the period 2014-2020 needed better integration of agricultural priorities with Natura 2000.

Required skills and knowledge (procedure and biodiversity knowledge): According to the interviewees, the negotiations for budgetary allocation require both technical and negotiation skills supported by perseverance. The primary knowledge required for the negotiations and decision-making on the funding allocation for biodiversity was considered to be the understanding of the demand for the funding programme and the Member State needs. Knowledge of the prior programmes and their impacts were also important.

The lack of environmental data, especially up-to-date data on biodiversity status, and relevant expertise were seen to pose a constraint sometimes, at least in some Member States. DG Agri stated that in the future the Commission services will pay special attention to ensure updating of biodiversity status data by managing authorities.

In the negotiation for biodiversity funding over other important European investments, such as employment and immigration, quantitative data and monetary values were considered important. The facts were said to be the starting point, and they needed to be backed up with arguments on the interdependence of our wellbeing on biodiversity and nature.

Inclusion and the deliberative process: Other DGs were frequently consulted when drafting work programmes for specific funds. The consultation may involve committees at the EU or Member States level to participate in the drafting, typically involving also regional and local authorities, other public entities and NGOs. The interviewees mentioned a range of mechanisms deployed to engage stakeholders and scope for their views, including the process for strategic environmental assessment (SEA), open seminars and online consultations. Consultations were used at several stages during the drafting process.

In general, the interviewees considered the consultations to inform, rather than directly influence, the drafting by the DGs or formal committees. In some cases, a thorough deliberation would take place more at the Member state level, for example regarding EAFRD and NCFF. However, in particular the 2014-2020 LIFE programme had been developed with much emphasis on openness and engagement. The drafting of the LIFE instrument had involved inputs from public consultation and from an active consolidated customer group. Additionally, the drafting process had made use of a public consultation survey with a couple of thousand responses.

Stakeholder satisfaction and complaints: The interviewees considered the popularity of the LIFE funds and continuity of the instrument to signal stakeholder acceptance. Generally, the projects receiving the tightly competed 50% allocated to nature conservation had been considered a success. However, dissatisfaction with the sufficiency of nature conservation funds had been expressed by environmental NGOs.

The EU level interviewees stated that they had very limited contact with national and local stakeholders. Consequently, the European level NGOs functioned as their main sounding boards as regards stakeholder satisfaction. The interviewees had heard from the Member States that in particular farming and nature protection were sometimes in conflict, occasionally causing LIFE projects to face resistance. The interviewees found it hard to judge whether this was caused by an existing feud between farmers and environmental NGOs or whether the projects themselves sparked the conflict. In particular, the interviewees dealing with agricultural (EAFRD) and marine (EMFF) funds considered it too early to evaluate satisfaction with the new programmes.

4.4 Empirical insights in biodiversity financing governance – national and regional level

4.4.1 Approach and aim

An internet survey was conducted to gain up-to-date insight into the perceived social impacts and legitimacy of the integrated funding approach, as well as the institutional aspects conditioning both social impacts and legitimacy, at the national and regional level. As the legitimacy challenges with EU biodiversity policy identified in literature have been dominantly procedural, the survey focused on these aspects.

The survey was designed to capture the knowledge and perceptions of the representatives of national administration involved in the decision-making on EU biodiversity funding in the following sectors:

- Environment (LIFE)
- Regional development and cohesion funds (ERDF, ESF and CP)
- Agri-environment funds (EAFRD)
- Fisheries / maritime and fisheries (EMFF)
- Research (Horizon 2020)

Representatives of these sectors included national contact points and managing authorities. These representatives, constituting our survey sample of 743 respondents, were identified from relevant internet sources[27]. The six-page survey (Box 4.3) was designed take maximum 30 minutes to respond.

The survey was conducted on an internet-based platform (https://www.webropolsurveys.com), onto which the sample of 743 sector administration representatives were invited to submit their responses by 3 June 2016. Following a limited number of responses (9), reminders were sent on 16 June 2016 and 25 July 2016, which resulted in total 31 responses from 17 Member States. One more round of reminders was sent on 10 August 2016 only to Member States from which no responses had been received. The final dataset consisted of 51 responses from 26 Member States, received by 22 August 2016.

The survey results were analysed using both quantitative and qualitative methods. The quantitative analyses included cross-tabulations to compare across the different funding types and to show the relations between perceived success and the social impacts, legitimacy and institutional aspects of the financing mechanisms, revealing the weight placed on different perceptions and allowing tentative comparison across instruments. Due to the limited sample size, the comparisons are not

[27] http://ec.europa.eu/fisheries/contracts_and_funding/the_european_transparency_initiative/index_en.htm
http://ec.europa.eu/environment/life/contact/nationalcontact/index.htm
http://ec.europa.eu/regional_policy/en/atlas/managing-authorities/
http://ec.europa.eu/environment/integration/enea-ma_plenary_meetings_archives_en.htm
https://www.cbd.int/doc/lists/nfp-cbd.pdf
https://enrd.ec.europa.eu/en
https://webgate.ec.europa.eu/fpfis/cms/farnet/national-authorities
http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

statistically significant. The qualitative analyses allowed access to the ways in which the respondents framed legitimacy as well as the social and fairness impacts of different elements in the funding mix.

Box 4.3 Topics covered by the survey

1. Background information
2. Perception of the success of the current EU integrated funding approach and its funding instruments (LIFE, EAFRD, ERDF, ESF, CF, EMFF/EMF, H2020, Other)
3. Experience of engagement of stakeholders in programming and implementation of the funds and allocation
4. Perception of social impacts on different stakeholder groups and fairness
5. Perception of stakeholder satisfaction and concerns
6. Expectations for future development and new instruments
7. Perceptions of institutional aspect affecting the EU integrated approach for funding biodiversity: overall success of EU funding, institutions and legitimacy and social impacts

4.4.2 Survey results

Overview of the respondents

The 51 respondents from altogether 25 Member States represented stakeholders both at national and regional level (Figure 4.1), with most Member States having one or two responses representing the national level. The highest number of responses was received from Germany, where biodiversity funds are administered at the regional level.

As regards their roles in biodiversity funding provision, most of the respondents were involved in policy-making (32 respondents). A number of respondents considered their role to be in support and advice (17) or monitoring and evaluation (15). Only four respondents considered themselves as beneficiaries. A cross-tabulation of the respondents' decision-making levels and roles is presented in Table 4.2.

Most of the respondents worked with nature conservation or with agriculture: 21 respondents said they worked with LIFE, 26 worked with EAFRD and 18 worked with ERDF. Each of the other funding instruments received less than 10 responses, for ESF, CF and EFF/EMFF the number of responses was below 5. The spectrum of funds constrained the analysis of the latter instruments, as some of the questions were targeted to the instruments respondents had experience working with.

Table 4.2 Survey respondents' decision-making levels and roles in biodiversity funding provision
Note: it was possible for the respondents to select multiple roles

Decision-making levels and roles in biodiversity funding provision				
	Policy making	Monitoring, evaluation, audit	Beneficiary	Support, advisory
EU	2	2	0	2
National	17	7	2	8
Regional	13	6	2	6
Local	0	0	0	1
Total	32	15	4	17

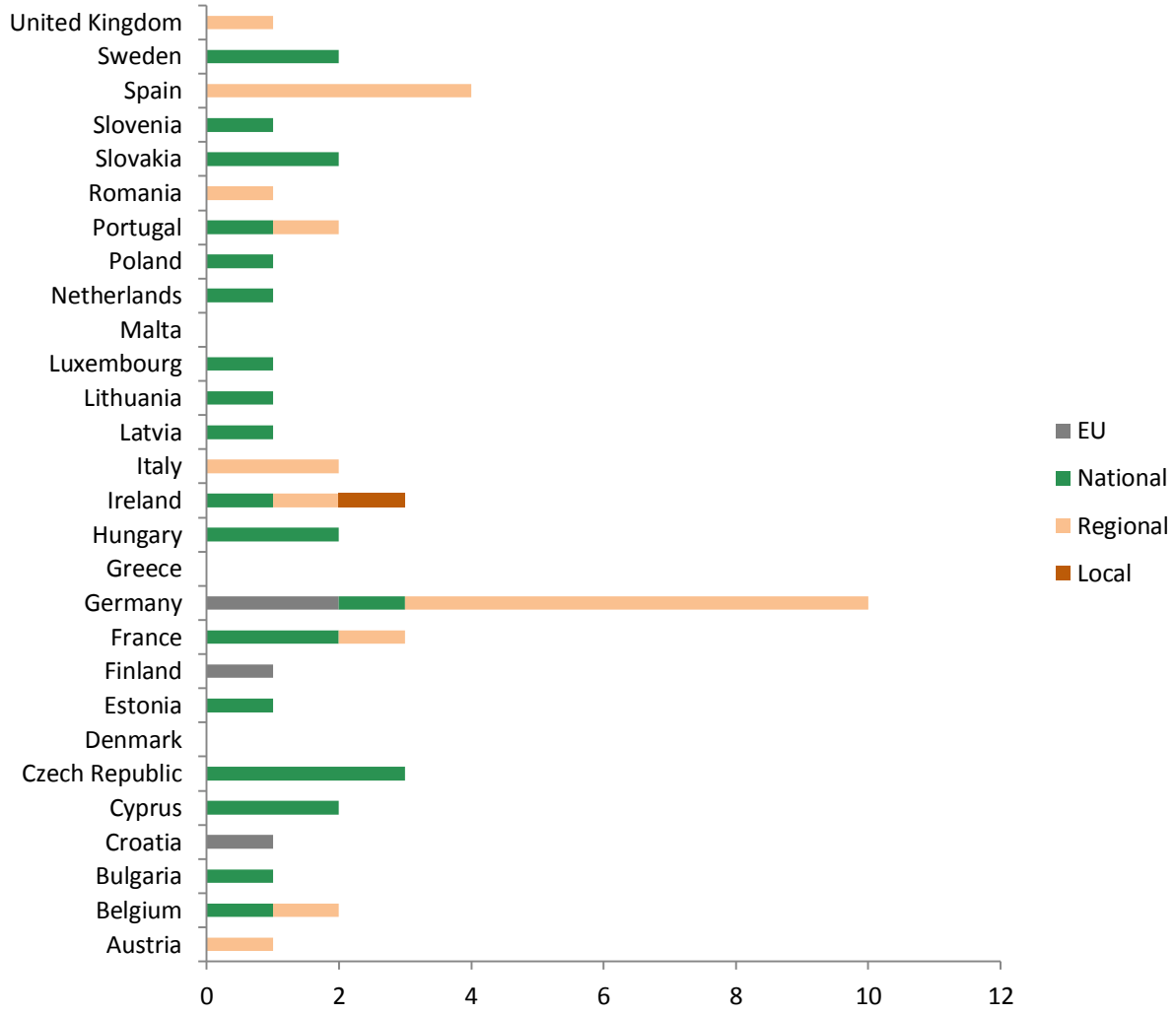

Figure 4.1. Distribution of the 51 survey respondents across Member States and decision-making levels

Social impacts

Social impacts can be conceptualised through the distribution of benefits among stakeholders. The survey included questions on beneficiaries, types of benefits perceived and views on stakeholder satisfaction. Benefit distribution was also evaluated through a question on who benefits directly, indirectly, or both directly and indirectly.

The respondents identified a broad range of beneficiaries (Table 4.3). Across the respondents representing different funds, both administration and protected area managers were considered to benefit from EU funding. LIFE respondents identified national and regional administration and NGOs as the main direct beneficiaries and local inhabitants as the main indirect beneficiaries for funding. EAFRD respondents identified farmers as the main direct beneficiaries and many other stakeholders as important indirect beneficiaries (e.g. politicians and researchers). Similar to EAFRD, ERDF respondents identified also many indirect beneficiaries but were less clear about the direct beneficiaries. Municipalities and national or regional administration were among the identified direct beneficiaries.

The respondents were also asked about different types of benefits associated with EU funding. Most respondents across the funding instruments considered the instrument to improve opportunities for nature protection and management, however EAFRD respondents were less clear about this benefit (Table 4.4). Other perceived main benefits varied across the instruments. The respondents working with LIFE thought that the instrument clearly also improved the access to public benefits of nature, strengthened local networks, reduced conflicts, and increased knowledge. Increasing knowledge was identified as an important benefit also by ESF, EFF/EMFF and Horizon 2020 respondents, and access to public benefits of nature was identified also by EFF/EMFF respondents. ESF respondents did not consider public access to the benefits of nature as a benefit related to the funding under the instrument. The two CF respondents and the four EFF/EMFF respondents considered the instruments to bring new business opportunities.

Table 4.3 Survey responses to a question on who are the main beneficiaries of the EU funding for biodiversity under different instruments

Benefits	LIFE	EAFRD (Agriculture)	ERDF (Regional)	CF (Cohesion)	ESF (Social)	EFF/EMF (Fisheries/ Maritime)	H2020 (Research)
Local inhabitants, direct	0	4	0	0	1	0	0
indirect	**11**	**12**	**12**	2	1	1	5
both direct and indirect	4	4	3	0	0	1	0
Municipalities, direct	6	4	8	2	3	0	1
indirect	4	**11**	1	0	0	1	3
both direct and indirect	5	5	9	0	0	2	1
National/regional administration, direct	**10**	5	7	2	3	1	1
indirect	3	8	3	0	0	0	4
both direct and indirect	5	3	7	0	0	1	2
Enterprises, direct	1	6	6	1	2	2	1
indirect	8	5	6	0	1	1	4
both direct and indirect	4	5	3	0	0	0	2
Farmers, direct	3	**14**	1	1	0	0	2
indirect	8	1	**10**	0	2	0	4
both direct and indirect	3	**10**	2	0	0	0	0
Fishermen, direct	2	3	0	0	0	3	2
indirect	6	4	10	0	1	0	3
both direct and indirect	1	2	1	0	0	1	0
Politicians, direct	1	0	1	0	0	0	1
indirect	8	**10**	**11**	0	1	0	4
both direct and indirect	0	1	**0**	0	0	0	1
Researchers, direct	4	2	1	0	1	0	6
indirect	6	**10**	7	0	0	0	0
both direct and indirect	4	2	3	0	0	0	1
Protected area managers, direct	8	6	7	1	0	0	1
indirect	3	9	4	0	1	0	2

both direct and indirect	3	4	3	0	0	0	3
NGOs, direct	**12**	3	5	1	0	1	1
indirect	0	10	4	0	1	0	2
both direct and indirect	6	6	3	0	0	1	3

Table 4.4 Main benefits identified by respondents working with each funding instrument (i.e. the most typical responses)

Identified benefit	**LIFE** n=21	**EAFRD** (Agriculture) n=26	**ERDF** (Regional) n=18	**CF** (Cohesion) n=2	**ESF**(Social) n=3	**EFF/EMF** (Fisheries/ Maritime) n=4	**H2020** (Research) n=7
Improved opportunities for nature management and protection	**Fully agree**	Somewhat agree	**Fully agree**	**Fully agree**	**Fully disagree**	**Fully agree**	**Fully agree**
New business opportunities	Somewhat agree	Neutral	Somewhat agree	**Fully agree**	Somewhat agree	**Fully agree**	Somewhat disagree
Access to public benefits of nature	**Fully agree**	Neutral	Somewhat agree	Somewhat agree	**Fully disagree**	**Fully agree**	**Fully agree**
Opportunity to engage in local decision-making	Somewhat agree	Neutral	Neutral	Neutral	Somewhat agree	Neutral	Somewhat agree
Increased experience of autonomy over conservation decisions	Somewhat agree	Neutral	Neutral	Somewhat agree	**Fully disagree**	Neutral	Somewhat agree
Strengthened local networks	**Fully agree**	Somewhat agree	Somewhat agree	Somewhat agree	Somewhat agree	Somewhat agree	**Fully agree**
Reduced conflicts	**Fully agree**	Somewhat agree	Somewhat agree	Somewhat agree	Neutral	Neutral	Somewhat agree
Increased knowledge	**Fully agree**	Somewhat agree	Somewhat agree		**Fully agree**	**Fully agree**	**Fully agree**

In their responses to an open-ended question on benefit distribution and fairness encountered through their work, the respondents highlighted some challenges related to prioritising biodiversity objectives as well as the distributional impacts of fund specific rules and allocation procedures.

The respondents said that the higher awareness on the importance of biodiversity in the society might lead to bigger financial allocations to biodiversity conservation. Competing sectoral financing priorities were considered to override biodiversity conservation priorities in some cases. Even other environmental objectives were seen as competing over attention and funds. Yet, the respondents saw that, when successful, mainstreaming of biodiversity would bring new opportunities for financing biodiversity activities, and even ideally including it in many financing instruments as a basic funding criterion. One respondent said that lack of broader cross-sectoral understanding between frameworks for environment and agriculture limits leveraging the EAFRD potential for nature conservation while another respondent called for funding specifically targeting cross-sector objectives to address the sectoral divide.

The respondents saw that budgetary constraints influenced benefit distribution, as funding was seen insufficient to reach all the set objectives. Allocation of the investments to serve the different objectives of the instruments was considered uneven and attention was drawn to national allocations, the “narrow scope” of the eligible beneficiaries, strict rules and restrictions related to scope of funds, and challenging application procedures. One respondent highlighted the importance of instruments channeling funds to rural areas providing ecosystem services, to address the asymmetric development of rural and urban areas.

Legitimacy - perceived success of funding instruments

A general perception of success of the different funding instruments is a starting point for further in-depth analysis of the legitimacy, social impacts and institutional conditions. The perceived success of the instruments the respondents worked with was evaluated through questions on the success in contributing to biodiversity conservation and serving societally important goals of implementation. Given the small number of responses to some of the instruments, only LIFE, EAFRD and ERDF are assessed quantitatively (Table 4.5).

Looking across the different instruments, the respondents working with LIFE perceived their instrument to have generally succeeded in biodiversity conservation, with almost all agreeing to all statements evaluating success (Table 4.5). However, the effectiveness of implementation was perceived as somewhat less successful. The EARDF respondents also evaluated their instrument as rather successful, with only a few disagreeing with the statements. ERDF responses were more varied, with several disagreeing with the statement on general success in conserving biodiversity and some disagreeing also with the statement of effective implementation. The overall effectiveness in implementation was evaluated lower than general success of reaching social goals across all instruments; in particular the Horizon 2020 respondents considered effectiveness in implementation low.

The LIFE respondents portrayed their instrument as serving a range of societally important goals relatively more than the respondents representing other instruments, which perhaps reflects the need to justify the instrument with numerous arguments (Müller and Maes 2015).

Table 4.5 Survey respondents' perception of success of the different funding instruments

The instruments have generally succeeded in contributing to biodiversity conservation	LIFE	EAFRD (Agriculture)	ERDF (Regional)	CF (Cohesion)	ESF (Social)	EFF/EMF (Fisheries/ Maritime)	H2020 (Research)
Fully agree	**13**	5	4	0	0	0	0
Somewhat agree	6	**17**	8	0	1	1	2
Neutral	1	1	1	1	0	0	3
Somewhat disagree	0	3	3	0	0	1	1
Fully disagree	0	0	2	1	**2**	0	1

The instruments have served a range of other societally important goals	LIFE	EAFRD (Agriculture)	ERDF (Regional)	CF (Cohesion)	ESF (Social)	EFF/EMF (Fisheries/ Maritime)	H2020 (Research)
Fully agree	**8**	6	5	0	1	1	0
Somewhat agree	**9**	**13**	8	1	0	1	2
Neutral	4	6	4	0	1	1	4
Somewhat disagree	0	0	1	0	0	1	1
Fully disagree	0	0	0	**1**	0	0	0

The instruments have generally been implemented effectively in my country/region.	LIFE	EAFRD (Agriculture)	ERDF (Regional)	CF (Cohesion)	ESF (Social)	EFF/EMF (Fisheries/Maritime)	H2020 (Research)
Fully agree	**10**	6	2	0	1	1	0
Somewhat agree	**7**	**14**	9	1	0	1	2
Neutral	2	3	2	0	1	1	0
Somewhat disagree	2	2	5	0	1	1	**4**
Fully disagree	0	0	0	1	0	0	1

Legitimacy - engagement of and satisfaction by stakeholders

To evaluate procedural legitimacy, the survey included questions on representativeness and engagement of stakeholders who are affected by the decisions.

As a measure of engagement the survey respondents were asked to evaluate which stakeholders were most commonly consulted when decisions on funding allocations are made. According to the respondents, consultation was most commonly done with administrations, NGOs, farmers and municipalities (Figure 4.2, Table 4.6). Only a few respondents considered that local inhabitants or enterprises are consulted. The open-ended answers to the category "other" included famers' organisations and land-users.

Further insights to legitimacy were sought with a question on stakeholder satisfaction. The respondents who worked with LIFE evaluated their stakeholders to be generally satisfied, with only two respondents reporting perceived dissatisfaction (Table 4.7). The answers of the respondents working with EAFRD and ERDF we more varied with some respondents experiencing that the stakeholders were dissatisfied.

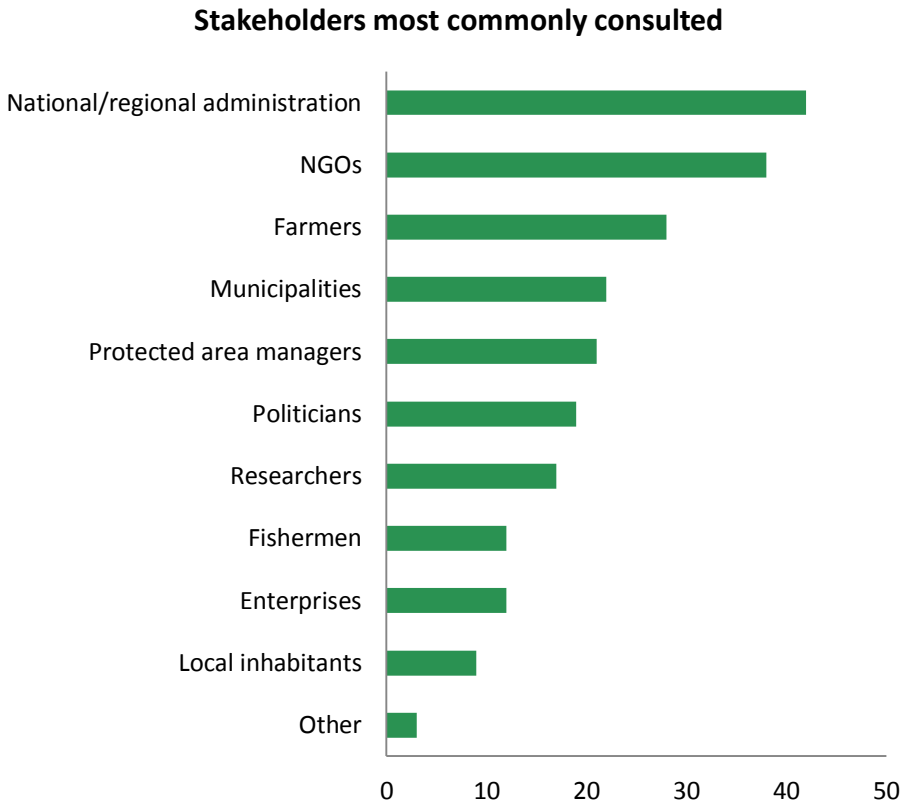

Figure 4.2 Survey respondents' evaluation of which stakeholders are most commonly consulted when decisions on funding allocations are made

Table 4.6 Survey respondents' evaluation of which stakeholders are most commonly consulted by funding instrument

	LIFE	EAFRD (Agriculture)	ERDF (Regional)	CF (Cohesion)	ESF (Social)	EFF/EMF (Fisheries/ Maritime)	H2020 (Research)
Local inhabitants	3	7	1	0	1	0	0
Municipalities	8	10	8	1	1	2	0
National/regional administration	**18**	**20**	**15**	2	2	**4**	**6**
Enterprises	4	8	4	1	1	2	1
Farmers	10	**22**	**9**	2	**3**	2	3
Fishermen	6	7	3	2	2	**4**	2
Politicians	7	11	6	0	1	1	3
Researchers	4	7	4	0	0	2	**4**
Protected area managers	6	12	7	1	1	1	1
NGOs	**16**	**20**	**13**	2	**3**	**4**	3
Other	1	3	1	0	0	0	0
	83	127	71	11	15	22	23

Table 4.7 Stakeholder satisfaction with the instruments, as a response to the statement of stakeholders being generally satisfied with the instrument

	LIFE	EAFRD	ERDF	CF	ESF	EFF/ EMFF	H2020
Fully agree	6	2	1	0	1	0	0
Somewhat agree	6	**13**	7	1	0	3	3
Neutral	7	3	5	0	1	0	0
Somewhat disagree	2	7	3	0	0	0	3
Fully disagree	0	0	**2**	1	1	0	1

The survey included also an open-ended question on concerns the respondents had encountered in the funding. High bureaucracy, insufficient resources and problems with thematic foci of different instruments (i.e. mismatches between biodiversity and other objectives) were brought up as main concerns. As regards bureaucracy, the respondents reported concerns such as long processes with time consuming preparation and slow decision making, excessive paper work and "strict rules". Bureaucracy was suspected to reduce the attraction of the instruments and motivation to apply for funding. LIFE integrated projects (i.e. projects under the 2014-2020 LIFE Programme designed to operate on a large territorial scale and across different funds, see section 5.2 for further information) were mentioned as an instrument in which bureaucracy is particularly unreasonable because of the strategic and dynamic nature of the instrument.

Also related to bureaucracy, concerns were expressed over reporting, monitoring, evaluation and control of funding. Comments of the evaluators were found unclear and even unjustified by some respondents. Audit findings were considered to reduce interest in biodiversity projects. On the other hand, one respondent brought up corruption as the main concern, signaling the importance of control. The reported lack of resources is also linked to bureaucracy as administrative burden generates expenses. Some comments mentioned insufficient resources as a disincentive to apply altogether. On the other hand one respondent said stakeholders had been mostly satisfied with the funds. As a solution to time and resource consuming application procedures, one respondent suggested a pre-selection phase for the LIFE programme, which might attract more motivated applicants.

The competitive nature of the instruments was a concern to some of the respondents. LIFE was considered to be distributed in an unequal fashion across the Member States and the basis for national allocations during 2014-2017 were criticized, as well as the lack of them in the 2018-2020. Comments related to the thematic focus of the instruments lamented the insufficiency of dedicated funding for biodiversity conservation and mentioned a risk of climate policy overriding biodiversity financing. Additionally, some respondents disagreed with the priorities within the instruments and the allocation of the resources for different activities: "Wrong topics are in the focus in the funding", as one respondent formulated it. There was also general critique towards the scope of the eligibility criteria.

Some respondents drew attention to the differences in the perception of appropriate conservation measures between stakeholders. The funding was considered to sometimes be channeled to activities that were only indirectly related to biodiversity conservation and rather supporting development activities like tourism. There were also concerns related to conceptual misunderstanding. Agro-biodiversity was raised as a practice that was poorly understood by the financiers, which was considered to hinder mainstreaming of biodiversity policies to more "in situ"-

or “at the farm” -conservation. Concerning the EAFRD it was also noted that the level of agri-environmental agreement incentives was too low.

Finally, the respondents were also concerned about the co-financing required to match the EU funds and the availability of national financial contribution to the EU projects. National financing was seen as limited and/or subject to strong competition which could limit the access to EU financing.

Institutional aspects

The institutional aspects of biodiversity financing were evaluated in relation to factors that could potentially constrain or enable smooth and effective process of financing biodiversity. Two constraints stood out clearly: administrative burden and differences in decision-making practices and traditions of different sector administrations and professions. Stakeholder consultation and engagement was identified as the key enabling factor contributing to the effectiveness of the delivery of funds. The responses to some of the statements about enabling institutional factors produced split responses: capacity of funding authorities and effective communication and coordination were identified by a number of respondents as elements constraining the integrated financing approach but similar numbers disagreed with these statements (Table 4.8).

As the largest respondent groups represented LIFE and EAFRD funds, the institutional analyses were conducted comparing respondents who worked/did not work with LIFE, and who worked/did not work with EAFRD. This analysis showed that the respondents not working with LIFE funds considered the administrative burden and the practices and traditions of different administrations and professions as constraints more than those working with LIFE (Table 4.9). Although overall the respondents considered the priorities and objectives of sectoral funding authorities to align with biodiversity objectives, the respondents working with LIFE were more pessimistic about this statement (Table 4.8). Both respondent working groups were equally pessimistic about the eligibility criteria facilitating biodiversity financing, as compared to the other respondents.

Table 4.8 Statements about institutional aspects (all respondents)

	Fully agree	Some-what agree	Neutral	Some-what disagree	Fully disagree
There is sufficient capacity among funding authorities to deliver EU finance for biodiversity effectively.	7	**14**	8	**16**	6
There is effective communication and coordination across different sectors and levels of administration.	4	**15**	9	**14**	9
Stakeholders are consulted at appropriate instances in the process, so that it is possible to provide meaningful inputs.	4	**26**	**14**	5	2
Fund programming and monitoring systematically uses biodiversity monitoring information.	7	**12**	**18**	**11**	3
The priorities and objectives of the funding authorities align with biodiversity objectives.	6	**21**	**13**	8	3
The practices and traditions of different administrations and professions constrain the delivery of the funds to biodiversity.	**10**	**23**	**11**	3	4
The eligibility criteria applied to EU funds facilitate finance for biodiversity.	8	**15**	**13**	9	6
The process for delivering EU funding for biodiversity is effective and efficient.	4	**12**	**13**	**16**	6
Biodiversity objectives are able to compete with other funding priorities.	6	9	9	**17**	**10**
Administrative burden significantly constrains the effectiveness of the funds.	**20**	**18**	5	4	4
Biodiversity objectives align well with social and economic priorities in the Member State.	6	**18**	**12**	**11**	4
Processes for stakeholder consultation and engagement help to deliver effective EU funding for biodiversity.	7	**21**	**13**	9	1
Biodiversity objectives align well with the priorities and interests of potential beneficiaries.	11	**18**	8	14	0

Table 4.9 Statements about institutional aspects (LIFE vs. EAFRD)

There is sufficient capacity among funding authorities to deliver EU finance for biodiversity effectively.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	7	1	**6**	4	3
Somewhat agree	14	5	9	2	**12**
Neutral	8	2	6	6	2
Somewhat disagree	15	8	7	**10**	5
Fully disagree	6	**4**	2	3	3

There is effective communication and coordination across different sectors and levels of administration.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	4	2	2	2	2
Somewhat agree	15	6	9	7	8
Neutral	9	1	8	4	5
Somewhat disagree	14	7	7	7	7
Fully disagree	8	4	4	5	3

Stakeholders are consulted at appropriate instances in the process, so that it is possible to provide meaningful inputs.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	4	2	2	1	**3**
Somewhat agree	25	8	**17**	12	13
Neutral	14	7	7	8	6
Somewhat disagree	5	2	3	3	2
Fully disagree	2	1	1	1	1

Fund programming and monitoring systematically uses biodiversity monitoring information.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	7	2	5	3	4
Somewhat agree	11	4	7	8	3
Neutral	18	5	**13**	6	12
Somewhat disagree	11	7	4	7	4
Fully disagree	3	2	1	1	2

The priorities and objectives of the funding authorities align with biodiversity objectives.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	6	1	5	2	**4**
Somewhat agree	20	6	**14**	10	10
Neutral	13	3	**10**	6	7
Somewhat disagree	8	**7**	1	5	3
Fully disagree	3	**3**	0	**2**	1

The practices and traditions of different administrations and professions constrain the delivery of the funds to biodiversity.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	9	5	4	3	**6**
Somewhat agree	23	7	**16**	12	11
Neutral	11	5	6	5	6
Somewhat disagree	3	2	1	**2**	1
Fully disagree	4	1	3	**3**	1

The eligibility criteria applied to EU funds facilitate finance for biodiversity.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	8	1	**7**	3	5
Somewhat agree	14	4	**10**	7	7
Neutral	13	3	**10**	5	8
Somewhat disagree	9	**7**	2	**6**	3
Fully disagree	6	**5**	1	**4**	2

The process for delivering EU funding for biodiversity is effective and efficient.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	4	0	**4**	2	2
Somewhat agree	11	3	**8**	3	**8**
Neutral	13	4	9	6	7
Somewhat disagree	16	8	8	9	7
Fully disagree	6	**5**	1	**5**	1

Administrative burden significantly constrains the effectiveness of the funds.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	**19**	10	9	11	8
Somewhat agree	**18**	6	**12**	9	9
Neutral	5	1	**4**	1	**4**
Somewhat disagree	4	2	2	2	2
Fully disagree	4	1	**3**	2	2

Biodiversity objectives are able to compete with other funding priorities.

	Overall	Respondents working on LIFE	Respondents not working with LIFE	Respondents working with EAFRD	Respondents not working with EAFRD
Fully agree	6	1	**5**	2	**4**
Somewhat agree	9	3	**6**	4	5
Neutral	9	3	**6**	4	5
Somewhat disagree	17	6	11	10	7
Fully disagree	9	**7**	2	5	4

4.5 Brief conclusions: social impacts, legitimacy and institutional aspects

In general, the existing literature indicates that when it comes to the social and institutional aspects of biodiversity financing the main challenges lie in the procedural legitimacy: the openness and inclusiveness of the procedures of specification and delivery of biodiversity policies. The literature also indicates that biodiversity conservation has been commonly perceived by stakeholders as a top-down led process and a constraint to economic activity.

In general, while improvements to the EU integrated financing framework are clearly needed, the existing information and survey results seem to indicate that the framework is suitable for addressing a number of key challenges.

By engaging stakeholders from different sectors, at different governance levels and at different stages of decision-making, integrated biodiversity financing has the potential to advance the

mainstreaming and legitimacy of biodiversity conservation. According to the empirical results of this study, stakeholder consultation and engagement are important factors in conditioning the legitimacy and effectiveness of the delivery of funds. Engagement and collaboration have been major targets of development during recent years, which can be accounted as a merit for the integrated approach to biodiversity financing.

In general, widening the range of beneficiaries helps to support the legitimacy of funding. According to the survey respondents, biodiversity funding benefits a range of stakeholders in many ways. Administration is considered a major beneficiary, and the natural resource funds (EAFRD and EFF/EMFF) identify their target groups, farmers and fishermen as important direct beneficiaries. Most funds consider local inhabitants as indirect beneficiaries and LIFE is considered to also benefit the NGO sector. All instruments benefit nature conservation but LIFE in particular supports access to public benefits and strengthens engagement. The mismatch between the expectations on whether funds should benefit certain stakeholders directly or whether they should be targeted at the production of public goods remains a challenge.

According to the survey respondents, the shortage of funds is a constant concern with some respondents also identifying too stringent and/or unsuitable eligibility criteria as a limiting factor. The most acute institutional challenge, influencing also the legitimacy of biodiversity financing, is the administrative burden. Bureaucratic tasks and application procedures generate costs to the applicants. Cumbersome application and reporting procedures can even limit the interest of relevant applicants. The administrative burden should be reduced in the future development of biodiversity financing, while acknowledging and respecting the differences in decision-making practices and traditions between sectors.

Finally, the empirical results suggest that monitoring of the outcomes of biodiversity funding is considered an area that needs development. The interviews and survey responses show that monitoring and evaluation are a concern both at the EU level and at the national level, with the EU level stakeholders highlighting the importance of verifying funding outcomes and the Member State stakeholders highlighting some dissatisfaction with the outcomes of evaluation and auditing.

4.6 References – Chapter 4

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5 Synthesis assessment: EU co-financing framework and options for the future

5.1 Synthesis assessment of the existing EU co-financing framework

Key conclusion

Delivering ecologically effective finance for biodiversity and Natura 2000 remains a significant challenge and it is clear that ecologically effective interventions are currently not sufficient in scale to address biodiversity priorities at EU level. However, the findings also suggest that evidencing the benefits of – and need for – biodiversity is not the main constraint to the application of the integrated approach. Instead, the assessment indicates that limited (public) budgets, mismatches and competition between the funding prioritise (i.e. biodiversity objectives and other sectoral priorities), institutional capacity issues and burdensome administrative processes are the key limitations affecting success.

5.1.1 Ecological effectiveness

As concluded in Chapter 3, evidence to date suggests that delivering ecologically effective finance for biodiversity and Natura 2000 remains a significant challenge and it is clear that ecologically effective interventions are currently not sufficient in scale to address biodiversity priorities at EU level. While ecologically effective outcomes are being delivered under the existing integrated arrangements through some parts of the EU budget (e.g. LIFE funded programmes, some EU agri-environment schemes, some ERDF and CF programmes), there remains a significant funding gap for Natura 2000 and biodiversity, such that meeting conservation objectives requires significant upscaling of well-designed and targeted approaches to financing.

The presence of funding gaps was identified as one of the most significant challenges for delivering the Natura 2000 network and related conservation objectives in the recent European Commission study supporting the fitness check of EU nature legislation (Milieu, IEEP and ICF, 2016), and is highlighted consistently by all stakeholders involved in biodiversity funding across the EU. The most recent assessments suggest that current EU funding meets at most 20% of the estimated costs of managing the network, and that national funding is insufficient to fill the gap. Achieving the wider EU biodiversity targets requires substantial additional funding on top of that allocated to Natura 2000. While overall estimates for both the needs and financing available to implement wider EU targets are not available, the existing studies on certain biodiversity related objectives (e.g. restoration, conservation of agricultural and forestry land, IAS etc.) suggest that there are also significant funding gaps.

Effective project-level indicators have typically been created and assessed for projects funded through the LIFE programme, with conclusive evidence that LIFE has delivered positive ecological outcomes in terms of the conservation of species and habitats, the restoration of green infrastructure and the delivery of ecosystem services. However, landscape-level and cumulative assessments of LIFE funding have in the past been lacking, preventing evaluations of the overall impact of the programme. This is currently being rectified through improvements in the indicators used for LIFE. Other funds such as EAFRD and ERDF have also delivered ecological benefits, though evidence is incomplete and indicators for these funding streams are often not fit for purpose, preventing evaluation even at a project level. It is therefore not possible to determine the overall effect of integrated financing on EU biodiversity beyond extrapolations from general trends, or to determine best practices and the most effective interventions or programmes. This hinders the ability to improve the deployment of funding in the post-2020 biodiversity framework.

5.1.2 Cost-effectiveness

Various studies suggest that - on a general level, considering a wide variety of socio-economic and wellbeing benefits - the benefits of action for biodiversity and Natura 2000 significantly exceed the costs. Furthermore, while EU funding sources for implementing the biodiversity objectives are broadly seen as insufficient across the EU, funds are often seen as being used efficiently. However, there is limited evidence in relation to the cost-effectiveness of specific funding allocations.

The existing evidence, as supported by the survey carried out in the context of this study (see 5.1.3 below) clearly highlights issues with the administrative burden associated with the funds including both the application and implementation stages of funding. The costs of administering and accessing finance are large for some EU funds, reducing the cost-effectiveness of the funding process. There is also an indication that large benefits associated with biodiversity policies are often constrained by inefficiencies in funding processes.

Overall, the analysis suggests that actions to address priorities for biodiversity and Natura 2000 represent good value for money, although there is an ongoing need to strengthen evidence relating to the benefits of conservation action (See 5.1.1 above). This finding suggests that evidencing the benefits of – and need for – biodiversity action is not the main constraint to the application of the integrated approach. The analysis identifies constraints relating to competing priorities for limited public budgets, mismatches and competition between available funding (i.e. biodiversity objectives vs. sectoral priorities), institutional capacity issues and burdensome administrative processes. These all highlight the need to address other aspects such as institutional and legal fit, social impacts and legitimacy in enhancing the effectiveness of the integrated approach.

5.1.3 Institutional and legal fit

The current institutional framework at the EU level complies with the underlying principle of environmental mainstreaming and provides a solid legislative basis for biodiversity financing and allows biodiversity conservation to be supported through integrated financing across different sectors. While from the perspective of biodiversity conservation the sectorally oriented framework used to finance biodiversity conservation appear fragmented and only indirectly relevant by scope, from the perspective of biodiversity mainstreaming it is logical to address conservation funding in a way that is embedded in different sectoral policy goals and implementation structures.

However, both the literature review and empirical analysis carried out in the context of this study point to a number of institutional challenges at the level of implementation. Mismatches between conservation objectives and other funding priorities are a constraint to delivering ecologically effective financing of nature and biodiversity. Specifically, eligibility criteria, limited availability of co-funding and poorly specified financing requirements constrain access to available funding. Administrative burdens are also reported to constrain access to funding directly affecting the delivery of conservation results.

5.1.4 Legitimacy and impacts on stakeholders

The engagement of stakeholders in biodiversity conservation at different stages of the process and at different levels of governance improves the legitimacy of both the conservation process and its outcome. Hence, the integration of biodiversity objectives into different EU financing schemes contributes to the legitimacy of biodiversity conservation by engaging actors and reconciling different types of activities. Furthermore, dedicated EU funding to support this very aspect of conservation (e.g. stakeholder consultation, public awareness and training) over recent years can be considered to have played an important role in supporting the legitimacy of conservation actions.

The national level survey indicates that EU funding for biodiversity already benefits a range of stakeholders which, based on the literature, has a positive impact on the overall legitimacy of biodiversity conservation. Consequently, broadening the scope of beneficiaries for EU funding by identifying and addressing the eligibility gaps frequently referred to by different stakeholders would not only help to increase the uptake of funding but also to increase the legitimacy of EU biodiversity policy. Similarly, increasing awareness related to the broader welfare benefits of conservation is likely to increase the legitimacy of biodiversity funding among stakeholders benefiting indirectly from conservation actions (e.g. public health and water management sectors).

While a range of stakeholders are already consulted in the decision-making process (e.g. sectoral administrations, NGOs, farmers and municipalities), there seems to be scope for further integration of some other stakeholders (e.g. local inhabitants or enterprises) into the process. The integration of businesses in the consultation process would be of high importance, given the aspiration to increase private sector funding for biodiversity (see Chapter 6).

The level of payment can form an important element in determining legitimacy and related conservation outcomes. For example, the uptake of the agri-environment schemes is known to be influenced by the scheme's payment rates. As regulations limit the level of payments to compensation for income foregone plus additional costs, stakeholders tend to take up options that require the least changes to the existing systems and operations, which are usually least beneficial for biodiversity.

As regards the different funds, the LIFE instrument continues to be highlighted by stakeholders as having successfully and effectively contributed to biodiversity conservation. In addition, EAFRD and ERDF are considered rather successful and effective. These insights seem to suggest that there are merits in both considering to increase the targeted funding for biodiversity (as per LIFE) and continuing to improve integration of biodiversity into different key EU funds. However, in the latter case the insights from the agri-environment context indicate that further targeting (e.g. earmarking) of funding within the context of funding instruments themselves would help to deliver more concrete benefits for conservation.

Finally, administrative burden seems to emerge as the most acute institutional challenge among the stakeholders, influencing also the legitimacy of biodiversity financing. Bureaucratic tasks and application procedures generate costs to the applicants while cumbersome application and reporting procedures can even limit the interest of relevant applicants. Given the administrative burden seems to be the concern for both national administration and the beneficiaries, further development of monitoring should not rely on further self-reporting but perhaps rather seek some more automated solutions.

5.1.5 Synthesis of the key shortcomings

Based on the assessment of the existing EU co-financing framework for biodiversity (Chapters 3 and 4), the identified shortcomings of the current regime can be summarised as follows:

- **Lack of funding**
  - EU funding available for biodiversity, i.e. the lack of practically available / accessible funding to carry out conservation actions
  - National co-funding to match the EU funding

- **Low incentives for take up of conservation measures**
  - Under EAFRD payment incentives for farmers to take up voluntary agri-environment scheme measures are limited[28] to compensation for income foregone and additional costs
  - So called "dark green" measures[29] (such dedicated measures for grasslands or protected species) are not attractive to farmers and authorities due to their complexity including eligibility criteria and control mechanisms

- **Mismatches and competition**
  - Mismatches between a) scope and opportunities provided by the EU funds and the priorities included in the national / regional programmes implementing the funds and/or b) the sector policy oriented frameworks for funding and biodiversity conservation needs (e.g. types of measures needing funding)
  - Competition between biodiversity and other sectoral policy goals
  - Eligibility gaps (e.g. gaps in measures eligible for funding, gaps in eligible beneficiaries) and issues linked to prioritisation of and/or conditionality for measures

[28] Due to CAP and/or WTO rules
[29] As opposed to so called "light green" measures such as crop rotation or reduction of use of fertilizers which are relatively easy to implement and control.

- **Inadequate information**
    - Gaps in evidence on both ecological effectiveness and socio-economic benefits linked to conservation, hindering a) assessment of best practices and b) improvement of biodiversity governance (e.g. support to negotiations at EU and national level and improved legitimacy)

- **High administrative burdens** experienced by both the administration and beneficiaries related to application and reporting, creating institutional barriers and affecting the cost-effectiveness of funding

- **Institutional inefficiencies and legitimacy deficiencies**
    - Lack of awareness and inadequate tools among sectoral funding authorities on / to address a) ecological effectiveness b) relevance to other socio-economic and sectoral priorities and c) needs and opportunities for biodiversity
    - Lack of awareness and information flow between financing governance levels (EU – national –local) on the above aspects
    - Limited effectiveness of the midterm review of the EU funds as a "corrective" process
    - Need for a review of payment levels with a view to increase legitimacy (see above)
    - Remaining issues with stakeholder involvement and support at different levels (e.g. business sector)

5.2 Identifying possibilities for the future

5.2.1 Recommendations arising from the current regime

A number of approaches to address the gaps and shortcomings in the EU co-financing model for biodiversity and Natura 2000 have been identified previously, when evaluating the 2007-2013 funding period (e.g. Kettunen et al. 2011) or assessing opportunities in the context of the 2014-2020 period (Medarova-Bergstrom et al. 2014, Kettunen et al. 2014). The identified solutions have included, first and foremost, introducing changes to existing EU funding instruments (e.g. addressing identified gaps in scope and eligibility, earmarking for biodiversity expenditure and adopting dedicated biodiversity indicators for assessing the actual expenditure and impacts of spending). Alternatively, shifting the focus from improving the integrated multi-fund framework to adopting a regime centred on a dedicated EU instrument for financing biodiversity and Natura 2000 (i.e. beyond the existing LIFE biodiversity component) has been considered.

In addition to the above, a number of key horizontal measures – relevant to both options above – have been identified by previous assessments to improve coordination and coherence between the funds and the uptake of funds in practice (e.g. the use of PAFs as mechanisms for coordination and supporting the building of partnerships for integrated projects, such as LIFE integrated projects, using funding from different EU and non-EU funding instruments). In addition, enforcing links to ecosystem services and related socio-economic benefits have been seen as a key to increasing the mainstreaming of biodiversity objectives into EU funds.

Finally, in recognition of the limited availability of public funding both at the EU and national level, earlier assessments have identified and considered opportunities for complementing the existing funding framework with non-EU and/or private funding instruments, such as payments for ecosystem services (PES), biodiversity offsetting and business partnerships. (See Chapter 6 for further discussion and analysis).

The existing assessments have concluded that none of the previously identified options for improvement alone are likely to be sufficient in addressing all the identified shortcomings in and constraints on using the EU co-financing framework. Rather, the future options should be based on a combination of measures and approaches aiming at improving a range of identified shortcomings in the EU framework. For example, changes to the scope and objectives of existing funds would help to address gaps in the eligibility for funding and provide a more secure basis for financial allocations at national level. They would not, however, help to improve coherence and cooperation between the application of different EU funds for biodiversity purposes or secure the most effective use of the entire co-financing framework. Consequently, both fund specific and horizontal framework-oriented measures are needed.

The conclusions of previous studies, summarised above, on how to improve the EU co-financing framework are in line with the insights from this study, as summarised in Chapters 3 and 4 above. On the basis of existing information and reflecting the current insights from the assessment of ecological effectiveness, cost-effectiveness, institutional arrangements and stakeholder impacts Table 5.1 provides a list of identified possible elements that could help to address the key short comings of the current EU co-financing framework. A number of these key elements are outlined below as they could play a role in addressing several of the short-comings identified.

Increasing the total amount of funding available

Earmarking of biodiversity expenditure: Technically speaking, increasing the amount of funding for biodiversity (e.g. by increasing the budget for LIFE's nature component and/or increasing funding for biodiversity-related agri-environment measures) would be the most straight forward way to address the current gap in funding. However, given the multiple pressures on the EU budget and continued focus on the EU's political agenda for jobs and growth, relying on the identified shortcomings to be mainly addressed by an increase in the total funding does not seem to be realistic. This is likely to remain the case even if the evidence on the role of nature in underpinning jobs and wellbeing continues to increase, supporting the negotiations on financial allocations (see below).

One of the well-documented bottlenecks is the limited uptake of biodiversity related opportunities provided by the EU framework at the national and regional level, in particular the integration of these opportunities into the operational programmes. Consequently, as identified already in the context of the 2007-2013 funding period, earmarking biodiversity expenditure under the sectoral EU funds would be one of the most effective ways to increase the contribution of the EU budget to biodiversity. This earmarking could be carried out in different ways, including setting a general target (%) for biodiversity related spending across the whole EU budget (i.e. mirroring the 2014-2020 target of 20% for climate related action), setting targets (%) for individual EU funds) or by "nesting" a dedicated amount of funding (€) for biodiversity to be delivered within different individual funds.

Earmarking could be focused to support the implementation of the Natura 2000 network. The benefit of such targeting to EU nature conservation policy priorities would maximise the biodiversity outputs of funded measures and thus their cost-effectiveness (i.e. reduce the risk of "diluting" the

delivery of conservation benefits). Additionally, earmarking could be broadened to include some other aspects of the broader environment that are synergistic with biodiversity conservation (e.g. protection of natural water resources or soil). Similarly, earmarking could be designed to target supporting biodiversity related EU initiatives (e.g. the TEN-G for EU-wide green infrastructure network). Whilst the nature directives fitness showed that there is widespread public support for the implementation of the directives (Milieu, IEEP, ICF, 2016), a broader scope could perhaps help to obtain additional political and stakeholder support for earmarking while limiting the foreseen competition for funding between different environmental objectives.

Finally, the selected approach to earmarking would need to be in sync with the EU's approach to tracking biodiversity related expenditure, currently being developed[30].

Dedicated EU fund for biodiversity: Pooling the EU biodiversity related expenditure into a dedicated fund that targets exclusively (or primarily) nature conservation has been suggested as the most straightforward way to increase total funding available[31]. Such a dedicated fund is often suggested to build on the existing nature component under LIFE, with a significantly increased scope and budget in comparison to current LIFE funding. It is foreseen that a dedicated funding instrument would eliminate the competition between biodiversity and other sectoral priorities, this way resulting in an increase in the effectiveness of this funding and also perhaps in the total funding available for nature (See section 5.4 below). Furthermore, a dedicated fund would help to address the identified mismatches arising from the use of sector oriented frameworks for biodiversity conservation, making the rules of spending more suitable and clearer for biodiversity and this way further improving effectiveness.

However, shifting from the current funding framework to a single fund approach would mean lowering the current expectations for biodiversity integration under the different EU funds. Given the status of biodiversity is heavily affected by sectors such as agriculture, forestry and fisheries, any lowering of requirements for sectoral integration would require a thorough assessment of the possible remaining levels of integration and the likely benefits and risks, e.g. reflecting compliance with the general EU principle for environmental mainstreaming (see section 4.2). Such risks could be reduced if the dedicated fund were focused on financing the Natura 2000 network only, however in this case the added value of such a fund in comparison to the LIFE's nature component would need to be assessed in detail.

Further consideration of pros and cons of such a fund are explored in more detail in section 5.4 below.

Innovative (non-EU) funding instruments: Innovative funding instruments, such as payments for ecosystem services (PES), biodiversity offsetting schemes, taxes and taxes incentives, fees and charges, and different public-private partnerships, are increasingly being discussed as the means to address the biodiversity funding gap, both at the national and EU level. While the uptake of and experience in implementing these instruments is constantly increasing, there is little existing evidence of such instruments being able to make a substantial contribution to the EU biodiversity funding needs in the immediate future. Furthermore, the available evidence suggests that the

[30] http://ec.europa.eu/environment/nature/biodiversity/financing_en.htm
[31] E.g. German position: http://www.bmub.bund.de/fileadmin/Daten_BMU/Pools/Broschueren/naturschutz-offensive_2020_broschuere_bf.pdf

development and uptake of such innovative instruments often needs to be supported by public funding and new regulations, such as to stimulate the need for offsetting (see Chapter 6). It is therefore unclear to what extent the uptake of innovative instruments is able to complement the current financing arrangements and reduce the competition for limited public funding, at least in a short term. Chapter 6 explores these aspects in more detail.

Improving coordination and coherence

PAFs: For the 2014-2020 funding period, PAFs were introduced as a key new instrument to support the coordination between different funds under the EU co-funding framework[32]. In short, PAFs are planning tools aimed at identifying required Natura 2000 conservation priorities and management measures as well as their related costs and potential financing sources, matching the former with the latter. While it is still too early to assess the overall performance of PAFs, the existing evidence indicates that, when well prepared and given political impetus, PAFs can make a concrete positive contribution towards securing the integration of biodiversity funding at a national level (IEEP and Milleu 2013, N2k Group 2016, Milieu, IEEP and ICF 2016). However, reports from Member States also suggest that the development of PAFs missed opportunities in certain Member States, with some PAFs considered either too ambitious, or insufficiently ambitious, and likely to fail in practice. In some instances, PAF development has been undertaken too late, or with only limited consultation with stakeholders.

Building on the above, it appears that there are a range of opportunities to improve the effectiveness of PAFs as a coordination tool. In comparison to the existing application, PAFs could be made more effective by providing a more explicit analysis of the problems (i.e. causes for biodiversity decline and related challenges for conservation in the given region / Member State), linking this information to foreseen solutions (i.e. measures) and estimated costs, and then clearly highlighting the identified priorities for action. Furthermore, improving the integration of PAFs into the national and regional process - with a view to create shared ownership between government departments and sectors and to increase their influence - should be one of the key priorities. This could be achieved, for example, by reorienting PAFs to focus on identifying and elaborating on concrete areas where conservation needs could be linked with the delivery of national and regional socio-economic priorities as identified in different national policy documents (e.g. public health, water management, climate change mitigation and adaptation). In other words, there is a need to address the issue of PAF ownership and commitment between government departments and sectors; if PAFs are (perceived to be) owned by the nature authorities only then they risk remaining a "lobbying" document rather than a policy document. Means to enforce the cross-sectoral ownership of the document should therefore be considered e.g. by enforcing their legislative role in the context of different EU funds.

Furthermore, PAFs could also be used to identify key national priority areas for developing innovative non-EU funding for biodiversity, including highlighting key sectors, actors and EU funds for such cooperation. For example, PAFs could be requested to include a dedicated assessment of the potential for innovative funding initiatives (see Table 6.2), identified to have high potential for successful uptake by the Member State. The most suitable initiative(s) would then be invited to apply for start-up funding from LIFE and/or other EU funds.

[32] The development of the PAFs is based on the provisions of Article 8 of the Habitats Directive.

LIFE integrated projects: The 2014-2020 LIFE Programme includes a new type of project named "integrated projects". These projects are designed to operate on a large territorial scale, being oriented towards the implementation of plans or strategies required by EU and/or Member States' environmental, climate or nature conservation legislation (e.g. the management of the Natura 2000 network). One of the key purposes – and indeed a concrete requirement - for LIFE integrated projects is to mobilise funding from other EU and national sources, including private funding sources. In practice this means that LIFE integrated projects have to include explicit objectives and targets for the coordination and mobilisation of resources from non-LIFE sources, including reporting on the achievement of these objectives. The six projects selected to be funded across the EU in 2014 with a total budget of over €108 million have likely leveraged substantial additional funding from EAFRD and ERDF, as well as national and private funds[33]. While it is still too early for any reviews of LIFE integrated projects to exists, it is foreseen that the increasing number of these projects, with their lessons learned, can support future coordination and coherence for integrated funding.

Eligibility gaps, conditionality and prioritisation: The existing evidence also continues to point to gaps in conservation measures and stakeholders eligible to receive financing under the EU funds. These gaps arise, at least partly, from aiming to implement conservation actions through instruments primarily aimed at financing other policy sectors. For example, support directed primarily to active farmers and fishermen excludes other key actors managing – or being interested in managing – protected areas (e.g. NGOs and national park managers). Similarly, the requirement for targeting at least 80% of total ERDF resources in developed regions to a limited number of pre-determined EU priority areas is considered to have lowered the uptake of biodiversity measures (N2k Group, 2016).

As regards different biodiversity management measures, monitoring the status of species, habitats and ecosystems does not automatically fit within the scope of funding instruments. Consequently, securing funding for monitoring continues to be highlighted as problematic, despite the importance of such activities including the needs for evidence of the effectiveness of conservation measures and identifying different wellbeing benefits associated with conservation efforts. Furthermore, the inability to find funding to cover staff costs continues to be an issue in several Member States. This results in an insufficient capacity to carry out - or advice others on - biodiversity management effectively, including the lack of capacity to apply for further funding. Finally, the EU funds pose limitations to land acquisition although sometimes land acquisition might be the most cost-effective way to guarantee conservation outcomes. This is the case, for example, with peatland restoration for biodiversity and climate change mitigation where the restored land often becomes unattractive to the landowners.

While recognising that the role of the EU budget is to complement, not to replace, national funding it seems that a systematic eligibility review - covering all EU funding instruments relevant for biodiversity - could be carried out, to identify key eligibility mismatches and possible areas of ambiguity and to explore how they could be addressed. Such a process would require buy in from all relevant DGs and could help to find solutions for key eligibility barriers.

Furthermore, increased support – both political and technical - to the development and implementation of multifaceted and/or multi-functional projects (i.e. projects aimed at using

[33] http://ec.europa.eu/environment/life/projects/ip.htm

measures in combination to build on one another in a synergistic way or delivering benefits both for biodiversity and broader socio-economic wellbeing) is needed to increase effectiveness and overcome the difficulties in financing conservation measures within funding frameworks for sectoral policies. The latter can be supported by a dedicated effort in increasing understanding of the Member State specific socio-economic priorities that have synergies with biodiversity (e.g. public health, climate change, green employment etc.)

As regards limiting competition between sectoral goals, the list of measures that can be used to count towards the 30% of the EAFRD budget targeted to 'environment and climate' could be limited by removing the Areas of Natural Constraints (ANC) measure. Whist it may indirectly support some biodiversity by helping to support systems such as High Nature Value farming, the ANC measure currently makes up a significant a proportion of the 30% allocation while not being particularly well targeted at environmental issues. Alternatively, the ANC support could be limited to account towards the 30% allocation only if the measures were explicitly designed to address environmental concerns and/or involved Natura 2000 sites with supported measures being consistent with site management plans and/or conservation measures.

Furthermore, the targeting of agri-environment schemes could be increased, by learning from the existing schemes and the ongoing pilot projects on result-based schemes. At the same this tailored use of the Pillar I greening measures could be increased to ensure they are able to provide a basic level of biodiversity protection underpinning on EAFRD measures (e.g. for example banning pesticides and fertiliser use on Ecological Focus Areas (EFAs) and requiring evidence of biodiversity benefits for selection of EFA options).

For ERDF, the requirement for targeting of ERDF (at least 80% of total ERDF resources in the developed regions) to a limited number of pre-determined EU priority areas could be removed as this is considered to increase the competition between policy objectives. Furthermore, broadening the scope of ERDF eligible investment to explicitly include investment in peatland restoration (e.g. costs of land acquisition) as a means to mitigate climate change could be considered. This would seem to respond to Member States' interests and help with the existing ambiguity on interpreting the scope of eligible investment.

Improving the information base and effective use of resources

Chapter 3 reveals that existing information does not allow us to draw very comprehensive conclusions as regards the effectiveness of different conservation measures supported by EU funding. On the other hand, it also seems that verifying the benefits of biodiversity funding is not the main constraint to the application of the integrated approach (see section 5.1.2 above). However, the lack of such information clearly hinders the identification of best (e.g. most cost-effective) practices and targeting funding to such practices. Furthermore, the lack of information on conservation outcomes also stands in the way of improvements to EU biodiversity financing governance (Chapter 4), e.g. supporting the role of biodiversity in the EU budget negotiations and increasing output legitimacy among stakeholders.

Consequently, there is a need for the development of a more systematic procedural framework for monitoring, evaluation and learning from the outcomes of EU funded actions. This includes, for example, further development of outcome-focused biodiversity targets and indicators to assess the effectiveness and efficiency of the different EU funds, both on a project and landscape level.

Building on the above, further procedures can be developed to improve the design of measures and in this way increase the cost-effectiveness of funding, for example targeting sites with optimal cost-benefit ratios or using auctioning approaches for the take up of conservation measures (e.g. agri-environment grants). As a part of this procedure, the possible broader consequences of increased targeting should be carefully considered, including the risks of making certain areas ineligible for funding.

Finally, the development of multi-functional projects (see above) that successfully deliver both conservation and broader socio-economic objectives also requires further information. More evidence is needed, for example, on different nature-based solutions (i.e. solutions that build on nature's ability to deliver ecosystem services), e.g. their costs and benefits, and failure and success factors, as at the moment such projects tend to have several unknowns.

Lowering the threshold created by administrative burden

After more than a decade of implementing the EU integrated funding approach, the administrative burden experienced by stakeholders continues to be a barrier for the access to and application of funding for biodiversity. Consequently, a consolidated effort to reduce the complexity of application and implementation processes across all EU funds is required.

It seems appropriate that addressing the administrative burden should be supported by a dedicated EU-wide assessment, with explicit focus on identifying opportunities for lowering administrative burdens related to EU funding application and reporting processes. Such an assessment could usefully be carried out jointly for all environmental sectors, as the administrative issue affecting access and uptake of financing for biodiversity are likely to be similar across different environmental sectors eligible for funding from the EU budget.

For EAFRD, the requirements for administrative control associated with agri-environment and climate measures could be redesigned to make sure that controls are proportionate to the measures taken and/or outcomes foreseen to be achieved.

Finally, providing more systematic support for capacity building, knowledge sharing and exchange among beneficiaries to support application and reporting continues to be important. Considerable efforts are already made to support such activities (e.g. resources are made available under the EU budget), however further encouragement towards greater use of such supporting measures at national and regional level seems to be required. This could be achieved, for example, by making the planning of such measures an integral part of PAFs.

Table 5.1 Summary of the identified key limitations and possible solutions for the improving the performance of the post-2020 EU co-financing framework, emerging from and reflecting the review of evidence (Chapters 3 and 4)

Limitation	Potential solutions
Gaps in EU funding available **Gaps in national co-funding to match EU funding**	• Increase dedicated funding for biodiversity under the EU budget (e.g. by increasing budgets for LIFE's nature component) • **Setting targets / earmarking for biodiversity expenditure** under sectoral EU funds, e.g. mirroring the 2014-2020 approach for an overall % across the funds towards climate change and/or creating earmarking for dedicated biodiversity related EU initiatives, in particular for Natura 2000 • Improved coordination and coherence between funds by improving the use of PAFs (e.g. improving their sectoral engagement and timing of the drafting process and/or considering increasing their legislative power) • Improved coordination and coherence between different funds by providing dedicated funding (e.g. under LIFE) to catalyse and unlock finance from other funds (e.g. reviewing lessons learned from LIFE integrated projects and exploring possibilities to reinforce allocating funding for such integrated projects from different sectoral funds) • Increasing the knowledge base on wellbeing benefits associated with conservation measures and actions, to support decision-making processes at different levels of biodiversity financing governance • **Adoption of new and innovative (e.g. market-based) mechanisms**, both at the EU and national level, to support EU co-financing while simultaneously using EU funds to catalyse development of innovative financing via pilot projects • Increased emphasis on public-private partnerships to increase non-public sources for funding • See Chapter 6 for further analysis and discussion • **Development of a new EU instrument for financing biodiversity and/or Natura 2000** by abandoning the focus on integration and lowering the expectations for biodiversity integration under different EU sectoral funds. The new instrument could cover biodiversity conservation in the EU in a broad sense or be focused on financing the implementation of the Natura 2000 network and/or the EU nature directives (see section 5.3)

Mismatches between overall fund policy and scope and/or national and regional programme priorities and/or biodiversity project and conservation needs **Competition between different policy goals** **Eligibility gaps (e.g. gaps in measures eligible for funding, gaps in eligible beneficiaries)** **Mismatches in timing of the fund availability and of funding applications, which usually occur on an annual basis, and needs of conservation projects**	• Creating support mechanisms that ensure better communication and coordination between fund managers and Natura 2000 and biodiversity management authorities • Increased and dedicated support for the building of partnerships for integrated projects involving several EU sectoral funds, e.g. following and learning from the 2014-2020 LIFE integrated projects • Increased attention to multifunctional projects that a) are evidence-based and b) successfully deliver for both biodiversity and broader socio-economic benefits, especially to overcome eligibility gaps • Adjustment of eligibility criteria for different EU funds to increase availability for actions that contribute to EU biodiversity policy objectives (e.g. informed by systematic analysis of each funding programme to examine how the eligibility of different measures for biodiversity funding could be improved – by examining eligible sectors, beneficiaries, types of action, timing etc.)
Inadequate information on both ecological effectiveness and socio-economic benefits linked to conservation hindering a) assessment of best practices and targeting of funding and b) improvement of biodiversity governance (e.g. support to negotiations at EU and national level and improved legitimacy)	• Consolidated effort in establishing management plans for all remaining Natura 2000 (e.g. marine and coastal protected areas) allowing for the establishment of concrete management measures • Systematic use and incorporation of a monitoring, evaluation and learning procedural framework, including outcome-focused biodiversity targets and indicators to assess the effectiveness and efficiency of the different EU funds, both on a project and landscape level, to allow proper evaluation of results • Ongoing monitoring, evaluation and research examining the benefits of biodiversity action, and nature-based solutions (e.g. for climate change mitigation and adaptation) including ecosystem services, and their value and relevance to different stakeholders and sectors
Cost-effectiveness	Building on the improved information base: • Use of procedures to increase the cost-effectiveness of funding, e.g. targeting to sites with optimal cost-benefit ratios, use of auctioning for the take up of measured (agri-environment grants), cost-effectiveness oriented guidance for fund managers, use of PAFs to strengthen evidence base for integration in funds building on synergies with socio-economic priorities • Consolidated efforts in improving the design of schemes based on best available evidence, e.g. using results-based schemes where appropriate • Consolidated efforts to use different measures funded from the EU funds in combination, to build on one another in a

	synergistic way
High administrative burdens	• Reduced complexity of application processes for all funds, supported by a dedicated EU-wide assessment with explicit focus on identifying feasible opportunities for lowering the administrative burden related to the EU funding application and reporting processes • Development of more efficient and proportionate compliance and monitoring procedures for different funds (e.g. by using result-based approaches), with a view to reduce risks of non-payment and related disincentive for some Member States to develop biodiversity management / restoration measures and farmers from taking them up • Provide more systematic support for capacity building, knowledge sharing and exchange among beneficiaries to support application and reporting
Institutional inefficiencies and legitimacy deficiencies Lack of awareness among sectoral funding authorities Lack of awareness and information flow between financing governance levels (EU – national –local) Limited effectiveness of midterm review of EU funds	• Enhanced guidance for funding authorities • Improved evidence about the relevance of biodiversity to achieving other socio-economic priorities, and the scope for integrated, multi-objective interventions • Further efforts to communicate the proven benefits of biodiversity action to different stakeholders and groups, and to understand distributional effects and perceived negative impacts

5.2.2 Empirical insights from stakeholders

EU level interviews

During the EU level interviews (see section 4.3), the six interviewees representing the different EU funds were presented with two future pathways for funding, not as mutually exclusive pathways but rather, as alternative emphases. The first pathway was further integration into existing EU funds and the second one was a new dedicated instrument.

The interviewees considered further integration to be the most likely and preferred pathway. The integration pathway was thought to be in line with the mainstreaming principles of the EU and would therefore raise less resistance than attempting to shift to a single EU biodiversity fund. Integration of biodiversity conservation objectives into the broader context of land and resource use, supported by integrated funding, was favoured also because it was considered an effective way to protect nature overall. The only area where further integration of biodiversity was considered challenging was research funding, because biodiversity was seen to not be relevant in all funding areas.

As regards the current LIFE funding, the interviewee representing this fund had optimistic expectations for a continued success of the fund. However, this success was seen to be conditional on the ability to improve coordination with other EU funds (e.g. attracting resources from other funds to complement the LIFE projects).

According to the interviewees, the challenges with the integrated approach relate to coordination and monitoring. Coordination across Member States was seen as an area where further attention would be required in the future but also a need for increased coordination within Member States was highlighted. A dedicated fund was considered to perhaps be easier to monitor, however concerns were raised with regard to gaining enough political support for such a fund. On the other hand, some considered integrated funds easy to monitor because monitoring would be more inclusive, engaging also private sector actors.

The interview results on future funding are summarised in Table 5.2.

Table 5.2 Interviewee views on the future EU approach to biodiversity funding. Note: the table summarises aspects identified by the interviewed EU DG representatives (6) (e.g. some contradicting views) and should not be considered as a comprehensive consideration of pros and cons of future funding models.

Modification to current system	How would this change the current situation?	Beneficiaries and losers Who would lose out?	Administrative pros and cons
1. Further integration into existing EU funds	Was considered to be the current trend and favoured option by the interviewees + setting targets (better definition of priorities) for biodiversity and monitoring would increase transparency and effectiveness - currently funding for cross-border projects (e.g. Alps) missing	+ Matching funding with local realities could benefit wide variety of stakeholders	- needs a cross-sectoral coordination effort to pool enough funds + provides a chance for effective cross-sectoral monitoring of funding and its outcomes - increased monitoring effort is costly - more money should come from RTD for biodiversity monitoring to produce robust data + administration already in place to form basis for monitoring + private sector might assume part of monitoring burden upon involvement
2. A new, more comprehensive EU instrument dedicated to biodiversity	Seen as an unlikely option by the interviewees - A broader, systematic view and co-benefits for biodiversity from other funding (e.g. climate change) would be lost - Total funds might be reduced since biodiversity is not a political priority like e.g. climate change - Would be against the principle of integration of the environment into sectoral policies in the EU treaty?	-Would reinforce centralised governance, while who benefits might be most appropriately defined at national, regional and local level	- centralised funding would not necessarily be efficient or effective; heavy bureaucracy - would take a long time to negotiate, let alone implement

5.2.3 National and regional survey

As a response to a dedicated question on the future of EU biodiversity financing, the respondents to the survey expected biodiversity conservation to be further integrated into most of the funds (Table 5.3). In addition to LIFE, EAFRD, ERDF, EFF/EMFF and Horizon 2020 were expected to have further integration of biodiversity conservation in the future. The open-ended answers pointed to optimism in further integration and its opportunities to produce conservation impacts.

The respondents also reported their expectations as to which instruments would become more common in the future (Table 5.4). Perhaps somewhat surprisingly, direct national funds for biodiversity were expected to increase by the majority of respondents. As regards the more innovative financing instruments for biodiversity, tax deductions for conservation activities, different payment mechanisms conditional on conservation outcomes as well as voluntary activities (e.g. compensations or certification) were expected to become more common. In general, the stakeholder responses seemed to indicate a tentative confidence in the broadening of biodiversity financing instrument mix, including the foreseen uptake of several different innovative financing mechanisms.

Table 5.3 Foreseen advances in the mainstreaming of biodiversity into different EU funding instruments

I expect biodiversity conservation to be further integrated into the following instruments in the future (all respondents, N=51)							
	LIFE	EAFRD (Agricult.)	ERDF (Regio.)	CF (Cohes.)	ESF (Social)	EFF/EMF (Fish. /Marit.)	H2020 (Research)
Fully agree	**41**	**33**	**29**	16	11	**32**	25
Somewhat agree	6	12	11	10	13	10	15
Neutral	3	5	7	19	17	7	10
Somewhat disagree				2	4	1	
Fully disagree			3	3	5		

Table 5.4 Opportunities for non-EU funding instruments for biodiversity

I expect the following instruments to become more common in financing biodiversity in the future (all respondents, N=51)						
	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Already in use
New or increased direct national funds	**16**	**20**	4	3	4	3
Payments where the state pays for biodiversity or ecosystem service conservation or management	**11**	**18**	6	5	3	**7**
Public to public payments, such as ecological fiscal transfers	5	**18**	**15**	7	4	1
Private-to private payments where companies or associations pay for conservation or management	8	**17**	**13**	6	5	1
Payments conditional on conservation outcomes	**10**	**22**	**14**	1	1	2

Trust funds	4	**11**	**24**	5	5	1
Tax deductions for biodiversity conservation and management investments for companies and citizens	**12**	**15**	**12**	7	4	
Environmental bonds	5	**13**	**21**	7	4	
Voluntary compensations by companies generating biodiversity loss, through direct investment or through a banking mechanism	**12**	**12**	**14**	7	4	1
Voluntary investments in conservation or management by companies or individuals	**10**	**21**	**13**	3	1	2
Channelling a share of profits from certified products to conservation	**14**	**11**	**15**	5	3	2
Channelling user fees and charges to conservation and management	9	**11**	**17**	7	3	3
Offset requirements placed on companies generating biodiversity loss	8	**15**	**16**	6		5

In the open-ended answers to a question on the most important future trends, the respondents associated the developments in biodiversity financing with the scenarios for broader economic development in the Europe and globally. Positive trends in global economic development were considered necessary for generating new funds for biodiversity. A tendency to reduce public financing was broadly recognised and it was expected to have negative impacts on nature conservation. LIFE integrated projects were highlighted as a means for bridging the gap between biodiversity and sectoral policy priorities, turning the political "power" to an advantage of biodiversity.

Integration of biodiversity into the funds was considered as ongoing and positive process with the recognition of, for example, the positive health impacts of biodiversity hoped to generate new opportunities for biodiversity and become a part of corporate social responsibility. However, improved orientation of funds towards conservation priorities was called for, supported by an increase in funding from private sources.

The views of stakeholders seemed to differ as regards the foreseen future administrative requirements, ranging from optimistic to pessimistic. Both legislative and documentary simplification and increasing bureaucracy and exacerbated control mechanisms were expected, the latter of which was seen to lead to lesser acceptance of the funds. As one solution a more participatory style approach to biodiversity conservation and research funding was suggested, seeking and favoring "real support from the local level".

As regards LIFE, while the increasing number of sub-programmes was criticised by some respondents, the tendency of focusing the results (e.g. improvement of conservation status of Natura 2000 species and habitat types) was considered as a positive trend. As regards EAFRD, more attention was called for to improve the targeting of payments, with a view to establishing a better connection between payments to farmers and environmental benefits achieved. Also the ERDF was considered to need a stronger biodiversity focus, seeking synergies between conservation and development.

5.3 Options for future EU co-financing approach

Building on the above, a number of possible options for the EU co-funding approach can be constructed. These options are outlined and discussed below, with Table 5.5 presenting further detail on the characteristics and requirements for each option and an analytical synthesis of the key foreseen benefits and challenges linked to the different options.

Integration BAU: The BAU (business as usual) option refers to maintaining the EU co-financing arrangements for biodiversity and Natura 2000 as is, i.e. continuing with the integrated funding approach with no significant changes to the current scope, functioning and implementation of the EU funds. Under this future option EU funding for Natura 2000 is foreseen to be provided by existing (or similar) EU funds (LIFE, EAFRD, EMFF, ERDF, ESF, Cohesion Fund and Horizon 2020) with priority setting and coordination between funds foreseen to be supported by PAFs.

Integration+ (voluntary): This option follows the BAU approach but with enhanced processes for targeting funds to prioritised conservation measures (e.g. RDP agri-environment measures to Natura 2000 sites), monitoring and capacity building to support integration, backed up by opportunities to use EU funding to support such actions at the Member State level. Integral to the option is a comprehensive, detailed and fit-for purpose EU-wide tracking approach for biodiversity financing (i.e. that uses a more appropriate higher resolution of funding contributions than the 3-level Rio markers), with a view to improve monitoring of both the overall level of biodiversity financing and fund specific spending. The tracking framework is foreseen to be supported by a comprehensive EU-wide approach for biodiversity proofing the EU budget expenditure, with timely involvement of and explicit suggestions from DG ENV as regards integration throughout the EU budget cycle in the context of the EU Semester Process. Mechanisms are also foreseen to be in place to support the targeting and effectiveness of funded measures (e.g. via result-based EAFRD agri-environment schemes) and the building of capacity and partnerships for integrated projects under different funds (e.g. awareness raising, identifying and securing co-funding opportunities) following the current example set by the LIFE integrated projects. Voluntary improvements to the monitoring of biodiversity outcomes, including through development of guidance and indicators, and more proactive advisory and pilot projects receiving potential support from EU funds are also foreseen. At the EU level, a dedicated effort would be made to reduce the administrative burden associated with different stages of the EU funding process.

Integration++ (obligatory): This option is as the *Integration+* above but with additional dedicated processes and legislation in place to back up the implementation of further integration. In particular, this includes obligatory earmarking of required minimum levels of expenditure on biodiversity (or priority components linked to EU policy objectives, such as Natura 2000) from the EU budget possibly with agreed principles for the allocation of the required minimum expenditure (with possible difference between Member States). Furthermore, the option foresees broadening the eligibility criteria to include certain management activities and/or stakeholders, as identified in section 5.2.1 above. Finally, an obligation to adopt and utilise a more comprehensive set of indicators for biodiversity outcomes is included in the framework, to considerably improve the assessment of conservation outcomes of spending under different funds. As with *Integration+*, LIFE integrated projects can be used to promote and pioneer approaches for improved coordination and mobilisation of resources from different funding sources.

Reflecting the foreseen trends in the uptake of innovative non-EU instruments (e.g. Table 5.4) further ongoing development of these approaches is considered as a complementary component to all of the different integration approaches to EU-co-funding. The role of innovative instruments in the overall financing framework is explored in further detail in Chapters 6 and 7.

New, dedicated and comprehensive EU instrument: This option foresees limiting the focus of biodiversity integration under different EU sectoral funds. This lowered level of integration would be compensated by adopting a comprehensive and dedicated instrument for funding biodiversity and Natura 2000, with significantly increased scope and budget in comparison to current LIFE funding. To maximise its cost-effectiveness it is foreseen that the new instrument would be best targeted to EU biodiversity policy priorities such as financing the implementation of the Natura 2000 network and other Biodiversity Strategy targets.

As with the variation of integrated approaches, dedicated simultaneous efforts are foreseen to be needed to significantly increase the support from non-EU funds. This includes the establishment of mechanisms to support stakeholder capacity and partnerships to access non-EU funds, including innovative funding mechanisms supported by private funding (e.g. awareness raising, guidance, targets, capacity building measures). The non-EU funds with explicit focus could include: payments from water suppliers etc. for conservation of basic resources, mechanisms to encourage direct ownership by NGOs and perhaps individuals, and mechanisms based on payments for carbon sequestration.

It is important to note that even under this scenario abandoning integration in its entirety is not considered feasible (i.e. reflecting the existing evidence and stakeholder views and it being against the underlying EU policy principle of environmental mainstreaming). Consequently, this option foresees the return to a more distinct (and restricted) financing provided to biodiversity within the different sectoral EU funds, with the delivery of co-benefits to biodiversity and other sectors (e.g. nature-based solutions under ERDF and support to high nature value systems under EAFRD) and mechanisms to prevent negative impacts of investment in biodiversity becoming core elements of sectoral integration. In other words, while biodiversity proofing financial investment remains a key requirement for all EU funds, there would be less of a push to allocate sectoral funding to conservation actions that have limited synergies with sectoral policy goals.

Table 5.5 Identified options for the future EU co-financing approach

Option for EU co-funding	Requirements	Foreseen benefits	Foreseen challenges
Integration BAU	No further requirements to the status quo	Relatively high overall political and stakeholder acceptance, given no changes to status quo Limited additional administrative and transaction costs Continuity and ability to learn from experience of last 15 years	Currently identified shortcomings likely to prevail also in the future: • Lack of dedicated / earmarked funding • Limited allocation of funding at Member States level due to competing policy priorities and/or stakeholder capacity • Constraints on ecological effectiveness, including limited monitoring and evaluation of biodiversity outcomes given the breadth of objectives and indicators • Uptake of funds hindered by administrative burden The above leads to continued lack of funding, and possible lack of focus in application, jeopardising the achievement of set biodiversity policy objectives.
Integration+ (voluntary)	Greater targeting of funds to biodiversity priorities, and data and institutional capacity to do so For biodiversity tracking, clear detailed budget categories for biodiversity related funding under EU funds and sufficient admin resources for implementing tracking at all relevant levels of EU governance (e.g. evaluation of fund-specific operational programmes), complemented by transparent publishing of results Dedicated efforts at EU level made to reduce the administrative burden	Relatively high overall political and stakeholder acceptance, as based on facilitation rather than obligation and enforcement Improved cost-effectiveness from targeting and monitoring of types, levels and outcomes of biodiversity expenditure, with better possibility to compare the available funds with funding needs and establish where gaps are	As the approach is based on voluntary measures (i.e. facilitation of integration) rather than obligatory uptake the concrete final outcomes are foreseen to be limited. There is a possibility that greater push for biodiversity expenditures will increase conflicts with other objectives and that legitimacy will be questioned. Resources to implement effective support mechanisms (capacity building, advisory services and guidance etc.) likely to be difficult to secure without dedicated funding for such mechanisms Likely (continued) limited impact at ground level

	associated with different stages of EU funding process For supporting mechanism, sufficient resources to implement such mechanisms at Member State level (e.g. dedicated EU funds for this) Sufficient resources and coordination mechanisms available at the Commission to allow for effective biodiversity proofing. Improved strategic use of LIFE (or similar) type of funding to as catalyst for integration Improved use of PAFs by Member States More active communications programme		
Integration++ (obligatory)	As Integration+ In addition, securing enough political support for introducing the more explicit / stringent framework In addition, processes and support in place to facilitate a flow of high quality, targeted projects that delivering SMART priority biodiversity objectives in a cost-effective manner. The project delivery would be supported by a	Introduction of obligatory elements, supported by their enforcement, likely to lead to increase in overall funding for biodiversity	Likely issues with political and/or stakeholder acceptance, given increase in obligatory elements and enforcement Possible increased levels of admin costs and/or admin burden, linked to increased enforcement Risk that targeting inputs – rather than ecological outcomes – leads to box ticking and potential inefficient allocation of funds. Setting targets for ecological effectiveness would address this. Danger that Member States might cut domestic

	dedicated evaluation process and with transparent publishing of evaluation results.		expenditure as a result of increase in EU funding, leading to no net incremental funding
New dedicated EU instrument (supported by integration "basic" & non-EU instruments)	The instrument needs to be able to compensate for lack or reduced availability of funds from other instruments. Member States contribution (co-financing) should not increase.	Focus on biodiversity measures offering best value for money. Increased uptake of funding by removing the need to compete with other funding priorities (e.g. higher uptake and sharper focus without spurious economic objectives). This is likely to improve the effectiveness. The instrument can also allow for more flexibility as regards targeting relevant beneficiaries and/or establishing priorities, given funding is no longer tied to stakeholders predefined by the sectoral focus of a given fund. Indicators better adapted to track progress in biodiversity conservation. See section 5.4 for further consideration.	Overall availability of funding possibly not affected (modifications of the distribution mechanisms do not necessarily reduce or increase allocation for biodiversity). Shared management between the Commission and the Member States would limit the Commission's control of the fund (scope of the programmes and measures, choice of managing authorities). Additional administrative costs for the Commission to manage another fund (although costs of managing LIFE – if terminated – could be deducted). Detached from the existing payment systems / establishment of separate process for applications and payments might create extra burden to certain stakeholders (farmers, foresters, fishermen etc.) and therefore risk lowering the uptake among these stakeholders. Limited possibility to shape other instruments (since integration of environment terminated or substantially reduced). See section 5.4 for further consideration.

5.4 Preliminary exploration of a dedicated EU instrument

The allocation of the total EU budget between different sectoral financing instruments is a result of a political process. Consequently, the establishment of a dedicated EU instrument for biodiversity does not necessarily mean that, come the next multiannual financing framework, there would be more funding made available for biodiversity in total. It means that (a majority of) the available funding would be distributed through a different mechanism; a mechanism aimed at addressing the shortcomings of the current framework. Given that a significant part of failures associated with the existing framework stem from the difficulties in sectoral integration, a new dedicated instrument could lead to a net increase in biodiversity funding. On the other hand, failing to gain political acceptance and/or acceptance among certain sectoral stakeholders or Member States to the new instrument could even result a decrease in net biodiversity funding, if the dedicated fund was not sufficiently large to offset a reduction in biodiversity finance from existing funds

As highlighted above (section 5.3) it is considered unfeasible - and even undesirable – for the establishment of a dedicated EU instruments for biodiversity to result in entirely abandoning the integration of biodiversity financing into the other EU funds. Consequently, issues related to the interplay between a dedicated fund and other EU funding mechanisms – in particular possible implications to conservation objectives closely linked to sectors such as agriculture and forestry, especially HNV farming and forestry systems - should be kept in mind when considering the establishment of a dedicated instrument for biodiversity.

Based on the above, some key considerations and preliminary options for a dedicated EU instrument for financing biodiversity are explored below.

The instrument's funding base: For a dedicated instrument to address the weaknesses of the existing framework, such as the competition between biodiversity and other priorities, and mismatches between conservation needs and sectoral orientation of funds, (some of) the funding currently distributed under the different EU sectoral funds needs to be shifted to be channelled through this new instrument. Logically, the new instruments would also absorb the dedicated funding for biodiversity conservation currently allocated through the EU LIFE programme.

While shifting funding currently spent on biodiversity under sectoral funds to a dedicated biodiversity fund could enhance the access to and effectiveness of funding (e.g. enhancing delivery, monitoring and evaluation against biodiversity goals), determining the share of funds shifted from the existing sectoral funding instruments to the new instrument is likely to be a challenging – and highly political – issue, in particular given the insufficient amount of existing allocations. As highlighted above, there is expected to be political resistance and/or resistance among some sectoral stakeholders to shifting funding away from sectoral budgets. If such resistance cannot be overcome, catering for the needs of a dedicated instrument also means finding additional funding that can be dedicated to biodiversity on top of the existing spend. Alternatively, if as a result the net funding dedicated for biodiversity under the EU budget decreases slightly, better targeting (e.g. better designed measures and enforcement) could in principle still be able to result in net positive overall impact.

Instrument type and scope: In practice the new instrument would be several orders of magnitude larger than the current LIFE fund and the LIFE Biodiversity and Nature component in particular. This in turn indicates that establishing shared management between the Commission and Member States - similar to the EAFRD, EMFF and ERDF - would be the most likely organisational arrangement for the fund. Consequently, assessing the pros and cons associated with delivering EU policy through

shared-management instruments – with explicit consideration of how these pros and cons affect the delivery of biodiversity objectives - plays a key role in exploring the opportunities for a dedicated instrument. This is of particular importance, given the documented successes of the centrally managed LIFE fund (see Chapters 3 and 4).

As highlighted under Chapter 3, the existing shared-management funds - while operating within the framework of EU-wide priorities - allow Member States considerable amount of freedom to prioritise and target funding according to national priorities. Shifting the emphasis of dedicated EU biodiversity funding from a centrally managed setup (i.e. the Commission managed LIFE) to a lead role for Member States within an EU framework could help to improve matching funding with the identified conservation needs at national level, in particular with the competition currently hindering biodiversity financing under the existing shared-management funds removed (see below). For example, this could improve the targeting of funding to habitats, species and/or stakeholders that require it the most. Furthermore, depending on the global rules and regulations (e.g. WTO), Member States might be able to determine more appropriate (compensation) payment levels so as to reflect the national situation in individual Member States.

On the other hand, devolving prioritisation to Member States is likely to reduce the integration of an EU-wide perspective into the funding decisions and therefore hinder the implementation of projects and initiatives with EU added value in the light of the EU Biodiversity Strategy. The existing gap between the needs for and availability of funding means that there is also a risk that funding channelled through a dedicated instrument would end up being targeted by Member States to finance “basic” biodiversity conservation measures only (e.g. day-to-day management of the Natura 2000 network). This would introduce the risk of low added value for EU funds and diminish the scope for sharing best practises and developing new innovations (e.g. habitat restoration techniques, techniques for the removal of invasive species) across the EU, i.e. aspects currently identified as key benefits of LIFE.

Given the above, one possibility could be to explore a dedicated instrument consisting of elements managed in both central and shared manner. Such an instrument could be based on the EMFF-type arrangement where most of the fund is under shared management but where a part of the fund remains centrally managed by the Commission with a view to deliver EU-wide policy objectives (for EMFF 89% and 11% of the fund, receptively). Under such an arrangement, the centrally managed share of the fund could be designed to continue the current LIFE Biodiversity and Nature setup (e.g. continue initiating projects similar to LIFE Integrated Projects) while the element under shared management could finance conservation actions agreed to be subject to prioritisation at the Member State level (see below). The overall effectiveness of such a fund would depend on establishing a well-functioning framework and institutional arrangements for the fund, including an appropriate flow of information between the two elements and joint planning, monitoring and assessment of outputs.

Finally, determining the precise scope of interventions by a dedicated EU instrument is one of the key challenges, in particular when aiming to continue a certain basic level of integrated financing through EU sectoral funds. As suggested in section 5.2 above, the new instrument should be targeted to financing EU biodiversity policy priorities such as the implementation of the Natura 2000 network and other Biodiversity Strategy targets. However, the priorities and measures shifted in order to be financed from a dedicated instrument and the ones remaining to be integrated into the different sectoral instruments (e.g. EAFRD, EMFF and ERDF) need to be carefully considered and assessed. Consequently, establishing a set of principles for financing biodiversity related actions from the dedicated fund versus the sectoral funds is considered of key importance.

As highlighted above, where there is scope to deliver existing funds in a way that delivers co-benefits for biodiversity while meeting other policy priorities, it would seem most appropriate and efficient to continue funding measures through the integration approach. For example, the agri-environment expenditures may benefit farmed habitats and species while also addressing other priorities for farming, rural development, natural resource management and climate change mitigation and adaptation. Given the size of the CAP, it would be difficult to envisage a biodiversity fund allocating resources to the agricultural sector on a very large scale and there seems a clear case for continuing – and enhancing the effectiveness of - the integrated approach. Similar considerations are likely to apply to some extent with respect to the forest environment and the management of fisheries and the marine environment.

As regards stakeholders, the diminished need to compete with other sectoral priorities and reduced necessity to seek funding from a range of different sources is likely benefit the nature conservation sector, e.g. the application and administrative culture could be attuned to better fit biodiversity aims and there would be a likely reduction of the project application and reporting related burden on nature conservation administrations and protected area managers. However, depending on the scope of the new fund, the administrative arrangements for stakeholders such as farmers, forester and fishermen could risk becoming more complicated, depending on the application, reporting and monitoring arrangements for the new fund vis-à-vis payments under other EU funds. These more complicated arrangements might result from the greater efforts and information requirements necessary to enhance ecological effectiveness.

Allocation of funds under the instrument: A shift to a dedicated instrument operating under shared management raises a range of questions as regards the criteria for allocating funding to the Member States, and programming, monitoring and reporting on the funding.

At the EU level, one of the major questions is determining the principles and criteria for allocating funding between Member States, assuming a fixed budgetary envelope was used. The possible aspects taken into consideration in a distribution key could include, for example, estimated relative "EU conservation burden" per Member State (e.g. share of Nature 2000 network), status of biodiversity (e.g. share of habitats and species in favourable / unfavourable conservation status), status of the protected area network and its management (e.g. completeness of the network, coverage of management plans) and estimated funding needs associated with delivering the EU objectives. The case study exploring the use of ecological fiscal transfers (EFT) at the EU level provided some initial ideas as regards the possible outcomes resulting from the use of Natura 2000 related criteria to establish "need" across the EU (Chapter 6).

The selected principles and criteria for determining allocation of funds between Member States would need to accurately reflect the situation in different countries while being feasible to assess and monitor across all Member States. Given the known difficulties in both monitoring the status of biodiversity in Member States - as highlighted by the Habitats Directive reporting process – and assessing the financing needs for biodiversity conservation the establishment of EU-wide principles and criteria for allocating funding between Member States in a robust, equitable and transparent manner while appropriately reflecting the EU, not national, biodiversity objectives is unlikely to be trivial.

Finally, given the foreseen increase in the amount of funding channelled through the dedicated instrument (e.g. in comparison to the existing LIFE and its nature component) it is likely that the Commission's biodiversity conservation administration is will require additional resources in comparison to the existing setup.

At the national level, while the amount of resources and administrative burden linked to funding biodiversity from a range of EU sources diminishes, the management of a dedicated fund will introduce a different kind of administrative burden on national stakeholders. It is likely that a new dedicated setup for programming, distributing, reporting and monitoring EU biodiversity spending at the national level needs to be established, reflecting the current arrangements for other EU funds under shared management. As highlighted above, the administrative burden on stakeholders such as protected area managers is likely to decrease as a result of, for example, a diminished need to apply for and report on funding originating from several sources. Furthermore, institutional inefficiencies and capacity issues associated with biodiversity authorities and stakeholders seeking funding from non-biodiversity sources - and non-biodiversity authorities administrating biodiversity funding – are likely to diminish.

However, impacts on the national and regional biodiversity administration and other stakeholders (farmers, foresters, fishermen) depend on the new setup and are more complex to estimate. Furthermore, some requirements under the new instrument may become more burdensome, e.g. criteria for assessing ecological effectiveness. Finally, it is not guaranteed that a dedicated instrument will be able to address shortcoming related to the information flow between different governance levels (EU, national, local) and remaining issues with stakeholder involvement (e.g. business sector).

Finally, the experience also shows that, if not adequately resourced, Member States' authorities can find it difficult to respond to the administrative demands of shared-management funds which can lead to underspending of EU funding. For example, EAFRD is known to have been subject to such difficulties. The risk of possible underspending is worth a dedicated assessment, in particular reflecting the pros and cons of the current centrally managed LIFE funding.

Preliminary assessment against identified shortcomings: In the light of the above considerations, a preliminary assessment of a dedicated shared-management instrument and its ability to address identified shortcomings of EU biodiversity funding is outlined in Table 5.6.

Table 5.6 The foreseen potential of a dedicated shared-management instrument to address the identified shortcomings of the EU biodiversity financing framework (as identified in section 5.1).

Identified shortcomings	Likely ability to address shortcomings	Explanation and further consideration
Lack of funding	?	A new (dedicated) instrument does not directly change the overall allocation of money to biodiversity from EU budget. It can, however, channel the existing resources to measures which offer best value for money in terms of biodiversity conservation.
Low incentives for take up of conservation measures	+ / ?	From the national authorities perspective it can be expected that if money is allocated to a specific fund (and there is no possibility to move it to a different instrument) the Member States would do their best to access these resources even if they have other priorities than nature conservation. Additionally, as long as there exist EU legal obligations to protect Natura 2000 and species of EU interest and as long as the co-financing rates are reasonable Member States would be normally interested in accessing the fund. From the perspective of potential beneficiaries (farmers, foresters, NGOs etc.) the amount of premia for specific measures, eligibility and control mechanisms, as well as communication and promotion tools and administrative capacity of the managing and paying authorities determine the level of uptake. However, WTO rules would apply, possibly restricting the payments.
Mismatches and competition	+	Removing the need to compete with other sectoral priorities and "fit" biodiversity needs under the sector policy oriented frameworks is likely to facilitate financing
Inadequate information	?	While a dedicated instrument is expected to be accompanied by proper information and monitoring programme, addressing gaps in evidence on both ecological effectiveness and socio-economic benefits linked to conservation depends on the adopted and agreed monitoring arrangements.

High administrative burdens	+/ ? /-	Can reduce administrative burden related to some aspects / on some stakeholders, e.g. protected area managers' need to apply funding from several different sources. However, impacts on national biodiversity administration and stakeholders continuing to receive funding from other EU funds (farmers, foresters, fishermen etc.) depend on the new setup for planning, application, monitoring and reporting. The administrative requirements to national biodiversity administration could even increase. For example, there is a need to establish a LIFE-style compliance inspection system. Also, monitoring arrangements capable of addressing the existing evidence gap might increase monitoring and reporting burdens. Burdens for farmers may increase as they would have to apply separately (possibly to separate authorities under separate procedures) for nature related payments and other payments (e.g. related to modernisation of farms, training etc.).
Institutional inefficiencies and legitimacy deficiencies	+/ ?	Likely to reduce the institutional inefficiencies and capacity issues associated with biodiversity authorities / stakeholders seeking funding from non-biodiversity sources and non-biodiversity authorities administrating biodiversity funding. Unable to by default address a number of other shortcoming such as lack of awareness and information flow between financing governance levels (EU – national –local) and remaining issues with stakeholder involvement and support at different levels (e.g. business sector)

5.5 Comparison of the possible options

Comparing the different identified options for the future, reflecting the insights gained under Chapters 3 and 4, leads to the following preliminary conclusions as regards the likely overall effectiveness of the future framework:

Ecological effectiveness and cost-effectiveness: As identified in Chapter 3, the lack of financing for biodiversity is considered to be the major obstacle in delivering biodiversity conservation outcomes in the EU. Against this backdrop, the most successful approach to EU co-funding in terms of ecological effectiveness would be the one with the most potential for upscaling the level of funding. *Integration++* (i.e. integration supported by with obligatory elements & enforcement) would clearly be best placed to deliver this requirement. This improvement would rely in particular on the dedicated earmarking of funding for biodiversity priorities (e.g. Natura 2000) across and/or under different EU funds.

The dedicated and comprehensive EU instrument, supported by a basic level of integration, also has the potential for increasing funding for biodiversity from the EU budget. In particular, the reduced competition with other policy goals and removed needs to fit biodiversity funding needs into frameworks designed to fund other sectoral policies is foreseen to lead to a more effective uptake of funds, supporting also the cost-effectiveness of funding. Furthermore, the administrative demands caused by using multiple EU sources to finance biodiversity conservation are also likely to diminish. These views are supported by the evidence on the effectiveness of LIFE-nature funding in delivering concrete biodiversity outputs. The unknowns and risks associated with dedicated funding instrument are, however, not to be ignored as there is no foreseen guarantee that the total level of funding made available (e.g. funding additional to the current LIFE-nature funding) would be able to match the needs any better than under the integrated approach (although it might be expected to be more cost-effective). Furthermore, the arrangements associated with EU shared-management funds are likely to introduce different – or even additional - burdens to national and regional biodiversity administration and stakeholders continuing to receive funding from several EU sources.

As regards cost-effectiveness, the approaches retaining the status quo (i.e. *Business as usual* and *Integration+* (i.e. integration supported by voluntary measures) have the least implications in terms of increasing administrative costs. However, given their limited contribution to enhancing the financing for biodiversity it is unlikely that either of approaches would considerably improve the cost-effectiveness of EU funding. From the perspective of administrative costs, the overall administrative costs of a dedicated EU instrument for biodiversity depend on the national setup for implementing such a fund. A dedicated fund is likely to be the most cost-effective means for delivering biodiversity funding at the project level, given that it can be fully focused on biodiversity objectives and targeted to biodiversity priorities. However, the project level effectiveness might be jeopardised at the overall framework level, as caused by the reduced level of biodiversity integration into sectoral funds and related possible decrease in the overall level of nature conservation at landscape level. Continued integration of biodiversity into sectoral funds will remain the most cost-effective solution where there is joint delivery of conservation and other benefits – such as through well designed agri-environment programmes

Finally, improving the targeting and monitoring of conservation outcomes linked to EU biodiversity expenditure seems to be necessary under all of the future options. This will help to improve the cost-effectiveness of funded measures while also supporting the legitimacy of conservation (below).

Institutional and legal fit: As highlighted in Chapter 4, integrated financing for biodiversity is considered to be an integral part of the EU environmental mainstreaming. Consequently, the different EU funds relevant to biodiversity are foreseen to maintain a certain level of biodiversity integration under all future options. Shifting the delivery of EU co-financing to a new dedicated EU fund for biodiversity would have implications as regards the institutional status quo of the EU and national biodiversity governance and would therefore require a dedicated assessment of the required arrangements and their foreseen impacts.

Legitimacy and impacts on stakeholders: Reflecting the existing literature (Chapter 4), the integration of biodiversity objectives into different EU financing schemes contributes to the legitimacy of biodiversity conservation by engaging actors and reconciling different types of activities. Consequently, continuing with the integrated approach to EU funding seems to best support the legitimacy of nature conservation among a range of sectoral stakeholders. On the other hand, a dedicated fund for biodiversity conservation is likely to be highly supported among nature conservation stakeholders and some other sectors such as recreation and tourism.

Under all future scenarios, there is a risk that diverting funds from other priorities to biodiversity conservation might raise legitimacy issues among certain stakeholders, simply due to the overall competition for scarce public resources. These risks could be addressed – at least partly - by consolidated efforts in supporting the development and uptake of multipurpose projects that deliver concrete win-wins for biodiversity and wellbeing.

As regards the procedural legitimacy, the acceptability of the arrangements associated with a dedicated fund – especially among farmers, foresters and fishermen – would depend on the administrative complexities associated with its use.

The existing stakeholder views (section 5.2.2) indicate that the EU level administration is, in general, in favour of continuing with the integrated financing approach. The views of national level stakeholders are more mixed with a range of shortcomings related to the integration model being identified (section 5.2.2). However, in general the responses gathered as part of the stakeholder survey seem to point towards expectations for – and possible advances in – further integration, especially as regards EAFRD and ERDF.

6 EU co-financing framework and opportunities for complementary financing

6.1 Upscaling funding: new non-EU financing sources

As the previous chapters indicate, there is a need to back up public budgets for biodiversity conservation with more innovative funding mechanisms – public and private alike – including from those sectors that drive biodiversity loss. In this context instruments such as payments for ecosystem services (PES), compensation payments and offsets, public-private financing, fiscal instruments (e.g. taxes), and different fees and charges have received increasing attention (e.g. Dickie et al. 2012; Lapeyre et al. 2015).

As regards lessons learned on the effectiveness of these instruments, the existing EU level literature – mainly related to PES and offsetting schemes - highlights a range of aspects affecting the conservation outputs and cost-effectiveness of schemes including, for instance, methodologies used to determine the payment levels, and measure and monitor biodiversity losses and gains (Tucker et al.; 2014 Biotope, forthcoming; Russi et al. forthcoming).

The instruments also have socio-economic and legitimacy implications; new payments will always result in the redistribution of benefits and/or access to ecosystems which in turn, has been identified to have implications for the legitimacy and (perceived) fairness of the payment scheme (e.g. Corbera et al. 2007; Pascual et al. 2010, 2011). For example, funding instruments based on competition (e.g. voluntary conservation schemes based on offers from land-owners) will create changes in the distribution of funds across land-owners. Similarly, different kinds of compensation payments and offsets shift allocation of conservation costs to those who generate biodiversity loss.

Furthermore, designing and implementing innovative schemes cannot take place without consideration of the institutional environment and the previously existing instruments, i.e. the entire policy-mix (Ring et al. 2011). Applying new logic to financing conservation activities, for example through voluntary contracting, might require new competencies in an administration that has previously targeted and implemented conservation programmes based solely on conservation objectives and ecological mapping (e.g. Primmer et al. 2013; Primmer et al. 2016).

This chapter focuses on exploring a number of novel (non-EU) economic instruments – ecological fiscal transfers (EFT), tax reliefs, marketed products, and fees and charges – that could be further mainstreamed to finance biodiversity in the future, using the common methodology from Chapter 2 to evaluate their known outcomes and success. Furthermore, the chapter looks at the opportunities for upscaling the use of these instruments to the wider European level, including how they could complement the co-financing from the EU budget. The instruments are selected to complement the existing EU assessments on innovative financing instruments and consequently PES and offsetting fall outside the scope of this review.

The full-length case studies with references can be found in a standalone report developed in the context of this study (Kettunen, M. and Illes, A. (eds.), 2017).

6.2 Ecological fiscal transfers (EFT)

6.2.1 Introduction to instrument

Ecological Fiscal Transfers (EFT) redistribute tax revenue among government levels according to ecological indicators, most commonly the extent of protected area networks (Grieg-Gran 2000, May et al. 2002, Loureiro 2002, Ring 2008a, Ring et al. 2011, Santos et al. 2012, Schröter-Schlaack et al. 2014). Depending on the legal and institutional context, decentralised governments (e.g. municipalities) may be compensated for conservation expenditures, opportunity costs or spill-over benefits related to these ecological indicators. By way of addressing local public actors, EFT complement the current conservation policy mix, which is mostly geared towards private land users. The longest-running EFT scheme can be found in Brazil, while in Europe EFTs are currently implemented in Portugal and France. Furthermore, such schemes are also under consideration in Germany and Poland.

The existing EFT schemes are distributed as lump-sum transfers that can be spent on any public function the municipality sees fit. In other words, EFT are thus far not earmarked to support biodiversity conservation activities and therefore they do not increase the direct financing for biodiversity. However, the instrument is foreseen to contribute to the biodiversity conservation "baseline" by increasing the acceptance and legitimacy of conservation policies - often perceived to be implemented at higher government levels using regulatory approaches - and by easing the implementation of large-scale conservation efforts such as the creation of a protected area network.

Portugal: In Portugal, a scheme of fiscal transfers integrating biodiversity conservation concerns was introduced in January 2007 with the approval of a revised Local Finances Law (LFL)[34] (Santos et al. 2012, Santos et al. 2015). LFL establishes the general principles and rules for the transfer of funds from the state (national government) to the local level (municipalities). Recognising that the financial regime of municipalities should contribute to the promotion of environmental protection, positive ecological discrimination was introduced in one of the municipal funds, allocating part of these public revenues in proportion to land designated as Natura 2000 or other recognised categories of protected areas in municipalities.

France: In France, a small-scale EFT scheme compensates municipalities that are located in the core area of a national park or a natural marine park (Borie et al. 2014). The introduction of this protected area-related fiscal indicator in 2007 was based on principles of solidarity and distributive equity. By distinguishing between the core area sizes of national parks below and above 5000 km^2, the relative land-use restrictions and thus opportunity costs of conservation are recognised. Compared to the scheme in Portugal, the French scheme is relatively limited in scope.

6.2.2 Ecological effectiveness

Intergovernmental fiscal transfers, including EFT, are instruments designed to distribute public revenue between governmental levels. In other words, these instruments are not designed to achieve conservation objectives and therefore, unlike with other economic instruments that directly incentivise conservation measures or biodiversity-friendly activities, ecological effectiveness is not

[34] Law 2/2007, 15th January, revised by Law 73/2013, 3rd September

by default integral to the concept of EFT. Nevertheless, changing indicators in fiscal transfer schemes may act as an incentive for conservation and the ecological indicator may lend itself to define a baseline for EFT, allowing for an assessment of the instrument's ecological effectiveness (Ring et al. 2011). The trends in the relevant indicator (e.g. protected area coverage or status) before and after the introduction of the EFT scheme could be assessed over time and, for those EFT schemes that use protected area coverage as an indicator, a quantitative increase in the number of areas could be used as a proxy for effectiveness.

Existing EFT schemes are not earmarked, which means that the revenue received by municipalities is not guaranteed to be spent on activities that support nature conservation. Nevertheless, the transfers have a conservation incentive as protected areas become a direct source of income for the respective jurisdictions (May et al. 2002; Ring 2008c; Santos et al. 2012). Therefore, and based on empirical findings from Brazil (Droste et al. 2015) and Portugal (Droste, et al. 2016), an increase in protected area coverage after the introduction of EFT can be expected.

There has been a slight increase in the coverage of protected areas in Portugal since the establishment of the EFT scheme. However, since EFT in Portugal are designed as lump-sum transfers to municipalities, i.e. not directly linked to the delivery of conservation actions in the municipalities, it is not possible to say exactly how much of this increase can be attributed to the EFT system. Furthermore, the adoption of EFTs in 2007 was accompanied by a significant number of other simultaneous changes in the fiscal transfer system, leading to many crossover effects between different distribution criteria when distributing the revenue to municipalities. This resulted in 'masking' the conservation related incentive of the transfers, making the ecological criteria insufficient to counterbalance other effects and failing to provide a large enough - and visible enough - incentive to several municipalities hosting a large proportion of conservation areas. (Santos et al. 2012, Santos et al. 2015)

In France, municipalities do not have the competence to designate national parks and therefore the existing EFT scheme is purely compensatory. In terms of ecological effectiveness, the recipient municipality cannot provide more protected areas, as they are already situated in core zones of strictly protected areas. However, at the national scale, the EFT scheme may lead to an increased acceptance of new national parks among French municipalities. Furthermore, the limited scope of the French EFT scheme (i.e. applicable only to municipalities situated within park core areas) limits the effectiveness of the scheme.

The above factors limit the ecological effectiveness of the EFT schemes and consequently the transfers seem at this stage to be best suited to supporting the maintenance of the nature conservation "baseline" (e.g. legitimacy of conservation actions), increasing the general budget of municipalities hosting protected areas. This can lead to concrete conservation outcomes. To improve the ecological effectiveness of EFT schemes, increased transparency, competence of municipalities to designate protected areas and possibly earmarking of transfers to conservation actions would need to be considered.

6.2.3 Cost-effectiveness

As EFT are part of the existing fiscal transfer schemes, the transaction costs of introducing EFT are considered relatively low. The cost-effectiveness of the instrument could be improved by targeting (with a moderate weighting for different conservation area categories) and at least partial earmarking of EFT revenues. Targeting and earmarking, if based on information that is easily

available, would not increase transaction costs in a significant way and could have a positive impact on the ecological effectiveness of the instrument.

6.2.4 Institutional and legal fit

Current EFT schemes are explicitly targeted to municipal actors. Increasing local public budgets allows municipal actors to provide further public goods and services including, if considered a priority, efforts in nature conservation. However, in order to act as concrete incentives for municipalities to designate protected areas, EFT need to take in place within an institutional framework that allows for municipal competence to take conservation action.

In the case of Portugal, the introduction of EFT was followed by legislative changes that widened the competencies of local authorities allowing them to designate more categories of protected areas than before, including the designation of private protected areas (Santos et al. 2012).

6.2.5 Legitimacy and impacts on stakeholders

The underlying focus of EFT is to address misalignment between the high-level decision making (i.e. protected area designation at central governance levels) and the related consequences at the municipal level (e.g. land-use restrictions and management costs). Through recognising the importance of protected areas as a public function in the fiscal transfer scheme, the municipal commitment to conservation is likely to be strengthened (e.g. Borie et al. 2014).

EFT may represent a significant share of local budgets, especially in remote, rural areas with high protected area coverage (Santos et al. 2012). In Portugal, direct fiscal transfers from central government are an important source of revenues for the municipalities (around 60% in average). However, the data on fiscal transfers published in the annual general budget law do not include the value of EFT for each municipality (Santos et al. 2012). Furthermore, as described above the introduction of an EFT scheme in Portugal was accompanied by a range of simultaneous changes which, according to Santos et al. (2012), made the ecological component of the fiscal transfer system difficult to grasp for the stakeholders. These factors are likely to limit positive impacts on legitimacy.

6.3 Environmental tax reliefs

6.3.1 Introduction to instrument

Tax reliefs for biodiversity conservation are defined as arrangements and provisions in general tax schemes, with the explicit goal of providing positive financial incentives to steer tax-payers' behaviour in a more biodiversity-friendly direction (Oosterhuis, 2011). Tax reliefs supporting biodiversity conservation are linked to general taxes, such as property, income or inheritance taxes. Those tax-payers who comply with specified requirements, which aim to deliver conservation objectives, receive exemptions or reductions from general taxes. In other words, tax reliefs function as payments to compensate for actions taken.

Since general taxes (e.g. property taxes, inheritance taxes and income taxes) are applied in almost all countries, in theory tax reliefs linked to these taxes could be very widely used for conservation purposes. Nevertheless, experience shows that tax reliefs supporting biodiversity conservation are not common and only a limited number of nations apply them at a significant scale. In Europe, tax

reliefs for biodiversity conservation are currently in place in only a limited number of EU Member States.

France: The most developed tax relief system within the EU has been implemented in France. The French tax reliefs supporting biodiversity conservation have been in place for more than 10 years and therefore provide valuable insights into the conservation effectiveness and cost-effectiveness of the system. Under the French system exemptions are available from a) property taxes for un-developed property on Natura 2000 sites, b) inheritance taxes for the transfer via succession or gift of unbuilt property located on a Natura 2000 site, and c) income taxes for Natura 2000 site management costs. All three exemptions are conditional on a commitment by the owner to comply with certain management practices which are supported by specific contractual tools between the landowners and the local authorities.

Further to the above, an annual financial compensation from state to local level is in place to compensate the loss of revenue to local authorities due to the property tax exemption. Furthermore, a planning tax on construction works raised by local authorities, part of which is earmarked to be spent on the conservation of local sensitive natural areas, is also in place to support conservation efforts.

6.3.2 Ecological effectiveness

In terms of the suitability of the funding arrangements for conservation objectives, the different measures included in the French tax relief system seem adequate and appropriate. The property and inheritance tax exemptions and the tax reductions for maintenance and protection expenses provide a financial incentive to engage in contractual commitment to maintain and protect the site. One report stated that around 50% of Natura 2000 charters are signed on the basis of the tax benefits accrued (Allag Dhuisme et al. 2015). Similarly, the tax reduction tools for major works carried out on the site or expenses incurred for its maintenance are well-designed to guarantee control over what is done with the land: any tax deduction for the landowner requires proof of prior approval from the departmental authority in charge of the environment (Caudal 2008).

The duration of the schemes also seems appropriate to encourage ongoing management and conservation: the property tax exemption is first provided for 5 years and renewable; the expenses incurred for maintenance and/or protection of the site are recoverable on a yearly basis through tax reductions; and the transferees of a property located on a Natura 2000 site are required to enter an 18-year-long contract (committing to the site's conservation objectives) in order to benefit from an inheritance tax exemption.

However, a number of issues seem to limit conservation effectiveness in practice. For example, the efficiency of different tax mechanisms designed to incentivise individuals and/or companies to take action for the protection of biodiversity was evaluated in 2011 by the government (Committee for the monitoring of fiscal expenses and social niches, 2011). The evaluation judged the property tax exemption as inefficient and concluded that taxation on unbuilt property was not the primary factor affecting the transformation of sensitive natural sites (see 6.3.3 below).

There is also a general lack of indicators and monitoring systems linked to the scheme and therefore it is very challenging to adequately assess the conservation effectiveness of the system. Providing better tools for monitoring and evaluating conservation outcomes has been identified as one of the main areas for improvement for Natura 2000 sites in France (Allag Dhuisme et al. 2015). A clear baseline and means to evaluate progress in terms both of expectations and efforts made are needed

to sustain the motivation of the different actors involved in the scheme and achieve effective outcomes in terms of conservation.

6.3.3 Cost-effectiveness

It is difficult to evaluate the degree to which the fiscal expenses contributing to the implementation of Natura 2000 in France match the needs of the specific measures, because information on the subject is limited. Nevertheless, it was noted in parliamentary debates that the costs to the State of existing fiscal measures are relatively low (Sénat 2015c, Sénat 2015a, Sénat 2015b[35]). The table below summarises state expenses based on these sources; the numbers represent estimates for 2015 used in the course of parliamentary debates. One prominent concern, however, is that the low cost to the state is linked to the low cost-effectiveness of the tools in place; with a low number of beneficiaries/undertakers (Pelosse et al. 2011).

Table 6.1 Estimated fiscal expenses for State or local tax measures linked to Natura 2000 sites in France in 2015

State or local tax measures contributing to Natura 2000 in France	Estimated expenses in 2015
Unbuilt land property tax exemption	€3.7 million
- Cost of the TFPNB exemption for local authorities	€2.7 million
- Cost of the TFPNB exemption for State (compensation)	€1 million
Tax exemptions for Natura 2000 site management and protection costs	€1 million
Exemption (3/4) from inheritance tax	€5 million

Source: Sénat 2015a, Sénat 2015b, Sénat 2015c

Unbuilt land property tax exemption and related state compensation: The costs of tax exemption appear to be low but not cost-effective. In a recent parliamentary debate it was sated that the property tax exemption is currently utilised by only around 5,300 beneficiaries, explaining the relatively low cost to the government. Furthermore, the state compensation has shrunk from 83% of the costs to local levels to be compensated in 2009 to 51% in 2013, limiting the overall fiscal revenue channelled to the local level (Ministère de l'égalité des territoires et du logement 2013). A parliamentary debate in 2015 opposed the government emphasising the inefficiency of the system, stressing the importance of the schemes in terms of gaining social acceptability and therefore also achieving conservation goals (Radisson 2015).

Exemption from inheritance tax: The exemption from inheritance tax seems to be the most cost-effective tool in place. In 2011, it already seemed to be used more than other tools by tax-payers

[35] This report on the same 2016 Tax law, brings some additional information as to the cost of the unbuilt property tax exemption for local authorities and the state respectively. See in particular reference to a 2011 report by the Committee for the monitoring of fiscal expenses and social niches on the estimation of these costs, accessible at: http://www.economie.gouv.fr/files/rapport-comite-evaluation-depenses-fiscales-et-niches-sociales.pdf

(with an average annual cost of around €2 million). It was assessed in the 2011 report as being an effective measure, of intermediate efficiency (Committee for the monitoring of fiscal expenses and social niches 2011). In the 2016 tax year, expenses for the exemption were estimated to be around €5 million, indicating a potential uptake in the use of the mechanism (Sénat 2015a). The time commitment to which an heir or legatee is contractually, obliged in order to benefit from the exemption, also ensures durable protection of the site, with a one-off administrative expense (Caudal 2008).

Tax exemptions for Natura 2000 site management costs: The uptake of the tax benefit measure for landowners maintaining and protecting natural heritage was expected to be higher. In 2011, the Heritage Foundation - the organisation in charge of providing a label to sites whose landowners wish to benefit from tax reduction - only confirmed two labels since the introduction of the measure. The fiscal cost of this measure was therefore merely €5000 over two years (Pelosse et al. 2011). Rambaud (2012) explained the low uptake as a result of poor information and the complex way in which the scheme was implemented.

Proportion of the departmental planning tax used to support conservation: It is difficult to assess whether the revenues collected through the departmental planning tax was used efficiently for the conservation of biodiversity. Generally, the available information highlights very disparate use by different departments, with poor transparency as regards the distribution and use of revenue. From the existing information, it seems considerable revenue was raised from low rates (with recurring surpluses); suggesting the potential for a more cost-effective use of the measure/its revenue.

6.3.4 Institutional and legal fit

A prominent issue in the French public debate on biodiversity financing is the lack of funding for the regional authorities, compared to the departmental authorities functioning at a lower administrative level. The planning tax enables departments to raise revenue dedicated to the restoration or conservation of sensitive natural sites but there is no equivalent source of revenue at the regional level (Pelosse et al. 2011). However, similar to the departmental level of biodiversity governance, the regions also have explicit responsibilities in terms of biodiversity conservation. Consequently, there have been calls to extend the possibility of levying a tax on new developments or works at the regional level with a view to improving the institutional fit of the current setting (Delivré 2006, Stop aux Subventions a la Pollution 2012).

There is also a question of how fit-for-purpose the institutions in charge of the implementation of tax incentive measures are, given that their main purpose is the protection of cultural or architectural - rather than natural - heritage. It has been suggested that a biodiversity-specific organisation should be put in charge of controlling these tools. Tax reductions for landowners, on the basis of expenses incurred for the maintenance and protection of natural heritage require obtaining a “Heritage Foundation” label, from an organisation created for and mainly in charge of preserving architectural heritage. It has been suggested that this process is ill-adapted to achieve conservation goals as set out under Natura 2000 and that this explains a lack of subscription to the scheme (Pelosse et al. 2011). Caudal (2008) also suggests that an organisation with specific scientific knowledge on biodiversity would be better suited to carry out this role of control over the maintenance, works and activities carried out on a specific site.

6.3.5 Legitimacy and impacts on stakeholders

Delegating governance to local authorities to improve the achievement of conservation objectives has been a key element of the French approach to Natura 2000 and there seems to be a general consensus on the added value of shifting the main responsibility for the management of sites to local level (Allag Dhuisme et al. 2015). Regardless, overcoming social opposition has been one of the principal challenges in the implementation of the Natura 2000 network in France.

The tax relief tools seem well-designed to achieve stakeholder support in that they propose compensation for management agreements through local and site-specific contracts. As mentioned above, it is estimated that at least 50% of Natura 2000 charters or contracts are entered into their tax benefits (Allag Dhuisme et al. 2015). However, the low subscription to the scheme minimises its potential impact and highlights issues of procedure – notably a lack of information and the complex implementation of the scheme (Rambaud 2012).

A satisfactory balance between management actions and personal costs – upon which social acceptance relies – is intricately linked to the level of exemption received by the site owners, or the amount paid to local authorities in the form of compensation. Contrary to the existing government view (see section 6.3.2), a recent review concluded that many rural communes raise a significant proportion of their revenue through the unbuilt land property tax and that therefore the decrease in state compensation weakens those localities directly, jeopardising stakeholder engagement (Allag Dhuisme et al. 2015). This is particularly the case in some rural areas where up to 15% or 20% of land is designated as Natura 2000 (Sénat 2015c).

6.4 Marketed products

6.4.1 Introduction to instrument

Marketed products for biodiversity conservation (MPBC) tie revenues from the sale of specific consumer goods to the expenditures incurred in protecting endangered species or habitats, or adopting more widespread biodiversity-friendly practices. MPBC can be considered as a particular group of eco-labelled products which are marketed as the products of biodiversity-friendly production systems and – through their sale – seek to raise revenue to promote the maintenance of those systems and related investment in species and habitat conservation.

Three types of MPBC can be distinguished (Trevers and Jones 2009). The earnings retained from the sale of MPBC can 1) finance conservation organisations or remote actors involved in conservation activities (supportive marketed products), 2) help conserve particular species or the ecosystems on which they depend through particular conservation or restoration actions (protective marketed products), or 3) foster adoption of biodiversity-friendly production practices, linked to either the manufacturing or the collection of biodiversity resources (persuasive marketed products).

In general, the uptake and success of MPBC rely on a number of factors including environmental awareness, public support and creating credibility via certification. MPBC may not necessarily involve formal or complex certification schemes and may rely on less formal approaches to certification and labelling, such as more bespoke schemes, NGO-verified schemes, affidavits, or schemes supported by the producers themselves.

Examples of MPBC linking products to protected landscapes in the EU can be found, for example, in some regional parks in Spain and France, including Natura 2000 areas, and appear to have the

potential to enhance revenue for producers while generating income that benefits conservation and helps to maintain biodiversity-friendly land management.

6.4.2 Ecological effectiveness

There are different ways in which the conservation-effectiveness of MPBC can be verified. This will be strongly influenced by the context, objectives and type of MPBC considered. For example, it may be evidenced by:

- Maintenance of existing, biodiversity friendly farming or forestry systems (e.g. in Natura 2000 areas) which might otherwise be threatened by intensification or abandonment
- The results of conservation initiatives funded by the proceeds of MPBC, in terms of their effects on species and habitat conservation
- Positive trends in relevant biodiversity indicators in the areas covered by the schemes (e.g. increases in species population, habitat condition)

Various studies have demonstrated the relative effectiveness of MPBC for wildlife conservation or wider biodiversity preservation goals. A study by Rongeard (2006) investigating the success of the Lesser Grey Shrike Fund (France) (i.e. the role of a wine cooperative in the protection of the Lesser Grey Shrike) showed that, even though the initiative had failed to project the species itself, the ecological outcomes generated by the initiative had been positive. Similarly, a report published in 2014 showed that the Wild Deer Venison project (UK) (i.e. the promotion and marketing of wild deer venison to foster a sustainable management regime) was successful in reducing the deer population in East England, thereby preventing deer damage to the ancient broadleaved woodlands (FCE & DEFRA, 2014). The project also had indirect impacts on woodland by providing capital equipment to help deer management and hence woodland condition, and through providing opportunities to engage in dialogue with stalkers and landowners on their woodland management objectives (FCE & DEFRA, 2014).

However, the ecological effectiveness of the current schemes is often limited because of the relative immaturity of many of those described (i.e. they have not been running very long) and their small scale in relation to the conservation challenges they face.

6.4.3 Cost-effectiveness

MPBC emphasise the joint delivery of market and public goods and services – the production of marketed products such as food and timber is achieved in a way that delivers public goods such as biodiversity and related ecosystem services. It therefore potentially delivers greater benefits than would be achieved through conservation or commodity production alone. Modernisation and intensification of production systems may reduce production costs but, by reducing biodiversity and ecosystem service delivery, lead to inefficient outcomes from the perspective of society as a whole. MPBC, along with other initiatives such as agri-environment schemes, help to reward the biodiversity benefits of production and can help to deliver more efficient outcomes.

The Wild Deer Venison project, for example, was seen as highly cost-effective and able to generate substantive and sustainable improvements in deer management in the short term and maintain landscapes (FCE & DEFRA, 2014). In the case of the Conservation Alliance (USA) (i.e. an initiative by outdoor industry to build funding for groups working to protect threatened wild places in North America), the cost-effectiveness of conservation action is guaranteed by the statutes which

identified the “permanent and quantifiable protection of a specific wild land or waterway” as one of its funding criteria to conservation organisations (The Conservation Alliance, 2016).

Despite the above examples, evidence of cost-effectiveness of existing MPBC is often limited, perhaps reflecting the fact that most schemes were only recently implemented. However, the relatively low uptake of MPBC to date may suggest that the barriers to organising effectively functioning markets represent significant challenges to efficient delivery. An example that would suggest thisis the Lesser Grey Shrike wine vintage, which generated low sales in comparison to traditional products.

Furthermore, a major additional cost of MPBC – and an obstacle to further expansion – relates to certification and verification. This step can add to production costs, but is often necessary in order to enable consumer trust and a functioning market. Not all MPBC are subject to verification schemes, as indicated earlier. The effort invested in verification should be optimised to match the standards for certification and the target level of consumer confidence. The three types of MPBC described above – supportive, persuasive and protective – experience different functional limits to credibility because of inherent constraints on the verification methods each can apply (Treves & Jones, 2009).

6.4.4 Institutional and legal fit

It can be argued that MPBC, as opposed to command-and-control regulation, can often have a complementary role in the instrument mix for financing biodiversity activities. Some success stories have demonstrated the rapid, cost-effective, substantive and sustainable solutions they present to longstanding biodiversity degradation.

MPBC schemes are essentially voluntary but can benefit greatly from the involvement of trusted verification bodies, such as NGOs. Public funding (e.g. EU funding through EAFRD, LIFE, ERDF or other sources) can play an important role in financing the establishment of an initiative and provide the incentive necessary for its uptake. This has been demonstrated by various examples whose initiation has benefited from public funding.

6.4.5 Legitimacy and impacts on stakeholders

MPBC tend to have positive impacts on employment and rural development. By providing increased margins to producers and farmers, they tend to be generally well accepted by stakeholders globally.

The Wild Deer Venison project, for example, supported 44 businesses and enabled the creation of 9.75 full-time-equivalent jobs. It was responsible for generating a sustainable supply chain of wild venison for the local economy and tripling the volume of wild venison in the local food chain and economy. The improvement of both the quality and quantity of venison products through a more robust supply chain was seen as desirable (FCE & DEFRA, 2014). The Lesser Grey Shrike Fund received similar support from stakeholders whose commitment led to developing and running various conservation actions.

On the consumer side, certain MPBC can experience strong demand, as illustrated by the growing sales to venison outlets between 2009 and 2013, with a measured 233% increase in year 1 and an estimated return on investment of over 2.5. In Spain, a market testing exercise has been carried out by SEO/BirdLife with products specifically labelled as ‘Natura 2000 Product’ (e.g. oil, eggs, olive oil and honey). The results showed that a majority of participants in customer surveys were prepared to

pay 5% more for a labelled product than a non-labelled product, and were more likely to buy the labelled product, with actual sales of the same product significantly higher with the label than without it. However, developing strong and sustainable supply chains supported by effective marketing campaigns often underpins the viability and success of MPBC, and a failure to do so often leads to halting a project, as emphasised by the Lesser Grey Shrike project experience.

6.5 Recreational user fees and charges

6.5.1 Introduction to instrument

User fees and charges are economic mechanisms which secure revenues from users of biodiversity and ecosystem services. Recreational fees and charges may be levied on consumptive uses (e.g. fishing, hunting) and/or non-consumptive uses related to tourism (e.g. bird watching, climbing, hiking, diving and other outdoor recreation) of biodiversity resources and the natural environment. User fees and charges may be compulsory or collected voluntarily through visitor payback schemes. The latter can be applied to non-consumptive use and is collected from tourist visitors to an area, and used to fund the management of the natural environment, heritage and/or tourism infrastructure of the area.

The review carried out in the context of this study (see Annex 2) finds that recreational consumptive fees and charges (e.g. fishing and hunting licences) have a longstanding tradition in some EU Member States but only in some cases, namely Estonia and Ireland, do such payments raise substantial fiscal revenues for biodiversity at the national level. With regard to such payments, a key question is whether the revenues only fund general administrative and operational needs or are earmarked and also used for conservation purposes.

Estonia: Recreational hunting and fishing fees have both been implemented in Estonia. The Fishing Act and the Hunting Act establish the specific requirements of fishing and hunting, including for instance quotas for fishing and hunting or the requirement to monitorstocks. In order to fish in nature protection areas, recreational fishers must buy a special fishing card which is more expensive than a general fishing permit and can only be issued for a maximum of one month. A limited number of fishing cards is issued per year and only for specific fish species. Those who fish with fishing cards are obliged to submit catch data within a specific time period (Ministry of the Environment 2016). Similar to fishing, hunting is permissible only on payment of an annual hunting right fee, in addition to which hunters are responsible for paying compensation for damage caused by wild game to the landowners of hunting districts. (Illes et al. forthcoming)

Ireland: Since 2007, a dedicated proportion (50%) of revenues collected by the Irish licencing scheme for the recreational angling and commercial fishing of Atlantic salmon, targeting both wild salmon and sea trout, has been earmarked for the Salmon Conservation Fund. The fund is used to finance activities related to the conservation and sustainable management of salmon. The licencing scheme helps to regulate the fishing pressure on the salmon stocks, and provides an important source of funding for conservation actions, including for instance the restoration of habitats, fish passage improvements, protection of river banks and riparian zone improvement. (Illes et al. forthcoming)

While most parks in Europe are funded mainly through public sources (Bednar-Friedl & Behrens, 2012), several national parks have chosen entrance fees as an economic instrument for funding conservation activities. This occurs in Member States including, for example, France (e.g. Porquerolles Island NP) and Italy (e.g. Miramare Marine Reserve) (Lindberg & Halpenny, 2001). In

the UK, national parks are open free of charge to all but many collect significant fees through car parking charges. Car parking fees have the advantage of relatively low collection costs (through automated pay and display machines and periodic inspections), as well as being consistent with the polluter pays principle. Many of the more significant examples of entrance fees relate to the outermost regions and overseas territories of EU Member States. These areas tend to have a greater concentration of suitable biodiversity hotspots which are attractive to tourists and sensitive to visitor pressure. In these instances entrance fees can represent a cost-effective means of raising revenues for local conservation activities, while managing visitor pressures.

Visitor payback schemes aim to harness visitors' willingness to pay through a system of voluntary payments linked to the visits to protected areas. Tourism businesses are often involved in the schemes by collecting revenues from their customers through a range of mechanisms such as donations, product sales and voluntary levies on accommodation or other goods and services. Public bodies may be involved in co-ordinating and facilitating schemes, while environmental organisations are frequently involved in advising on expenditure priorities and the delivery of conservation activities. Visitor payback schemes have been introduced in some Member States, including the UK and Greece. However, due to their relatively small scale and limited deployment in the EU, visitor payback schemes are not currently seen as key instruments capable of closing the funding gap for biodiversity conservation.

6.5.2 Ecological effectiveness

The evidence from Estonia and Ireland suggests that when revenues linked to recreational fishing and hunting fees are earmarked to support conservation, they provide an important source of funding for research, conservation action and raising awareness - all of which support the achievement of conservation objectives. For example, the Irish conservation regime for Atlantic salmon is delivering conservation improvements, especially in terms of the status of salmon habitats, which has improved from unfavourable to favourable over the past decade. The licence scheme and the earmarked revenue use are generally considered an integral part of this success. However, efforts to restore river and coastal habitats have not been able to guarantee the overall success of salmon conservation. This is due to the complexities related to the conservation of a mobile species like salmon, requiring a range of additional conservation efforts falling outside the scope of the licencing scheme (i.e. the conservation of marine habitats) to guarantee its survival.

Earmarked entrance fees can increase the total park revenue and deliver direct benefits to its management. The introduction of such fees might also be used as a mechanism to reduce congestion and limit pressures on the site. However, the ability of entrance fees to contribute to conservation funding is conditional on factors such as the popularity of the habitat and species' vulnerability and conservation status (Behrens et al. 2009). Entrance fee schemes might therefore not be appropriate when less charismatic species and/or species vulnerable to human impact are involved. In general, a limited amount of evidence could be found for cases in which entrance fees would have provided significant funding for conservation outputs for European protected areas.

Visitor payback schemes can support a diverse portfolio of conservation activities, delivering tangible conservation outcomes. Because of the link to visitor giving, many of the funded activities have a clear link to the tourism sector, including through the provision of visitor infrastructure and management of visitor impacts. The overall ecological effectiveness depends on the ecological effectiveness of projects funded. To date, visitor payback schemes have been proven to be effective in channelling funding into conservation at the local level, but this has occurred only on a relatively

small scale. This may be because schemes are voluntary in nature and tend to involve relatively small payments.

6.5.3 Cost-effectiveness

Limited information is available on the cost-effectiveness of the different types of recreational fees. However, existing evidence and examples reviewed during this study indicate that fee schemes can be relatively cost-effective. Different studies have advocated for entrance fees as an effective means to raise revenues for protected area management (e.g. Reynisdottir et al. 2008, Bednar-Friedl & Behrens 2012), while the examples from Ireland and Estonia show that, as fees can be paid online, the administrative burden of managing the payment system is low. Visitor payback schemes also seem to collect funds in a relatively cost-effective manner, by relying on tourism businesses to secure voluntary donations from their customers. On the other hand, managing the allocation of the revenue collected to different conservation initiatives requires administrative effort (e.g. a proposal review process), especially to guarantee the selection of the most appropriate projects.

6.5.4 Institutional and legal fit

A number of factors underlie whether recreational hunting and fishing fees are well-embedded in the institutional context. These include a) a legislative basis for action, supported by annual quotas, b) a dedicated management body for the collection and distribution of revenue and 3) the user-friendliness of the revenue collecting system.

For entrance fees, it is important to set the optimal level such that it achieves the correct balance between visitor control and revenue gains. Furthermore, cooperation among visitors, tourism enterprises and park managers is a precondition for implementing a successful fee system. Providing visitors with information on how the fee is spent and managed will also improve its acceptance. Furthermore, implementing an effective entrance fee system depends on building the necessary infrastructure and capacity (e.g. personnel, buildings, etc.) to allow collection of fee revenues and control of visitors.

6.5.5 Legitimacy and impacts on stakeholders

Scientific evidence and stakeholder awareness on the status of stocks appear to play an integral role in supporting the legitimacy of the recreational fishing and hunting fee regimes. Furthermore, transparency and communication of how the revenues are used are essential in increasing legitimacy. When the schemes pose limitations or new responsibilities to stakeholders, such as the Estonian game damage payments, appropriate measures need to be taken to identify and alleviate the burden (e.g. limiting the costs of fees) to increase acceptance.

As regards entrance fees, despite their numerous advantages (e.g. resource allocation efficiency, congestion alleviation, reducing costs and generating revenue for maintenance), it appears that public opinion on their use continues to be divided. Their opponents have argued that such fees can create adverse distributional consequences, represent double taxation or prevent equal access to parks (Herath, 2000). Consequently, their possible social implications should be carefully assessed in the national legislative and cultural context.

Voluntary visitor payback schemes could provide a solution to unlocking the potential of user fees. As they are voluntary for both visitors and businesses, there is limited risk of adverse social impacts. The scheme might foster visitors' connections andto the sitesand gain satisfaction by contributing to their future. The scheme is also characterised by its low participation effort and threshold, making it easy for visitors to contribute relatively small sums, which accumulate to provide funding for conservation.

6.6 Incorporating non-EU funding instruments into the EU framework

6.6.1 Ecological fiscal transfers (EFT)

EFT in their current form are not particularly suited for directly addressing the financial needs of conservation and improving the conservation-effectiveness of biodiversity funding in the EU. However, such schemes could play an important role in supporting the EU "baseline" for biodiversity conservation, in particular by increasing the legitimacy of conservation actions and improving the (perceived) social fairness related to biodiversity conservation at municipal level. Earmarking part of the transfers or linking them to conservation performance increases their potential for biodiversity conservation.

The existing country studies show that setting up EFT schemes requires a relatively time-consuming reform process. However, given that all Member States have intergovernmental fiscal transfer schemes in place, an introduction of EFT is both theoretically and practically feasible in all EU Member States. Such developments would require a scheme design that corresponds to the respective national constitutions, supported by political and civil society actors. There appears to be considerable potential to use Natura 2000 sites (e.g. in proportion to the jurisdictions' area) as a suitable indicator for the design of national EFT schemes. For example, the progress reports on the EU Habitat and Birds Directives' implementation, produced every six years, could serve as data for the design of qualitative EFT indicators.

In Portugal, it has been proposed that EFT earmarking could be used as a way to ensure the alignment of incentives between local public and private actors, improving the design and joint implementation of EFT and EU agri-environmental measures (AEM) and in this way increase both the conservation- and the cost-effectiveness of the measures (Santos et al. 2015). It would be important that local authorities (municipalities) were interested in and benefited from the adhesion of farmers to AEM (in addition to also being eligible for them on an equal footing with private actors), and that farmers benefited from the ecological fiscal transfers received by local governments. One of the solutions proposed to achieve this coordination would be to direct part of the EFT revenues to some sort of municipal biodiversity conservation fund. Access to this fund could be awarded to eligible farmers on the basis of a competitive bidding process, whereby the most promising biodiversity conservation actions, in addition (and preferably complementary) to those already covered by an existing AEM, would be supported. By establishing the rules for access to this fund, local governments, with the collaboration of nature conservation officials, could influence the targeting of payments to those areas with higher biodiversity conservation gains and gradually pave the way to the adoption of a result-oriented approach in the existing agri-environmental measures (Santos et al. 2015).

In principle, ecological indicators could also be integrated as allocation criteria for EU funds, such as the ERDF. Based on the assessment of experiences with existing EFT schemes and the institutional options regarding EU funds, a potential EU-EFT scheme could be implemented as an allocative

mechanism for regional EU funds / ERDF (Droste et al. 2016). This would allow the flow of financial resources to regional levels such as NUTS2 regions or relevant authorities (see Box 6.1).

Box 6.1 Integration of ecological criteria into ERDF

Droste, Ring et al. (2016) propose that EU-EFT schemes could consist of two parts, one quantitative and the other qualitative, similar to the EFT design from Brazil.

Formally, this could be expressed as

$$EFT_i = \left(\frac{CF_i}{\sum_j^n CF_j}\right) fund\ , \qquad \text{Eq. 6}$$

where

$$CF_i = \frac{PA_i}{area_i} + \frac{FCS_i}{habitats_i}\ , \qquad \text{Eq. 7}$$

The EFT for jurisdiction i would be defined as a proportion of the overall available $fund$ (e.g., a part of the ERDF) that goes to all j jurisdictions. The central measurement, the Conservation Factor (CF) of jurisdiction i could be determined by the sum of i) the proportions of Protected Area expanse (PA) and area ($area$), say the % of land under protection, and ii) a qualitative measure such as number of habitats with favourable conservation status (FCS) and total number of reported habitats ($habitats$).

Droste, Ring et al. (2016) conclude that the main innovative feature of the proposed EU-EFT scheme would be that, while the current EU funding instruments supporting biodiversity conservation (e.g. LIFE) focus on financing pre-determined objectives and measures, the inclusion of a EU-EFT scheme into the mix of financing instruments would grant performance based transfers without spending conditions to regions that supply the most (or best managed) Natura 2000 sites (Droste, Ring et al. 2016: p. 20). The main recipients of the proposed mechanism would be those regional authorities who provide most conservation measures, such as Natura 2000 site coverage and favourable conservation status of reported habitats according to the Habitat and Birds Directives. The EU regions foreseen to perform best according to such an ecological fiscal transfer mechanism would be remote mountainous and economically poor regions that would therefore receive the highest EU-EFT payments - which would be in line with the cohesion goal of envisioned EU funds such as the ERDF.

For further information, see Kettunen, M. and Illes, A. (eds.) (2017)

6.6.2 Tax reliefs and incentives

Tax reliefs reward biodiversity-friendly behaviour and can help to bring down the costs of (certain) conservation actions. They are not, however, able to generate concrete funds for conservation measures and therefore have limits as regards their ability to help bridge the existing finance gap at EU or national level.

However, by incentivising biodiversity-friendly land and resource use, tax reliefs can play an important role in the instrument mix by preventing land conversion or extraction of resources and reducing the need to fund certain end-of-the-line conservation measures such as restoration. In other words, tax reliefs can play a role in financing the no net loss of biodiversity. Furthermore, tax reliefs can be used to replace more traditional (one-off) compensation payments, and thus influence the perceived nature of payments and distribution of funding needs over years. Tax reliefs for

biodiversity conservation can also support the legitimacy of conservation actions, incentivising and promoting the biodiversity-friendly use of land and resources by tax-payers.

The power to levy taxes - and provide related tax reliefs - is an EU Member State competence. However, the EU could take a proactive role in promoting the use of tax reliefs to deliver environmental objectives in the country-specific recommendations as part of the European Semester process,i.e. the EU's initiative supporting economic and fiscal policy coordination. Environmental concerns have been mainstreamed into the European Semester process to only a limited extent but there are some examples of Member States having been asked to increase the use of environmental taxes as a result of the process.

6.6.3 Marketed products

To date, MPBC have operated at a relatively small scale and played a niche role in supporting conservation activities in the EU. However, they have considerable potential to be scaled up, in particular influencing biodiversity management across the whole supply chain.

MPBC can operate at a range of levels, from the very local (e.g. produce from a single Natura 2000 site or cluster of sites) to the international (e.g. supporting biodiversity-friendly commodities sourced from different countries). For instance, the adoption of policies by some major retailers to source all of their fish from sustainable sources has the potential to influence the management of marine biodiversity on a wide scale. It is likely, therefore, that different MPBC will play different roles in the biodiversity financing mix; some supportive MPBC will remain niche in their focus while persuasive MPBC have the potential for larger-scale impacts on biodiversity.

MPBC are frequently introduced by private companies or co-operatives, although many may benefit from the involvement of the public sector or NGOs in catalysing action or overseeing market development. Therefore, it is foreseen that further adoption will require public-private or private-NGO partnerships. Such partnerships could considerably benefit from "start-up" funding from different EU funds, to support their uptake and mainstreaming at different levels across the EU.

6.6.4 Recreational user fees and charges

Hunting and fishing fees are widely applied in EU Member States but their contribution to biodiversity conservation varies. The examples from Estonia and Ireland are inspiring cases of how the earmarking of revenues raised by such fees can lead to significant funding for conservation. While these types of revenues are not considered to be sufficient to close the funding gap for biodiversity conservation in the EU, they can play a role in maintaining healthy fish and game populations and habitats while also raising awareness.

Entry fees to protected areas are a well-known instrument, and hence the limited funding that they provide for biodiversity conservation in the EU suggests that there are significant barriers to their greater application. These relate to the perhaps relatively low (perceived) uniqueness of EU sites and species (and hence the willingness to pay to enter protected areas in the EU), difficulty of restricting entry to extensive protected areas, transaction costs of collecting entry fees, and concerns about the social impacts of charging for entry to nature sites.

Visitor payback schemes have perhaps been less widely tested in the EU context, and may offer more potential for growth, particularly in areas where the business community can be mobilised to

raise funding for conservation activities. The effort needed to develop successful partnerships is a significant barrier, and evidence to date suggests that the resulting funding is often fairly small in scale, even in highly visited areas. New technological solutions – such as smartphone apps used to collect visitor donations – may offer potential for growth.

For the reasons identified above, neither entry fees nor visitor payback schemes are likely to generate funds on a sufficient scale to close current funding gaps. Both may play an enhanced role at a local level, while visitor payback schemes offer perhaps the greatest potential for growth across the EU.

6.6.5 Brief conclusions: the role of non-EU instruments in the biodiversity funding mix

Given the current level of uptake and identified need for further development (e.g. improving the evidence for conservation outputs), it is unlikely that the uptake of innovative non-EU instruments alone would bridge the existing financing gap for biodiversity, at least in the short term. This is particularly the case when the uptake of several instruments is known to benefit from – or even require - start-up funding from the EU budget.

However, continued efforts to increase the use of non-EU innovative instruments seems to have the potential to improve the overall instrument mix for financing biodiversity conservation, both in terms of improving the ecological- and cost-effectiveness of conservation and supporting the legitimacy of conservation actions. In order to make use of this potential, a more systematic approach to the uptake of these instruments is required – both at the EU and national level – focusing on the joint application of instruments, rather than promoting individual instruments (Table 6.2). Such an approach could, for example, be integrated into the future PAFs and it should include identifying the different roles funding instruments could play in the mix (e.g. supporting the no net loss baseline or generating concrete funding for conservation, improving conservation effectiveness or increasing legitimacy) and key drivers for the uptake. The latter could help to focus resources for capacity building and raising awareness.

Table 6.2 Summary of key insights as regards the potential future uptake of innovative funding instruments in the context of EU biodiversity funding, see Kettunen and Illes (eds.) (2017) for further information and detailed analysis.

Instrument	Potential for uptake	Potential for revenue creation	Potential amount of resources generated	Key pathway for influencing conservation	Links to the EU co-funding framework
Ecological fiscal transfers (EFT)	Potential for upscaling, both at / within Member States and at EU level Key actors: state, regional and local governments	Indirect, lump-sum transfers linked to protected area coverage may represent a significant share of local budgets and lead to incentivising concrete conservation actions; potential for direct funding if transfers are earmarked	Moderate to high, depending on municipality and the allocation criteria adopted	Legitimacy and social impacts By providing public actors with financial resources to cover fiscal needs; strong distributive component	Could be linked to the delivery of EAFRD and/or ERDF
Tax reliefs for biodiversity	Potential for upscaling, at / within Member States Key driver: state	Indirect, support to conservation by incentivising biodiversity friendly land and resource use, and lowering the costs of (certain) conservation measures	Moderate to high, depending on design and uptake	Legitimacy and social impacts By preventing degradation, support to no net loss of biodiversity	Complementary, with no direct links to the EU co-funding framework
Marketed products	Potential for upscaling, from local to multi-national levels Key driver: business sector	Direct, generates concrete funds for conservation actions	Low to high, depending on the type of scheme (local – multi-national)	Conservation effectiveness and cost-effectiveness, depending on the scheme could finance targeted species or habitat conservation actions or maintenance of general environmental quality	Complementary, foreseen to benefit from start-up funding from the EU funds

				Legitimacy, via engagement and raising awareness	
Fees and chargers for recreational use of biodiversity resources	Potential for upscaling, at / within Member States Key driver: state	Direct, generates concrete funds for conservation actions	Moderate to high, depending on design and uptake	Conservation effectiveness and cost-effectiveness, likely targeting species used as biodiversity resource Legitimacy, via engagement and raising awareness	Complementary, with no direct links to the EU co-funding framework
Entrance fees for protected areas (e.g. visitor payback schemes)	For entrance fees: limited potential for upscaling in Europe For voluntary payback schemes: potential for upscaling at / within Member States Key driver: protected area managers, business (tourism) sector, NGOs	Direct, generates concrete funds for conservation actions	For entrance fees: low For voluntary payback schemes: possibly moderate	Conservation effectiveness and cost-effectiveness, depending on the scheme and conservation measures financed Legitimacy, via engagement and raising awareness	Complementary, with no direct links to the EU co-funding framework Visitor payback schemes could benefit from start-up funding from the EU funds

6.7 References – Chapter 6

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7 Conclusions - towards a policy mix approach for EU financing

The systematic and comprehensive review of existing evidence carried out in the context of this study reveals a range of shortcomings in the EU co-financing framework for biodiversity. These include: the overall lack of funding, low incentives for take up of conservation measures (EAFRD), mismatches and competition between biodiversity and other sectoral policy goals, inadequate information on the conservation outputs of funding, high administrative burdens creating institutional barriers and affecting the cost-effectiveness, and a range of institutional inefficiencies and legitimacy deficiencies. These shortcomings limit the ecological effectiveness, cost-effectiveness and legitimacy of the framework, which risks jeopardising the successful delivery of EU's biodiversity objectives and targets.

The above limitations are not new as they have been identified by a number of studies and stakeholder consultations since the adoption of the EU integrated financing approach in 2007. While there have also been a range of successes (see below), this seems to indicate that the success of the EU financing framework will not significantly improve without a considerable and consolidated effort in addressing the identified deficiencies.

However, the review of existing evidence also highlights a number of positive aspects of the current EU financing approach. In particular, LIFE, EAFRD and, to some extent, ERDF have been shown to be able to deliver a range of conservation outputs in a relatively effective and efficient manner when the funded measures have been appropriately designed and properly implemented. A number of improvements to increase the delivery of biodiversity benefits under these funds can, however, be identified and need to be addressed.

In terms of social impacts and legitimacy, by engaging stakeholders at different governance levels and at different stages of decision-making, integrated biodiversity financing has the potential to advance the mainstreaming and legitimacy of biodiversity conservation. According to the empirical results of this study, stakeholder consultation and engagement are important factors in conditioning the legitimacy and effectiveness of the delivery of funds. Engagement and collaboration have been major targets of development during recent years, which can be accounted as a merit for the integrated approach to biodiversity financing.

Building on the review of existing information, including empirical evidence from stakeholders gained in the context of this study, the following necessary improvements to the existing framework are identified and suggested:

- Earmarking expenditure for biodiversity priorities under the sectoral EU funds is seen as one of the most effective ways to increase the contribution of the EU budget to biodiversity. This earmarking could be carried in different ways, including setting a general target (%) for biodiversity priority related spending across the whole EU budget (as current done for climate)or setting targets (%) for individual EU funds or by "nesting" a dedicated amount of funding (€) for biodiversity to be delivered within different individual funds.
- Addressing eligibility gaps: A systematic eligibility review, covering all EU funding instruments relevant for biodiversity, should be carried out to identify key eligibility

mismatches and possible areas of ambiguity and to explore how they could be addressed. Furthermore, increased support – both political and technical - to the development and implementation of multifaceted and/or multi-functional projects is needed to increase effectiveness and overcome the difficulties in financing conservation measures within funding frameworks for sectoral policies.

- Coordination and coherence: There are a range of opportunities to improve the effectiveness of PAFs as a coordination tool. Improving their integration into the national and regional process - with a view to create shared ownership between sectors and to increase their influence - should be one of the key priorities. PAFs could be made more effective by providing a more explicit analysis of the problems (i.e. causes for biodiversity decline and related challenges for conservation in the given region / Member State), linking this information to foreseen solutions (i.e. measures) and estimated costs, and then clearly highlighting the identified priorities for action. In this context, PAFs could play a greater role in identifying and elaborating on specific areas where conservation needs could be better linked with the delivery of national and regional socio-economic priorities as identified in different national policy documents (e.g. employment creation, rural development, public health, climate adaptation). PAFs could also be used to identify key national priority areas for developing the innovative non-EU funding for biodiversity, including highlighting key sectors, actors and EU funds for such cooperation. Finally, in addition to PAFs the increasing number of LIFE integrated projects – and lessons learned in the context of these projects - can increasing can support further coordination and coherence for integrated funding in practice.
- Administrative burden: A consolidated effort to reduced complexity of application and implementation processes across all EU funds is required. Addressing the administrative burden should be supported by a dedicated EU-wide assessment, with explicit focus on identifying feasible opportunities for lowering the administrative burden related to the EU funding application and reporting processes.
- Monitoring: there is a need for the development of a more systematic procedural framework for monitoring, evaluation and learning from the outcomes of EU funded actions. This includes, for example, further development of outcome-focused biodiversity targets and indicators to assess the effectiveness and efficiency of the different EU funds, both on a project and landscape level.
- Awareness raising and stakeholder cooperation: Continued efforts on awareness raising of the multiple benefits of nature and how financing biodiversity conservation helps reach socio-economic objectives is required. This is required to further improve legitimacy of conservation measures among sectoral stakeholder and also to broaden the group of stakeholders coming forward with project ideas for multipurpose projects. Stakeholder cooperation need to be further encouraged to support more multipurpose and -stakeholder initiatives.

The adoption of a new dedicated EU fund for biodiversity has been suggested by a number of stakeholders as an alternative to the integration approach. Such a fund is considered to have the potential to address a number of the current shortcomings, in particular to lessen the competition between biodiversity and other sectoral priorities, improve the match between the funding framework and priority funding needs and also perhaps to reduce the administrative burden to (some) stakeholders. Even if the net EU funding for biodiversity were to decrease somewhat, better targeting (e.g. better designed measures and enforcement) could perhaps in principle be able to result in net positive overall impact to conservation. These views are supported by the evidence on the effectiveness of LIFE-nature funding in delivering concrete biodiversity outputs.

However, the risks associated with a dedicated EU funding instrument for biodiversity are significant as there are no foreseen guarantees that the level of funding made available (e.g. funding additional to the current LIFE-nature funding) would be able to match the needs any better than under an integrated approach. For example, the administrative requirements to stakeholders such as farmers, foresters, fishermen and national biodiversity administration could even increase as a result of additional administration systems and adopting more comprehensive monitoring arrangements. Furthermore, integrated financing for biodiversity is considered to be an integral part of the underlying EU policy principle of environmental mainstreaming, even contributing to the delivery of different sectoral policies through increased environmental sustainability and a range of nature-based solutions. The different EU funds relevant to biodiversity would therefore need to maintain a certain level of biodiversity integration even if a dedicated instrument for biodiversity were to be adopted. Determining the new level of biodiversity integration under different EU funds in a manner that does not undermine the biodiversity conservation at the wider land- and seascape level is likely to be a challenging and time consuming exercise. The benefits and risks of moving towards adopting such a dedicated EU biodiversity fund would need to be considered in adequate detail, reflecting the possible scope and priorities for such a fund (e.g. Natura 2000).

As regards the innovative non-EU financing instruments, such as ecological fiscal transfers (EFT), tax reliefs, marketed products and fees and charges, this study reveals a range of opportunities in upscaling the use of different instruments. However, based on the insights gained it is unlikely that the uptake of innovative instruments on its own will be able to bridge the existing financing gap for biodiversity, at least in a short term. Mainstreaming the use of a range of different instruments – while understanding the role that they can play in the overall conservation policy mix Table 6.2) – is nevertheless important as such instruments have considerable potential to contribute to the existing funding base. An elaborated consideration of innovative non-EU instruments could be, for example, integrated into the future PAFs with a view to identify the possible candidates at Member States, their role in the instrument mix and key drivers for the uptake. The possibilities for the integration of EFTs into the EU co-financing framework, with opportunities both at the EU and/or national level (see section 6.6.1), should be further explored whereas for the other instruments explicit dedicated start-up support under the EU funds could be considered.

The reduction and/or reform of perverse incentives, such as grants for modernisation of farming systems and afforestation that can undermine the economic viability of biodiversity measures, is needed to prevent undermining the effectiveness of conservation actions and related funding. While exploring the needs and opportunities linked to the reform of harmful subsidies falls outside the scope of this study, parallel advancement on this policy agenda is considered of crucial importance to the overall delivery of biodiversity objectives and increasing the future success of biodiversity financing.

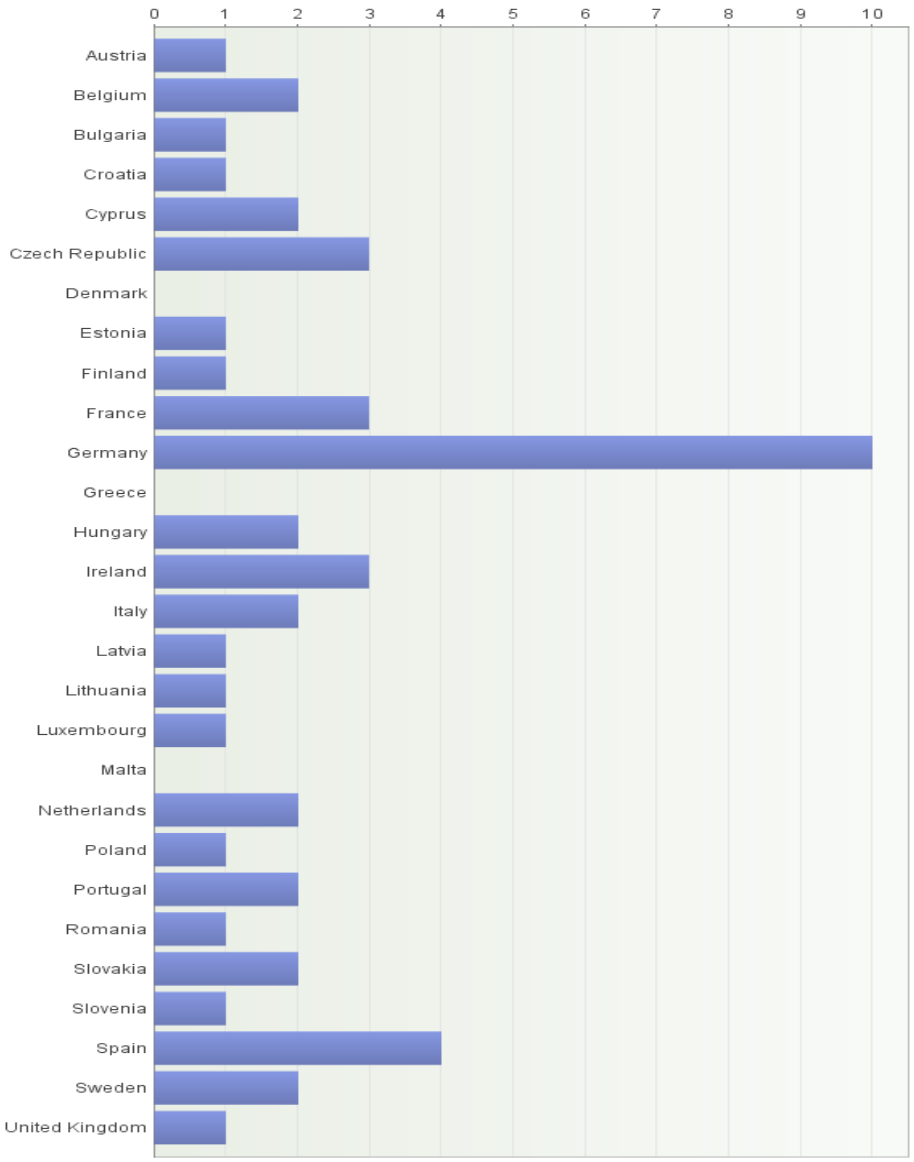
Finally, the common assessment framework developed in the context of this study - and applied throughout the study - is considered to provide a good systematic basis for identifying and assessing the key attributes determining the overall success of biodiversity funding arrangements, i.e. ecological effectiveness, cost-effectiveness, institutional aspects and legitimacy. The framework is designed to be applicable at all levels of biodiversity financing in the EU, allowing the integration of local, national and regional funds with the EU co-funding framework. Consequently, the benefit of integrating such an approach into the future PAFs could be considered.

Annex 1 – Stakeholder survey structure and results

Background information

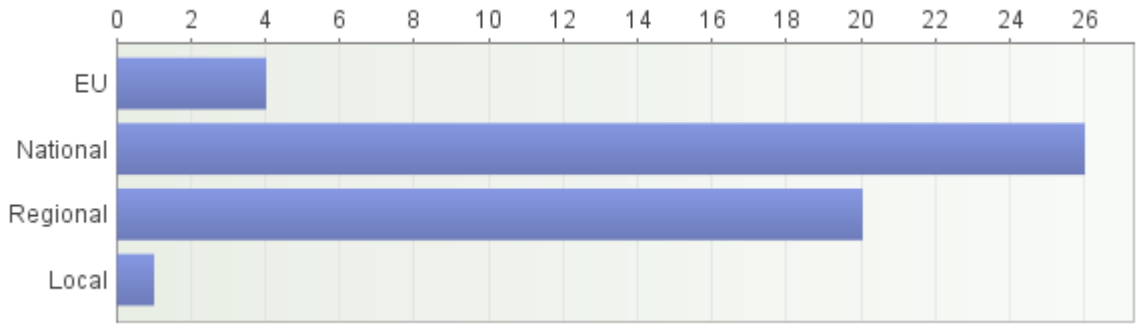
1. My country

Amount of respondents: 51



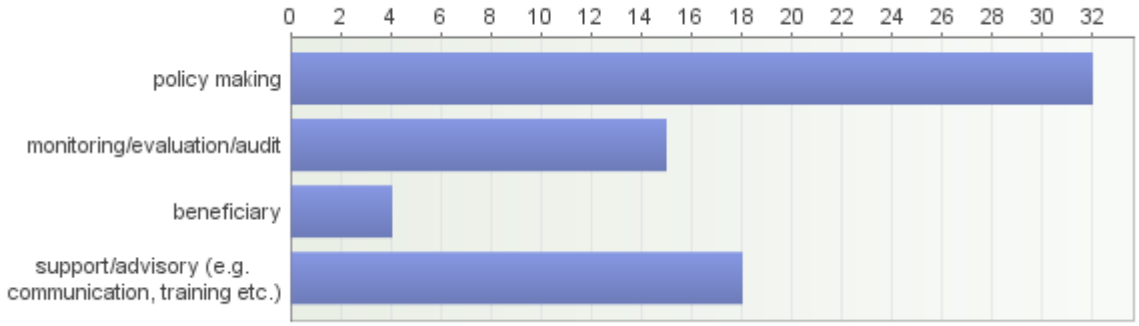
2. The level at which I primarily make decisions

Amount of respondents: 51



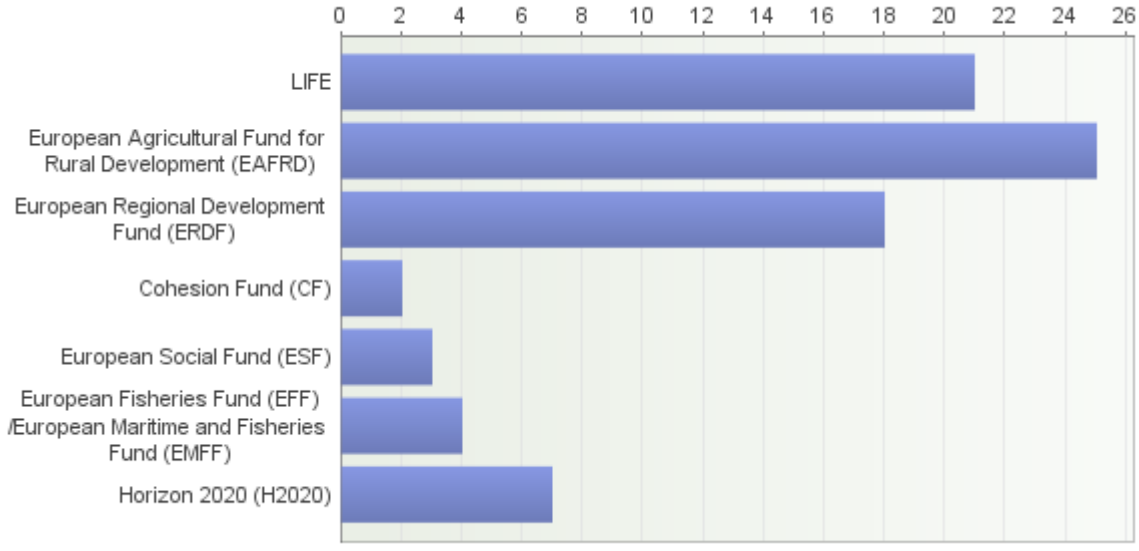
3. My role(s) in biodiversity funding provision

Amount of respondents: 51



4. The funding instrument(s) I primarily work with include

Amount of respondents: 51



Your perception of the success of the current EU integrated funding approach and its funding instruments

5. LIFE

Amount of respondents: 21

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	14	6	1	0	0	21
The instrument(s) has/have served a range of other societally important goals.	8	9	4	0	0	21
The instrument(s) has/have generally been implemented effectively in my country/region.	10	7	2	2	0	21
Total	32	22	7	2	0	

6. European Agricultural Fund for Rural Development (EAFRD)

Amount of respondents: 25

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	4	17	1	3	0	25
The instrument(s) has/have served a range of other societally important goals.	6	13	6	0	0	25
The instrument(s) has/have generally been implemented effectively in my country/region.	6	14	3	2	0	25
Total	16	44	10	5	0	

7. European Regional Development Fund (ERDF)

Amount of respondents: 18

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	4	8	1	3	2	18
The instrument(s) has/have served a range of other societally important goals.	5	8	4	1	0	18
The instrument(s) has/have generally been implemented effectively in my country/region.	2	9	2	5	0	18
Total	11	25	7	9	2	

8. European Social Fund (ESF)

Amount of respondents: 3

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The EU instruments have generally succeeded in contributing to biodiversity conservation.	0	1	0	0	2	3
The instruments have served a range of other societally important goals.	1	0	2	0	0	3
The instruments have generally been implemented effectively in my country/region.	1	0	1	1	0	3
Total	2	1	3	1	2	

9. Cohesion Fund (CF)

Amount of respondents: 2

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	0	0	1	0	1	2
The instrument(s) has/have served a range of other societally important goals.	0	1	0	0	1	2
The instrument(s) has/have generally been implemented effectively in my country/region.	0	1	0	0	1	2
Total	0	2	1	0	3	

10. European Fisheries Fund (EFF)/European Maritime and Fisheries Fund (EMFF)

Amount of respondents: 4

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	0	1	0	3	0	4
The instrument(s) has/have served a range of other societally important goals.	2	1	1	0	0	4
The instrument(s) has/have generally been implemented effectively in my country/region.	1	1	1	1	0	4
Total	3	3	2	4	0	

11. Horizon 2020 (H2020)

Amount of respondents: 7

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
The instrument(s) has/have generally succeeded in contributing to biodiversity conservation.	0	2	3	1	1	7
The instrument(s) has/have served a range of other societally important goals.	2	2	3	0	0	7
The instrument(s) has/have generally been implemented effectively in my country/region.	0	2	0	4	1	7
Total	2	6	6	5	2	

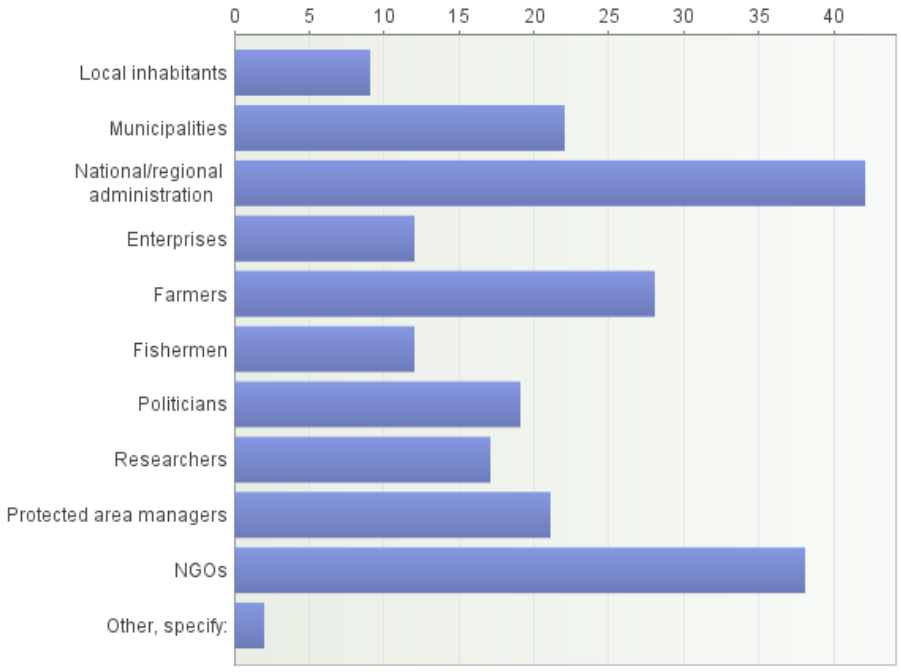
12. Your experience of engagement of stakeholders in programming and implementation of the fund(s) you work with:

Amount of respondents: 51

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
Stakeholders are sufficiently consulted when decisions are made about priorities for EU funding programmes in my country / region.	14	18	9	8	2	51
There are effective processes in place for authorities to integrate stakeholder views into funding design and/or allocation.	13	16	9	11	2	51
Authorities are generally willing to consider and integrate stakeholder views into funding programming.	12	22	9	7	1	51
Total	39	56	27	26	5	

13. Which of the following stakeholders are the most commonly consulted when decisions on funding allocations are made?

Amount of respondents: 51



Other, specify:

- farmers´organisations
- representatives of land user

Perception of social impacts on different stakeholder groups and fairness

Who are the main beneficiaries of the EU funding for biodiversity under the following instruments?

14. LIFE

Amount of respondents: 21

	direct	indirect	both
Local inhabitants	0	11	4
Municipalities	6	4	5
National/regional administration	11	3	5
Enterprises	1	8	4
Farmers	2	8	3
Fishermen	2	6	1
Politicians	1	8	0
Researchers	4	6	4
Protected area managers	8	4	3
NGOs	13	0	6
Other, specify:	1	0	0
Total	49	58	35

Other:
- foundations **(direct)**

15. European Agricultural Fund for Rural Development (EAFRD)

Amount of respondents: 25

	direct	indirect	both
Local inhabitants	4	12	4
Municipalities	4	11	5
National/regional administration	5	8	3
Enterprises	6	5	5
Farmers	14	1	10
Fishermen	3	4	2
Politicians	0	10	1
Researchers	2	10	2
Protected area managers	6	9	4
NGOs	3	10	6
Other, specify:	0	0	0
Total	47	80	42

16. European Regional Development Fund (ERDF)

Amount of respondents: 18

	direct	indirect	both
Local inhabitants	0	12	3
Municipalities	8	1	9
National/regional administration	7	3	7
Enterprises	6	6	3
Farmers	1	10	2
Fishermen	0	10	1
Politicians	1	11	0
Researchers	1	7	3
Protected area managers	7	4	3
NGOs	5	4	3
Other, specify:	0	0	0
Total	36	68	34

17. Cohesion Fund (CF)

Amount of respondents: 2

	direct	indirect	both
Local inhabitants	0	2	0
Municipalities	2	0	0
National/regional administration	2	0	0
Enterprises	2	0	0
Farmers	1	0	0
Fishermen	1	0	0
Politicians	0	0	0
Researchers	0	0	0
Protected area managers	1	0	0
NGOs	1	0	0
Other, specify:	0	0	0
Total	10	2	0

18. European Social Fund (ESF)

Amount of respondents: 3

	direct	indirect	both
Local inhabitants	1	1	0
Municipalities	3	0	0
National/regional administration	2	1	0
Enterprises	1	1	0
Farmers	0	2	0
Fishermen	0	1	0
Politicians	0	1	0
Researchers	0	0	0
Protected area managers	1	0	0
NGOs	0	1	0
Other, specify:	0	0	0
Total	8	8	0

19. European Fisheries Fund (EFF) / European Maritime and Fisheries Fund (EMFF)

Amount of respondents: 4

	direct	indirect	both
Local inhabitants	0	1	1
Municipalities	0	1	2
National/regional administration	1	0	1
Enterprises	2	1	0
Farmers	0	0	0
Fishermen	3	0	1
Politicians	0	0	0
Researchers	0	0	1
Protected area managers	0	0	0
NGOs	1	0	1
Other, specify:	0	0	0
Total	7	3	7

20. Horizon 2020 (H2020)

Amount of respondents: 7

	direct	indirect	both
Local inhabitants	0	5	0
Municipalities	1	3	1
National/regional administration	1	4	2
Enterprises	2	4	0
Farmers	3	2	0
Fishermen	2	3	0
Politicians	1	4	1
Researchers	6	0	1
Protected area managers	1	2	3
NGOs	1	2	3
Other, specify:	0	0	0
Total	18	29	11

What are the main benefits (direct and indirect) of biodiversity funding from the following instruments?

21. LIFE

Amount of respondents: 21

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	17	3	1	0	0
New business opportunities	1	11	4	4	1
Access to public benefits of nature	9	8	3	1	0
Opportunity to engage in local decision-making	5	14	2	0	0
Increased experience of autonomy over conservation decisions	5	8	6	2	0
Strengthened local networks	10	8	1	2	0
Reduced conflicts	7	9	3	2	0
Increased knowledge	18	1	2	0	0
Other, specify:	0	0	0	0	0
Total	72	62	22	11	1

22. European Agricultural Fund for Rural Development (EAFRD)

Amount of respondents: 25

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	9	10	2	4	0
New business opportunities	3	8	9	5	0
Access to public benefits of nature	4	8	10	3	0
Opportunity to engage in local decision-making	2	7	8	7	1
Increased experience of autonomy over conservation decisions	3	6	10	6	0
Strengthened local networks	3	11	7	4	0
Reduced conflicts	1	11	7	5	1
Increased knowledge	5	12	8	0	0
Other, specify:	0	0	0	0	0
Total	30	73	61	34	2

23. European Regional Development Fund (ERDF)

Amount of respondents: 18

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	7	6	2	1	2
New business opportunities	1	8	6	2	1
Access to public benefits of nature	2	8	3	3	2
Opportunity to engage in local decision-making	3	2	9	3	1
Increased experience of autonomy over conservation decisions	3	1	7	5	2
Strengthened local networks	2	6	6	3	1
Reduced conflicts	1	9	6	1	1
Increased knowledge	5	9	3	0	1
Other, specify:	0	0	1	0	0
Total	24	49	43	18	11

24. Cohesion Fund (CF)

Amount of respondents: 2

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	1	1	0	0	0
New business opportunities	1	0	1	0	0
Access to public benefits of nature	1	1	0	0	0
Opportunity to engage in local decision-making	0	1	1	0	0
Increased experience of autonomy over conservation decisions	0	0	1	1	0
Strengthened local networks	0	1	1	0	0
Reduced conflicts	0	1	0	1	0
Increased knowledge	0	2	0	0	0
Other, specify:	0	0	0	0	0
Total	3	7	4	2	0

25. European Social Fund (ESF)

Amount of respondents: 3

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	1	0	0	0	2
New business opportunities	0	1	1	0	1
Access to public benefits of nature	0	1	0	0	2
Opportunity to engage in local decision-making	0	2	0	0	1
Increased experience of autonomy over conservation decisions	1	0	0	0	2
Strengthened local networks	0	1	1	0	1
Reduced conflicts	0	0	2	0	1
Increased knowledge	1	0	1	0	1
Other, specify:	0	0	0	0	0
Total	3	5	5	0	11

26. European Fisheries Fund (EFF) / European Maritime and Fisheries Fund (EMFF)

Amount of respondents: 4

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	1	1	1	1	0
New business opportunities	2	1	1	0	0
Access to public benefits of nature	1	1	1	0	1
Opportunity to engage in local decision-making	1	0	3	0	0
Increased experience of autonomy over conservation decisions	0	1	2	0	1
Strengthened local networks	1	2	1	0	0
Reduced conflicts	0	1	3	0	0
Increased knowledge	2	0	2	0	0
Other, specify:	0	0	0	0	0
Total	8	7	14	1	2

27. Horizon 2020 (H2020)

Amount of respondents: 7

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree
Improved opportunities for nature management and protection	2	2	0	2	1
New business opportunities	2	2	0	3	0
Access to public benefits of nature	3	1	0	2	1
Opportunity to engage in local decision-making	1	2	1	2	1
Increased experience of autonomy over conservation decisions	1	3	1	1	1
Strengthened local networks	2	1	2	1	1
Reduced conflicts	0	3	1	1	2
Increased knowledge	4	3	0	0	0
Other, specify:	0	0	1	0	0
Total	15	17	6	12	7

Other, specify: strengthened international networks

27. What kind of benefit and fairness impacts of biodiversity funding do you discuss and encounter in your work?
The main points of the open-ended answers have been summarized in the report.

28. Is the distribution of funds considered fair?

Amount of respondents: 51

	Fully agree	Somewh at agree	Neutral	Somewh at disagree	Fully disagree	Total
LIFE	4	7	2	5	3	21
European Agricultural Fund for Rural Development (EAFRD)	4	7	6	6	2	25
European Regional Development Fund (ERDF)	2	7	5	2	2	18
Cohesion Fund (CF)	0	1	1	0	0	2
European Social Fund (ESF)	1	0	1	0	1	3
European Fisheries Fund (EFF)/European Maritime and Fisheries Fund (EMFF)	0	3	1	0	0	4
Horizon 2020 (H2020)	0	2	2	2	1	7
Total	11	27	18	15	9	

Perception of stakeholder satisfaction and concerns

29. Stakeholders are generally satisfied with the funding instrument.

Amount of respondents: 51

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
LIFE	6	6	7	2	0	21
European Agricultural Fund for Rural Development (EAFRD)	2	13	3	7	0	25
European Regional Development Fund (ERDF)	1	7	5	3	2	18
Cohesion Fund (CF)	0	1	0	0	1	2
European Social Fund (ESF)	1	0	1	0	1	3
European Fisheries Fund (EFF)/European Maritime and Fisheries Fund (EMFF)	0	3	0	0	0	3
Horizon 2020 (H2020)	0	3	0	3	1	7
Total	10	33	16	15	5	

30. I expect biodiversity conservation to be further integrated into the following instruments in the future.

Amount of respondents: 51

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
LIFE	42	6	3	0	0	51
European Agricultural Fund for Rural Development (EAFRD)	34	12	5	0	0	51
European Regional Development Fund (ERDF)	29	12	7	0	3	51
Cohesion Fund (CF)	16	11	19	2	3	51
European Social Fund (ESF)	11	13	18	4	5	51
European Fisheries Fund (EFF)/European Maritime and Fisheries Fund (EMFF)	33	10	7	1	0	51
Horizon 2020 (H2020)	26	15	10	0	0	51
Total	191	79	69	7	11	

31. What are the main concerns you have encountered?

The main points of the open-ended answers have been summarized in the report.

Expectations for future development and new instruments

31. I expect the following instruments to become more common in financing biodiversity in the future.

Amount of respondents: 51

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	My country/region already uses the instrument	Total
New or increased direct national funds	16	20	4	3	5	3	51
Payments where the state pays for biodiversity or ecosystem service conservation or management	11	18	6	6	3	7	51
Public to public payments, such as ecological fiscal transfers	5	18	15	8	4	1	51
Private-to private payments where companies or associations pay for conservation or management	8	17	13	7	5	1	51
Payments conditional on conservation outcomes	10	22	14	2	1	2	51
Trust funds	4	12	24	5	5	1	51
Tax deductions for biodiversity conservation and management investments for companies and citizens	12	15	12	8	4	0	51
Environmental bonds	5	13	22	7	4	0	51
Voluntary compensations by companies generating biodiversity loss, through direct investment or through a banking mechanism	12	12	14	8	4	1	51
Voluntary investments in conservation or management by companies or individuals	10	21	13	4	1	2	51
Channelling a share of profits from certified products to conservation	14	11	15	6	3	2	51
Channelling user fees and charges to conservation and management	9	12	17	7	3	3	51
Offset requirements placed on companies generating biodiversity loss	8	16	16	6	0	5	51
Other, specify:	2	0	1	0	0	0	3
Total	126	207	186	77	42	28	

Other, specify:

- I hope all of this will be realised but in my country, biodiversity is not a big issue on the political agenda which makes it very difficult to multiply with other funds then biodiversity.

Please provide your opinion as regards the following aspects affecting the EU integrated approach for funding biodiversity.

The main points of the open-ended answers have been summarized in the report.

Please provide your opinion as regards the following aspects affecting the EU integrated approach for funding biodiversity.

32. Overall success of EU funding

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
EU integrated funding framework has been used to its full potential to pursue biodiversity objectives in my country.	4	18	5	15	9	51
EU funding has made a significant contribution to biodiversity objectives in my country.	17	21	5	6	2	51
Total	21	39	10	21	11	

33. Institutions

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
Capacity	0	0	0	0	0	0
There is sufficient capacity among funding authorities to deliver EU finance for biodiversity effectively.	7	14	8	16	6	51
There is effective communication and coordination across different sectors and levels of administration.	4	15	9	14	9	51
Stakeholders are consulted at appropriate instances in the process, so that it is possible to provide meaningful inputs.	4	26	14	5	2	51
Fund programming and monitoring systematically uses biodiversity monitoring information.	7	12	18	11	3	51
Practices	0	0	0	0	0	0
The priorities and objectives of the funding authorities align with biodiversity objectives.	6	21	13	8	3	51
The practices and traditions of different administrations and professions constrain the delivery of the funds to biodiversity.	10	23	11	3	4	51
The eligibility criteria applied to EU funds facilitate finance for biodiversity.	8	15	13	9	6	51
The process for delivering EU funding for biodiversity is effective and efficient.	4	12	13	16	6	51
Administrative burden significantly constrains the effectiveness of the funds.	20	18	5	4	4	51
Biodiversity objectives are able to compete with other funding priorities.	6	9	9	17	10	51
Total	76	165	113	103	53	

34. Legitimacy and social impacts

	Fully agree	Somewhat agree	Neutral	Somewhat disagree	Fully disagree	Total
Biodiversity objectives align well with the priorities and interests of potential beneficiaries.	11	18	8	14	0	51
Biodiversity objectives align well with social and economic priorities in the Member State.	6	18	12	11	4	51
Processes for stakeholder consultation and engagement help to deliver effective EU funding for biodiversity.	7	21	13	9	1	51
Total	24	57	33	34	5	